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THESIS

AN ANALYSIS OF STEAM-BASED LEARNING IN DEVELOPING STUDENTS WRITING SKILL AT SMKN 1 BANYUWANGI

By

Arin Ma'rifatul Layyinah

NIM. 2211221013

ADVISOR

Moh. Mahmud, M.Pd.



ENGLISH EDUCATION DEPARTMENT
FACULTY OF TARBIYAH AND TEACHERS TRAINING
KH MUKHTAR SYAFA'AT UNIVERSITY
(UIMSYA)
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By:

Arin Ma'rifatul Layyinah

NIM. 2211221013

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By : Arin Ma'rifatul Layyinah

NIM : 2211221013

It has been approved to be submitted in the thesis examination

Session on: .....

Acknowledged,

Head of English Education Department	Advisor
AHMAD FARUK, M.Ed.	MOH. MAHMUD, M.Pd.
NIPY. 3151611058801	NIPY. 315050605780I

AGREEMENT

This is to Certify that the Thesis of Arin Ma'rifatul Layyinah Has Been Approved by The Board of English Department Faculty of Tarbiya and Teachers Training Universitas KH. Mukhtar Syafa'at Examiner on:

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And has been accepted and validated as one of the requirements for obtaining a Bachelor of Education Degree (S.Pd)

Examiners Team:

Chairperson

AHMAD FARUK, M.Pd.
NIPY. 315161105880l

Examiner 1

MOH. MAHMUD, M.Pd.
NIPY. 315050905780l

Examiner 2

ADIB AHMADA, M.Pd.
NIPY. 3150930068601

Dean

Dr. ZULFI ZUMALA DWI ANDRIANI, S.S, M.A.
NIPY. 315072212840l

MOTTO AND DEDICATION

"Learn, grow, and inspire."

Learning is not merely a journey of self-growth, but a path to becoming a light that benefits and inspires others

Learning is more than the pursuit of knowledge; it is a journey of growth that shapes character, broadens perspectives, and strengthens purpose. Through every lesson learned and every challenge overcome, we become better versions of ourselves, not only for personal achievement but also to share kindness, knowledge, and inspiration with others. In this way, learning becomes a meaningful path that allows us to grow and positively impact those around us.

This research is dedicated to Allah SWT, the Most Gracious and Most Merciful, whose endless blessings, guidance, and wisdom have provided strength and perseverance throughout this journey. Every step taken in completing this research has been possible only through His mercy and grace.

This work is lovingly dedicated to my beloved parents and family, whose unwavering prayers, sacrifices, support, and encouragement have become the foundation of my determination. Their love and trust have inspired me to overcome challenges and continue striving for excellence in both academic and personal growth.

This research is also dedicated to my lecturers, supervisor, teachers, friends, and all those who have contributed their knowledge, guidance, and support throughout the research process. May this work serve as a meaningful contribution to education and inspire future researchers to pursue knowledge with sincerity, dedication, and purpose.

Declaration of Authenticity of Thesis

Bismillahirrahmanirrahim Here With I am:

Name	: Ain Ma'rifatul Layyinah
NIM	: 2211221013
Study Program	: English Education Department
Adress	: Dasri, Tegalsari, Banyuwangi, Jawa Timur

Declare that:

1. This Thesis has never been submitted to any other educational institution for any other academic degree.
2. This Thesis is the sole work of the author and has not been written in collaboration with any other person, nor does it include, without due acknowledgement, the work of any other person.
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RIN MA'RIFATUL LAYYINAH
NIM. 2211221013

ABSTRACT

Layyinah, Arin Ma'rifatul. 2026. An Analysis of STEAM-Based Learning in Developing Students' Writing Skills at SMKN 1 Banyuwangi. Thesis. English Education Study Program, Faculty of Tarbiyah and Teacher Training, KH. Mukhtar Syafa'at University (UIMSYA), Blokagung Banyuwangi. Advisor: Moh. Mahmud, M.Pd.

Keyword : STEAM-Based Learning, Students' Writing Skills, Writing Development, Collaborative Learning, Technology Integration

This study investigates the contribution of STEAM (Science, Technology, Engineering, Arts, and Mathematics)-based learning to the development of students' writing skills at SMKN 1 Banyuwangi. The purpose of this study was to explore how STEAM-based learning supports students' writing development and to identify its contributions to the writing process.

This research employed a qualitative case study design involving one English teacher and 28 students of SMKN 1 Banyuwangi as the participants. The data were collected through classroom observations, semi-structured interviews, and documentation of learning activities and students' written products. To ensure the trustworthiness of the findings, data triangulation was applied by comparing information obtained from different sources and methods.

The data were analyzed using the interactive model of data analysis, including data condensation, data display, and conclusion drawing. The findings revealed three major contributions of STEAM-based learning to students' writing development. First, STEAM-based learning helped students generate, organize, and develop ideas more effectively through brainstorming activities, project-based tasks, and authentic learning experiences. Second, collaborative activities facilitated writing development by enabling students to exchange ideas, discuss problems, and learn from peers. Third, technology integration and authentic projects increased students' motivation and engagement in writing activities by providing meaningful learning experiences and easy access to information.

Overall, the study concludes that STEAM-based learning creates a supportive, engaging, and meaningful environment for developing students' writing skills.

ABSTRAK

Layyinah, Arin Ma'rifatul. 2026. An Analysis Of Steam-Based Learning In Developing Students Writing Skill At Smkn 1 Banyuwangi. Thesis. Program Studi Tadris Bahasa Inggris. Fakultas Tarbiyah dan Keguruan Universitas KH. Mukhtar Syafa'at (UIMSYA) Blokagung Banyuwangi. Pembimbing: Moh. Mahmud, M.Pd.

Kata Kunci : Pembelajaran Berbasis STEAM, Keterampilan Menulis, Pengembangan Menulis, Pembelajaran Bahasa Inggris, Studi Kasus Kualitatif.

Penelitian ini mengkaji kontribusi pembelajaran berbasis STEAM (Science, Technology, Engineering, Arts, and Mathematics) terhadap pengembangan keterampilan menulis siswa di SMKN 1 Banyuwangi. Tujuan penelitian ini adalah untuk mengeksplorasi bagaimana pembelajaran berbasis STEAM mendukung perkembangan keterampilan menulis siswa serta mengidentifikasi kontribusinya dalam proses menulis.

Penelitian ini menggunakan desain studi kasus kualitatif dengan melibatkan satu guru Bahasa Inggris dan 28 siswa SMKN 1 Banyuwangi sebagai partisipan penelitian. Data dikumpulkan melalui observasi kelas, wawancara semi-terstruktur, dan dokumentasi berupa aktivitas pembelajaran serta hasil tulisan siswa. Untuk menjamin keabsahan data, penelitian ini menerapkan triangulasi data dengan membandingkan informasi yang diperoleh dari berbagai sumber dan teknik pengumpulan data.

Data dianalisis menggunakan model analisis interaktif yang meliputi kondensasi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan tiga kontribusi utama pembelajaran berbasis STEAM terhadap pengembangan keterampilan menulis siswa. Pertama, pembelajaran berbasis STEAM membantu siswa menghasilkan, mengorganisasi, dan mengembangkan ide melalui kegiatan brainstorming, tugas berbasis proyek, dan pengalaman belajar yang autentik. Kedua, aktivitas kolaboratif mendukung perkembangan keterampilan menulis melalui pertukaran ide, diskusi, dan pembelajaran antar teman sebaya. Ketiga, integrasi teknologi dan proyek autentik meningkatkan motivasi serta keterlibatan siswa dalam kegiatan menulis.

Secara keseluruhan, pembelajaran berbasis STEAM menciptakan lingkungan belajar yang mendukung, menarik, dan bermakna dalam pengembangan keterampilan menulis siswa.

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All praise and gratitude be to Allah SWT for His mercy, guidance, and blessings, which have enabled the writer to complete this proposal report properly and on time. Without His permission and assistance, the writer would not have been able to accomplish the research activities and complete this report successfully.

The preparation of this report serves as a form of accountability for the research conducted by a student of the English Education Study Program, Faculty of Tarbiyah and Teacher Training, KH. Mukhtar Syafa'at University. This research is part of the academic curriculum aimed at providing students with real experience in the field of education, particularly in the teaching and learning process. Through this activity, students are expected to apply the theories they have learned during their studies to real research in the field.

During the implementation of the research and the preparation of this proposal report, the writer realizes that its completion would not have been possible without the support and assistance of many parties. Therefore, with sincere gratitude, the writer would like to express the deepest appreciation to:

1. Allah Subhanahu wa Ta'ala for granting strength and smooth progress throughout the research process.
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10. The writer realizes that this report is still far from perfect, both in terms of content and presentation. However, it is hoped that this report will provide benefits, particularly for other students who will conduct research in the future, as well as for parties concerned with the field of education.

Finally, may all the efforts, experiences, and lessons gained throughout this research serve as valuable provisions for the writer in developing into a competent, professional, and principled educator.

Blokagung, 7 Juni 2026

The Writer,

Arin Ma'rifatul Layyinah

TABLE OF CONTENT

COVER I

ADVISOR APPROVAL SHEET II

AGREEMENT III

MOTTO AND DEDICATION IV

DECLARATION OF AUTHENTICITY OF THESIS V

ABSTRACT VI

ACKNOWLEDGEMENT VIII

TABLE OF CONTENTS X

CHAPTER I INTRODUCTION 1

1.1 Background 1
1.1.1 Research Question 3
1.1.2 Research Objectives 3
1.2 Significance of The Study 3
1.2.1 Theoretical Significance 3
1.2.2 Practical Significance 4
1.3 Definition Terms 5
1.4 Scope and Limitation 6

CHAPTER II REVIEW OF RELATED LITERATURE 8

2.1 Theorical Review 8
2.1.1 STEAM-Based Learning 8
2.1.2 Writing Skill 8
2.1.3 Teaching Writing 8
2.1.4 The Role of STEAM-Based Learning in Developing Writing Skill 9
2.2 Previous Study 10
2.3 Conceptual Framework 14

CHAPTER III RESEARCH METHOD 16

3.1 Research Design 16
3.2 Time and Place of Research .....
3.3 Research Subject 17
3.4 Informant 17
3.5 Data and Data Sources 18

3.6 Data Collection Procedure 19
3.7 Data Validity 23
3.8 Data Analysis 24

CHAPTER IV FINDING AND DISCUSSION.....26

4.1 Research Finding 26
4.1.1 STEAM-based learning implemented in developing students' writing skill at SMKN 1 Banyuwangi..... 27
4.1.2 Perceive the implementation of STEAM-Based Learning in writing instruction at vocational high schools..... 29
4.2 Discussion 30
4.2.1 The Contribution of STEAM-Based Learning to Writing Skill Development..... 30
4.2.2 The Influence of STEAM-Based Learning on Students' Participation and Learning Motivation 32

CHAPTER V CLOSING.....34

5.1 Conclution 34
5.2 Limited Research 34
5.3 Suggestion..... 35

BIBLIOGRAPHY.....38

Appendix 1. Supporting Attachment The Research.....40

Appendix 2. Sertificate of Having Conducted Research 41

Appendix 3. Guidence Card 42

Appendix 4. Documentation.....43

Appendix 5. Final Project 50

Appendix 6. Plagiarism 51

BIOGRAPHY 52

CHAPTER I

INTRODUCTION

1.1 Background

In today's modern era, English proficiency has become one of the essential skills that students must possess, especially in the faca of technological advancements and global competition (Musanadah et al., 2024). However, in reality, many vocational high school students still struggle in using grammar, vocabulary, and text organization, as well as a lack of confidence in expressing their ideas in writing. Additionally, a teacher-centered learning process and the use of conventional methods make students less active and less interested in writing activities (Sardila, 2025).

This situation was also observe among some students at SMKN 1 Banyuwangi, where students English writing skills still need to be developed through more innovative and creative teaching methods. Therefore, the STEAM-based learning approach has emerged as an alternative teaching method capable of integrating Science, Teghnology, Engeneering, Arts and Mathematics into the learning process (Salsabilla & Zaki, 2025). Through this approach, students not only learn to write but are also trained to think creatively, critically, collaboratively, and actively in completing learning projects, with the implementation of STEAM-based learning, it is hoped that their participation and motivation in English language learning will increase.

Several previous studies have shown that the implementation of STEAM-based learning has a positive impact on English learning, particularly in the development of students writing skills. Research conducted by several researchers in the field of language education indicates that the STEAM approach can enhance creativity, critical thinking skills, and active student participation during the learning process (Zalsa et al., 2025). In writing instruction, STEAM-based learning helps student develop ideas more creatively through project-based activities, group discussion, the use of teghnology, and problem-solving. Additionally, other studies have found that students become more confident in writing because the learning process is collaborative and interactive (Haryadi, 2024).

Furthermore, the use of teghnological media in the STEAM approach can help students understand writing material in a more angaging and easily comprehensible way.

Previous research has also shown that learning thae integrates elements of Science, Teghnology, Enggineering, Arts and Mathematics is capable of creating a more active learning environment compared to conventional methods (RESTY, 2025). Therefore, the results of previous studies indicate that STEAm-based learning can be an effective approach for developing students writing skills in english language instruction. Based on these studies of STEAM-based learning in developing students writing skils at SMKN 1 Banyuwangi

The novelty of this study lies in its focus on analyzing the application of STEAM-based learning in developing students' writing skills in the context of vocational high schools, specifically at SMKN 1 Banyuwangi. Previous studies have generally focused more on the impact of STEAM on overall learning outcomes or in regular secondary schools (Emma, 2021), Meanwhile, this study focuses specifically on writing skills in English language learning in vocational high schools.

Furthermore, this study does not only focus on the final learning outcomes but also analyzes the implementation process of STEAM-based learning, student activities during the learning process, and student responses to the method. This study also provides a concrete illustration of how the integration of Science, Technology, Engineering, Arts, and Mathematics can be applied in writing activities in a creative and contextual manner.

Thus, this study is expected to make a new contribution to the development of innovative English learning methods, particularly regarding writing skills in vocational schools.

The purpose of this study is to analyze the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. This study was conducted because writing skills are one of the key competencies in English language learning that remain a challenge for many students, particularly at the vocational high school level (Setiawan et al., 2020). Students often have difficulty organizing their ideas, using proper grammar, and expanding their vocabulary in writing.

On the other hand, conventional learning tends to make students less active and less motivated in writing activities.

Therefore, STEAM-based learning was chosen because it is considered capable of fostering more creative, interactive, and collaborative learning through the integration of Science, Technology, Engineering, Arts, and Mathematics (Aprindhiya et al., 2026). With this approach, students are expected to find it easier to develop ideas and improve their writing skills through contextual and innovative learning activities.

1.2 Research Problem

1.2.1 How is STEAM-based learning implemented in developing students' writing skill at SMKN 1 Banyuwangi?

1.2.2 How do students perceive the implementation of STEAM-Based Learning in writing instruction at vocational high schools?

1.3 Research Objectives

1.3.1 To analyze the implementation of STEAM-based learning in writing class.

1.3.2 To perceive the implementation of STEAM-Based Learning in writing instruction at vocational high schools?

1.4 Significance of The Study

1.4.1 Theoritical Significance

This study is expected to provide both theoretical and practical benefits for the development of English language learning, particularly in writing skills through the application of STEAM-based learning. Theoretically, this study is expected to contribute to the body of knowledge and provide insights into the use of the STEAM approach in English language learning, especially in developing students' writing skills in vocational high schools.

Additionally, this study can serve as a source of information for future researchers interested in exploring similar topics related to STEAM-based learning and English language skills.

Practically, this study is expected to benefit teachers, students, and schools. For teachers, this study can serve as a reference in selecting more

creative, innovative, and interactive teaching methods to enhance students' writing skills.

For students, the implementation of STEAM-based learning is expected to help them become more active, confident, and creative in writing in English. Meanwhile, for schools, this study can serve as input for developing more effective English language instruction that aligns with educational developments in the modern era.

1.4.2 Practical Significance

1.4.2.1 For Teacher

In practical terms, this study is expected to benefit various stakeholders in the English language learning process. For teachers, this study can serve as a reference for implementing STEAM-based learning as a more creative, innovative, and interactive teaching method to help develop students' writing skills. Teachers can also gain insights into how to integrate elements of Science, Technology, Engineering, Arts, and Mathematics into writing activities, thereby making the learning process more engaging and less monotonous.

1.4.2.2 For students

This study is expected to help improve motivation, creativity, and self-confidence in writing in English. Through STEAM-based learning, students can be more active in expressing their ideas, collaborating in groups, and developing critical and creative thinking skills throughout the writing learning process.

1.4.2.3 For School

This study is expected to serve as a source of input for improving the quality of English language instruction through the use of innovative teaching methods that align with modern educational developments. In addition, this study can also support the development of a

more active, collaborative, and student-centered learning environment at SMKN 1 Banyuwangi.

1.5 Definition Terms

1.5.1 STEAM – Based Learning

STEAM-Based Learning is an educational approach that integrates Science, Technology, Engineering, Arts, and Mathematics into the learning process to enhance students' creativity, critical thinking skills, collaboration, and problem-solving abilities (Belbase et al., 2022).

1.5.2 Writing Skill

Writing skills refer to a student's ability to convey ideas, opinions, or information in written English while paying attention to grammar, vocabulary, organization, and mechanics (Siregar et al., 2022).

1.5.3 Developing Writing

Developing writing skills is the process of improving students' writing abilities through learning activities that help them better develop their ideas, creativity, and English language skills (Almelhi, 2021).

1.5.4 Analysis

Analysis is the process of observing, examining, and describing the implementation of STEAM-based learning in writing instruction to gain a deep understanding of the learning process and outcomes (Lestari et al., 2026).

1.5.5 SMKN 1 Banyuwangi

SMKN 1 Banyuwangi is a vocational high school that served as the research site for analyzing the impact of STEAM-based learning on students' writing skills.

1.6 Scope and Limitation

1.6.1 Scope of the Study

This study focuses on analyzing the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. The research is limited to the application of STEAM (Science, Technology, Engineering, Arts, and Mathematics) principles in

English writing classes and how these principles contribute to students' ability to generate ideas, organize content, and develop written texts. The study specifically examines students' experiences, participation, and responses toward STEAM-based learning activities.

Furthermore, this research involves one English teacher and students who participated in STEAM-based learning activities as the research subjects. The data are collected through classroom observations, interviews, and documentation of students' writing products. The study does not measure students' writing achievement quantitatively or compare STEAM-based learning with other teaching methods. Instead, it aims to provide an in-depth understanding of how STEAM-based learning is implemented and how it supports the development of students' writing skills in the context of English language learning at SMKN 1 Banyuwangi.

1.6.2 Limitation of the Study

This study is limited to the analysis of the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. The research focuses on how STEAM principles are applied in English writing classes and how the implementation supports students in generating ideas, organizing content, and developing written texts. The study specifically examines students' experiences, participation, and responses toward STEAM-based learning activities.

Furthermore, the research is limited to one English teacher and students who participated in STEAM-based learning activities during the period of data collection. The data are collected through classroom observations, interviews, and documentation. This study does not measure students' writing achievement quantitatively, nor does it compare STEAM-based learning with other

teaching methods. In addition, the research only focuses on writing skills and does not investigate other English language skills such as listening, speaking, or reading.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Theorical Review

2.1.1 STEAM-Based Learning

STEAM-Based Learning is an educational approach that integrates Science, Technology, Engineering, Arts, and Mathematics into the teaching and learning process (Adlina, 2022). This approach aims to enhance students' creativity, critical thinking skills, collaboration, communication, and problem-solving abilities.

In English language learning, STEAM-based learning can be implemented through project-based activities, group discussions, the use of technology, and creative activities that help students develop language skills in a more active and contextual manner. This approach also encourages students to become more independent and active during the learning process.

2.1.2 Writing Skill

Writing is one of the key skills in English language learning, used to convey ideas, information, and opinions in written form (Mustofa et al., 2024). Writing proficiency involves several important aspects, such as grammar, vocabulary, organization, content, and mechanics.

In the writing process, students are not only required to write grammatically correct sentences but must also be able to develop ideas clearly and in a structured manner. However, many students still struggle with writing due to a lack of vocabulary, grammar, and creativity in developing ideas.

2.1.3 Teaching Writing

Teaching writing is a learning process aimed at helping students develop their writing skills in English (Siswanto, 2022). Teachers play a crucial role in creating engaging and effective writing instruction to encourage students to be more active and motivated.

The use of innovative teaching methods is essential to help students understand the writing process more easily. In this context, STEAM-based learning can serve as an alternative teaching method because it integrates creativity, technology, and collaborative activities into writing tasks.

2.1.4 The Role of STEAM-Based Learning in Developing Writing Skill

STEAM-based learning plays a crucial role in developing students' writing skills because this approach provides a more active, creative, and interactive learning experience (Suryaningsih et al., 2025). Through project-based activities and the use of technology, students can more easily develop ideas and express them in writing.

Additionally, collaborative activities in STEAM-based learning also help students improve their communication and critical thinking skills during the writing process. Thus, the implementation of STEAM-based learning is expected to help students improve their writing skills more effectively and enjoyably.

2.1.5 Student Perceive

Perception refers to the process by which individuals interpret, organize, and give meaning to information obtained from their environment. According to (Wölker & Powell, 2021), perception is a process through which individuals select, organize, and interpret sensory impressions to provide meaning to their surroundings. In the educational context, students' perception plays an important role because it influences how students respond to teaching methods, classroom activities, and learning experiences.

Students' perception is closely related to their attitudes, motivation, engagement, and satisfaction during the learning process. Positive perceptions toward a teaching method may increase students' participation, confidence, and willingness to learn, whereas negative perceptions may reduce their interest and motivation. Therefore,

understanding students' perceptions can help teachers evaluate the effectiveness of instructional approaches and improve learning experiences.

In the context of STEAM-Based Learning, students' perception refers to how students view and experience the integration of Science, Technology, Engineering, Arts, and Mathematics within classroom activities. Through STEAM-based instruction, students may perceive learning as more interactive, meaningful, collaborative, and relevant to real-life situations. The use of technology, project-based activities, and problem-solving tasks can create positive learning experiences that support students' engagement and skill development.

Several studies have reported that students generally have positive perceptions of STEAM-Based Learning because it encourages creativity, collaboration, critical thinking, and active participation. Students also tend to appreciate learning activities that involve technology and authentic projects, as these activities make learning more enjoyable and meaningful. Therefore, students' perception can be considered an important indicator in evaluating the implementation and effectiveness of STEAM-Based Learning in developing students' writing skills.

2.2 Previous Study

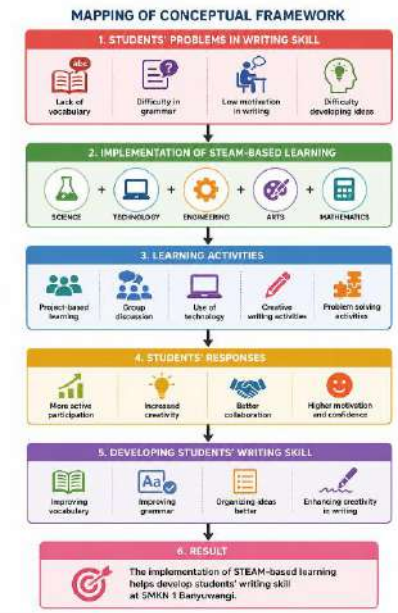
No	Author(s)/ Year/Title	Link/OJS	Purpose	Method	Result/ Conclution	Equality (Persamaan)	Difference (Perbedaan)
1	**Filipe, Baptista & Conceição (2024)** *Integrated STEAM Education for Students' Creativity Development*	Education Sciences (MDPI) https://www.mdpi.com/2227-7102/14/6/676	To investigate how integrated STEAM (iSTEAM) learning contributes to students' creativity development	Qualitative–descriptive; design-based learning; classroom implementation with STEAM tasks (audio-visual & digital artifacts)	STEAM activities significantly enhanced students' creativity, problem-solving abilities, and digital competence through interdisciplinary tasks	Focuses on STEAM integration, creativity, and problem-solving skills	Conducted in general secondary education, not vocational; focuses on production-based tasks rather than reading & viewing
	Conradty & Bogner (2020) *STEAM*	Smart Learning Environments (SpringerOpen) https://slejournal.springeropen.com/	To examine the effects of STEAM-based	Quantitative; canonical correlation & SEM;	STEAM-based teaching increased students'	Emphasizes creativity as a core STEAM outcome	Focuses on teacher PD and motivation;

No	Author(s)/ Year/Title	Link/OJS	Purpose	Method	Result/ Conclution	Equality (Persamaan)	Difference (Perbedaan)
	Teaching Professional Development Works	articles/10.1186/s40561-020-00132-9	teacher professional development on students' creativity and motivation	longitudinal study	creativity, self-efficacy, and learning motivation		not directly on students' literacy activities or vocational context
3	**Nihayati & Wulandari (2024)** *Pengaruh Pembelajaran Berbasis Proyek STEAM terhadap Kemampuan*	Jurnal Pancar (Pendidikan Anak Cerdas Dan Pintar) https://jurnal.unugha.ac.id/index.php/pancar/article/view/1373	To analyze the influence of STEAM project-based learning on students' problem-solving skills	Experimental; pretest–posttest control group design	STEAM-PjBL significantly improved students' problem-solving, creativity, and critical thinking	Highlights STEAM impact on problem-solving skills	Conducted at elementary level; focuses on project-based learning rather than reading/viewing

No	Author(s)/ Year/Title	Link/OJS	Purpose	Method	Result/ Conclution	Equality (Persamaan)	Difference (Perbedaan)
4	**Ridwan et al. (2024)** *Integrasi STEM dalam Kurikulum Mempersiapkan Generasi Masa Depan*	IICLS (Indonesian Institute For Corporate Learning and Studies https://iicls.org/index.php/jer/article/view/266	To explore STEM integration in curriculum and its impact on 21st-century skills	Literature review and conceptual analysis	STEM integration supports creativity, critical thinking, collaboration, and problem-solving for future workforce readiness	Emphasizes interdisciplinary learning and 21st-century skills	Conceptual study; does not involve classroom implementation or STEAM literacy activities
5	**Burnard, P. & Colucci-Gray, L. (2021)** *Reframing STEAM by Posthumanizing*	Edinburgh Research Explorer https://www.pure.ed.ac.uk/ws/portalfiles/portal/224491903/Reframing_STEAM_by_Posthumanizing_Transdisciplinary_Education.pdf	To conceptualize STEAM as a transdisciplinary framework for real-	Qualitative case study; curriculum analysis	STEAM encourages creativity, collaboration, and authentic problem-solving through	Supports STEAM as creativity- and problem-solving-oriented	Focuses on curriculum design; does not emphasize reading/viewing or

No	Author(s)/ Year/Title	Link/OJS	Purpose	Method	Result/ Conclution	Equality (Persamaan)	Difference (Perbedaan)
	Transdisciplinary Education: Towards an Understanding of How Sciences and Arts Meet and Matter for Sustainable Futures		world problem solving		integrated disciplines		vocational students

2.3 Conceptual Framework



This study focuses on analyzing the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. In this study, STEAM-based learning is used as a teaching approach that integrates Science, Technology, Engineering, Arts, and Mathematics to create a more creative, active, and collaborative learning process. The implementation of this approach is expected to help students develop ideas, enhance creativity, and increase student participation in English writing activities.

Through STEAM-based learning activities, students engage in activities such as group discussions, project-based learning, the use of technology, and problem-solving, which can support the process of developing writing skills. These activities help students more easily express their ideas in writing, improve their mastery of vocabulary and grammar, and build confidence in writing in English.

In this study, the researcher analyzed how the implementation of STEAM-based learning took place in the writing class, how students responded to this learning, and how this approach helped develop students' writing skills. Therefore, the conceptual framework of this study indicates that the implementation of STEAM-based learning can create more

interactive and innovative learning, thereby contributing to the development of students' writing skills at SMKN 1 Banyuwangi.

CHAPTER III

RESEARCH METHOD

3.1 Research Design

This study employs a descriptive qualitative research design. This design was chosen because the study focuses on analyzing the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. Qualitative research aims to gain a deep understanding of the learning process, student activities, and student responses during the implementation of STEAM-based learning in English writing classes. Through this study, the researcher analyzed how the elements of Science, Technology, Engineering, Arts, and Mathematics were applied in writing learning activities to help students develop their ideas, creativity, and writing skills.

Research data were collected through observation, interviews, and documentation. Observations were conducted to directly observe the implementation process of STEAM-based learning in the classroom, while interviews were conducted with teachers and students to understand their experiences and responses to the learning process. Additionally, documentation such as students' writing samples, photos of learning activities, and learning materials were used to support the research data. The data obtained was then analyzed descriptively to provide a clear picture of the application of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi.

3.2 Time and Place of Research

This study implemented in SMKN 1 BANYUWANGI which organizes English learning in accordance with applicable curriculum. Research location chosen Because own relevant characteristics with objective research, especially in implementation learning based context vocational. Research time implemented in the Mei 2026, during this period, researcher

collected the information from the data obtained through questionnaires collected, studying writing result and student video studying result.

The participants of this study consist of English teachers and vocational school students at one time designated class. Teachers are selected as subject study Because play a role direct in planning and implementation learning STEAM- based, whereas student chosen as participants main Because involved direct in reading activities as well show development creativity and problem solving skills during learning. The participants were selected purposively with consider suitability with focus study.

3.3 Reasearch Subject

In qualitative research, researcher play a role as instrument the main ones involved in a way direct in the entire research process. The presence researchers in the field aim for observe in a way in - depth English learning process that integrates STEAM approach through reading and viewing activities. Researchers present in a way directly in class during the learning process going on, doing observation to teacher and student activities, as well as take notes relevant phenomena with focus research, especially related development students' creativity and problem solving abilities.

Apart from being observers, researchers also play a role in build communication with teachers and students to create natural and conducive atmosphere during the research process. The presence of researchers expected No bother the way learning, but rather as the party who observes and documents the learning process in a way objective and systematic.

1.4 Informant

3.4.1 Teacher

The teacher informant in this study was an English teacher at SMKN 1 Banyuwangi named Miss polin, S.Pd. who implemented STEAM-based learning in the classroom. The teacher was selected as the key informant because she was directly involved in planning, implementing, and evaluating the learning process. Through interviews, the teacher provided detailed information regarding the application of STEAM-based learning, the strategies used to

develop students' writing skills, the challenges encountered during the implementation process, and the students' responses to the learning activities. Therefore, the teacher played an important role in providing comprehensive data related to the objectives of this study.

3.4.2 Student

The student informants in this study were students of SMKN 1 Banyuwangi expecially in PPLG 2 who participated in STEAM-based learning activities. They were selected because they directly experienced the learning process and could provide valuable information regarding their perceptions, experiences, and responses toward the implementation of STEAM-based learning. Through interviews and classroom observations, the students shared their experiences in developing writing skills, generating ideas, participating in collaborative activities, and utilizing technology during the learning process. Their perspectives helped the researcher gain a deeper understanding of how STEAM-based learning contributed to the development of students' writing skills

The class consisted of 33 students. However, during the data collection process, only 28 students were able to participate in the research activities. The remaining five students could not take part in the study because they were required to attend remedial activities for their daily tests scheduled at the same time as the research activities. Therefore, the data collected in this study were obtained from 28 student participants who were present and actively involved in the implementation of STEAM-based learning during the research period.

3.5 Data and Data Sources

The data in this study are in the form of qualitative data related to with the English learning process STEAM- based. Data collected covering activity learning, interaction between teachers and students, response student to learning, as well as indicator creativity and problem solving skills that emerge during learning procedure text and report text.

3.5.1 Primary Data

The primary data of this study were obtained directly from the research participants through interviews and

classroom observations. The primary sources of data consisted of one English teacher and 28 students of SMKN 1 Banyuwangi who participated in STEAM-based learning activities during the research period. The interview data provided information regarding the implementation of STEAM-based learning, students' experiences, perceptions, responses, and the teacher's perspectives on developing students' writing skills. In addition, observation data were collected to obtain direct evidence of classroom activities and students' participation during the learning process.

3.5.2 Secondary Data

The secondary data of this study were obtained from supporting documents related to the implementation of STEAM-based learning. These included lesson plans, students' writing products, photographs of classroom activities, observation notes, and other relevant school documents. Furthermore, books, journal articles, and previous studies related to STEAM-based learning and writing skills were used to support the analysis and interpretation of the research findings.

3.6 Data Collection Procedure

The data in this study were collected through observation, interviews, and documentation. These techniques were employed to obtain comprehensive information regarding the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi. The data collection process was conducted in several stages. First, the researcher obtained permission from the school and coordinated with the English teacher regarding the research schedule. Second, the researcher conducted classroom observations to identify the implementation of STEAM-based learning during English writing lessons. Third, interviews were conducted with the English teacher and selected students to gain deeper insights into their experiences, perceptions, and responses toward the learning process. Finally, documentation such as students' writing products, lesson plans, photographs, and observation notes was collected to support and verify the findings obtained from observations and interviews. The combination of these techniques enabled the researcher to gather rich and reliable data related to the research objectives.

3.6.1 Interview

Interview was one of the main techniques used to collect data in this study. The researcher employed semi-structured interviews to obtain detailed information from the participants while still allowing flexibility for further exploration of relevant issues. The interviews were conducted with one English teacher and 28 students who participated in STEAM-based learning activities. The teacher was interviewed to obtain information regarding the planning, implementation, challenges, and benefits of STEAM-based learning in developing students' writing skills. Meanwhile, the students were interviewed to explore their experiences, perceptions, participation, and responses toward the learning activities. During the interview process, the researcher asked a series of open-ended questions and used probing questions when necessary to gain deeper information. The interviews were conducted in a comfortable setting, recorded with the participants' consent, and subsequently transcribed for data analysis. The interview data served as an important source of information for understanding the implementation of STEAM-based learning and its contribution to students' writing skill development.

3.6.2 Observation

Observation was used as one of the data collection techniques in this study to obtain direct information about the implementation of STEAM-based learning in the English classroom. Through observation, the researcher was able to examine how the teacher integrated the elements of Science, Technology, Engineering, Arts, and Mathematics into writing activities, as well as how students participated during the learning process. The observation focused on classroom interactions, teaching and learning activities, students' engagement, collaborative work, and the use of technology and project-based tasks in developing students' writing skills.

The researcher conducted non-participant observation, in which the researcher observed and

recorded the learning activities without actively participating in the classroom process. During the observation, field notes were used to document important events, students' responses, and the teacher's instructional practices related to STEAM-based learning. The observation data were then used to support and verify the information obtained from interviews and documentation. Therefore, observation played an important role in providing a comprehensive understanding of how STEAM-based learning was implemented and how it contributed to the development of students' writing skills at SMKN 1 Banyuwangi.

3.6.3 Documentation

The documentation in this study included interview transcripts obtained from English teachers. The interviews were conducted to collect in-depth information regarding the implementation of the STEAM (Science, Technology, Engineering, Arts, and Mathematics) approach in English language teaching. The data focused on how STEAM was integrated into classroom activities, the teaching strategies and learning media used, the implementation of STEAM in language skills such as writing and speaking, as well as the challenges and benefits experienced during the learning process. The teacher interview transcripts served as an important source of data for understanding the practical application of STEAM from the teacher's perspective and for supporting the findings of the study.

In addition to teacher interviews, the researcher also collected documentation in the form of student interview transcripts. The interviews aimed to explore students' experiences and perceptions of STEAM-based English learning. The data included students' interests in English language skills, their responses to classroom activities, their experiences in developing writing skills, the use of technology in learning, and the challenges they encountered during the learning process. Furthermore, the interviews provided information about students' attitudes toward collaborative learning and their perceptions of the

effectiveness of STEAM in improving their English language abilities. These transcripts were used to support and validate the findings obtained from classroom observations and teacher interviews.

3.7 Data Validity

To ensure the trustworthiness and credibility of the data, this study employed triangulation as a data validation technique. According to (Bans-Akutey & Tiimub, 2021) triangulation is a process of examining evidence from different sources and methods to enhance the accuracy and validity of research findings. Through triangulation, the researcher can cross-check information obtained from participants and data collection techniques, thereby reducing bias and increasing the reliability of the findings. In this study, data validity was established through source and technique of triangulation.

3.7.1 Source Triangulation.

Source triangulation was conducted by comparing data obtained from different informants, namely the English teacher and the students of SMKN 1 Banyuwangi. The English teacher provided information regarding the planning, implementation, and evaluation of STEAM-based learning, while the students shared their experiences, perceptions, and responses toward the learning activities. By comparing the information obtained from both sources, the researcher was able to verify the consistency of the data and gain a more comprehensive understanding of how STEAM-based learning was implemented in developing students' writing skills. This process helped ensure that the findings were not based solely on one participant's perspective but reflected the experiences of all individuals involved in the learning process.

3.7.2 **Technique Triangulation**.

Technique triangulation was applied by comparing data collected through different data collection methods, namely observation, interviews, and documentation. Observation was used to examine the actual implementation of STEAM-based learning in the classroom and students' participation during writing activities. Interviews were conducted to explore the participants' experiences, opinions, and perceptions in greater depth.

Meanwhile, documentation, including lesson plans, students' writing products, photographs, and field notes, was used to support and verify the information obtained from observations and interviews. The researcher compared and cross-checked the findings from these three techniques to ensure consistency and accuracy. Therefore, the use of source triangulation and technique triangulation enabled the researcher to obtain valid, credible, and comprehensive data regarding the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi.

3.8 Data Analysis

The data collected in this study were analyzed using the interactive model proposed by the Miles & Huberman interactive model. , which consists of three stages: data condensation, data display, and conclusion drawing and verification. This model was selected because it provides a systematic procedure for analyzing qualitative data obtained through observations, interviews, and documentation.

3.8.1 Condensation Data

which involved selecting, focusing, simplifying, and organizing the data collected from the field. In this stage, the researcher reviewed the interview transcripts, observation notes, and documentation to identify information relevant to the implementation of STEAM-based learning in developing students' writing skills. Irrelevant information was reduced, while important data related to students' idea generation, collaborative learning, technology integration, and writing development were categorized according to the research objectives.

3.8.2 Display Data

After the data had been condensed, the researcher organized and presented the data in the form of descriptive narratives, interview excerpts, observation summaries, and supporting documentation. The data were grouped into several themes that emerged from the findings, such as the role of STEAM-based learning in helping students generate ideas, the contribution of collaborative activities to writing development, and the influence of technology and project-based learning on students' motivation and engagement.

Through this process, the researcher was able to identify patterns, relationships, and significant findings related to the research problem.

The final stage was conclusion drawing and verification. In this stage, the researcher interpreted the findings and drew conclusions based on the data obtained from observations, interviews, and documentation. The conclusions were continuously verified through source triangulation and technique triangulation to ensure the consistency, credibility, and accuracy of the findings. By comparing information from the English teacher, students, classroom observations, and supporting documents, the researcher was able to produce comprehensive conclusions regarding the implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi.

CHAPTER IV

FINDING AND DISCUSSION

4.1 Research Finding

Before presenting the findings of the study, it is important to describe the data collection process and the implementation of STEAM-Based Learning observed during the research. The data were collected through classroom observations, interviews, and documentation conducted at SMKN 1 Banyuwangi. The participants consisted of one English teacher and several students from class XI PPLG who were actively involved in STEAM-based writing instruction. These data collection techniques were employed to obtain comprehensive information regarding the implementation of STEAM-Based Learning and its contribution to students' writing skill development.

Based on classroom observations, the teaching and learning process was conducted through project-based activities that integrated several STEAM elements according to the learning objectives and instructional materials. The teacher began the lesson by introducing the topic and providing explanations using technological media such as LCD presentations and digital learning resources. During the writing lessons, students were guided through brainstorming activities, discussions, and the exploration of relevant information before starting their writing tasks. The teacher also encouraged students to work collaboratively in groups to discuss ideas, solve problems, and complete writing projects.

The implementation of STEAM-Based Learning did not necessarily involve all five STEAM elements in every lesson. Instead, the teacher selected the most relevant elements based on the characteristics of the material being taught. Technology was integrated through the use of digital applications such as Canva, WPS Office, Google Forms, and online resources. The Arts element was reflected in students' creative project presentations, while Mathematics was incorporated into projects that required students to organize and present numerical information. Through these activities, students were encouraged to connect their writing tasks with real-life contexts and authentic learning experiences.

In addition, the classroom atmosphere was generally interactive and student-centered. Students participated in discussions, exchanged ideas with their peers, and engaged in various learning activities designed to support the writing process. The teacher acted as a facilitator by providing guidance, keywords, brainstorming sessions, and feedback throughout the learning process. These observations were further strengthened by interview data obtained from the teacher and students, which provided deeper insights into their experiences and perceptions regarding the implementation of STEAM-Based Learning in writing instruction. The following section presents the findings derived from the interviews and observations conducted during the study.

4.1.1 STEAM-based learning implemented in developing students' writing skill at SMKN 1 Banyuwangi

The implementation of STEAM-based learning in developing students' writing skills at SMKN 1 Banyuwangi was carried out through the integration of several STEAM elements that were adapted to the learning objectives and materials. Based on the interview with the English teacher (**C**), STEAM was implemented particularly in writing activities, such as recount texts and other text genres. The teacher explained that not all STEAM elements were applied simultaneously in every lesson. Instead, the elements were selected and integrated according to the needs of the learning activities and projects assigned to students. Technology was one of the most frequently utilized elements, as students used digital tools such as Canva, WPS Office, and Google Forms to support their learning and writing projects. In addition, the Arts and Mathematics elements were incorporated into project-based activities that required students to create products and present numerical information as part of their writing tasks.

This finding is supported by the statement from teacher **C**, who stated,

> *"The implementation of STEAM was adapted to the learning materials being taught. Not all STEAM elements were integrated simultaneously in every lesson. In certain topics, such as recount text, I*

incorporated several relevant STEAM elements into the learning process."

This statement demonstrates that the implementation of STEAM was flexible and contextual, depending on the learning objectives and instructional materials.

The findings from student interviews also support the teacher's explanation. Student **N** stated that writing activities were interesting and that the teacher usually provided brainstorming, keywords, and guidance before students started writing. Student **F** explained that learning activities often involved the use of LCD presentations and group discussions, which made the lessons enjoyable. Similarly, students **M** and **C** reported that STEAM-based learning made learning easier because technology helped them find information and complete assignments more effectively. They also mentioned that English lessons were enjoyable because the teacher frequently incorporated games and interactive activities into the learning process.

Furthermore, collaborative learning emerged as an important aspect of STEAM implementation. Student **N** preferred working in groups because it allowed students to exchange ideas with their peers, while students **M** and **C** stated that group discussions were more engaging and helped them stay focused during learning activities. Although some challenges remained, such as limited vocabulary, fear of making mistakes, differences in group members' abilities, and varying levels of participation, students generally expressed positive attitudes toward the learning process. Therefore, the interview findings indicate that STEAM-based learning at SMKN 1 Banyuwangi was implemented through project-based activities, technology integration, and collaborative learning, which positively contributed to the development of students' writing skills and learning engagement.

4.1.2 Perceive the implementation of STEAM-Based Learning in writing instruction at vocational high schools

The findings from the interviews revealed that both the teacher and students had positive perceptions of the implementation of STEAM-Based Learning in writing instruction at SMKN 1 Banyuwangi. The teacher perceived STEAM as an effective approach that could make learning more meaningful and relevant to students' needs. Through the integration of technology, project-based activities, and interdisciplinary elements, students were encouraged to actively participate in the learning process rather than merely receiving information from the teacher. The teacher (**C**) explained that STEAM was implemented according to the learning objectives and materials, allowing students to develop writing skills through authentic and creative projects. Moreover, the teacher observed that students tended to be more enthusiastic and engaged when participating in STEAM-based learning activities.

This perception is reflected in the teacher © statement:

> *"Students tended to be more enthusiastic because they enjoyed the learning concepts and methods used in the classroom. However, teachers still needed to provide supervision and reminders to maintain students' discipline throughout the learning process."*

This statement suggests that STEAM-Based Learning positively influenced students' motivation and engagement during writing instruction, although classroom management remained important to ensure the effectiveness of the learning process.

The students also expressed favorable perceptions of STEAM-Based Learning. Student **N** stated that English learning activities were enjoyable and that the teacher's support through brainstorming sessions, keywords, and writing guidance helped facilitate the writing process. Student **F** mentioned that the use of LCD presentations and

group discussions made the lessons interesting and enjoyable. Similarly, students **M** and **C** perceived STEAM positively because technology enabled them to access information more easily and supported their learning activities. They also reported that learning became more engaging due to the inclusion of games and interactive tasks, which helped maintain their attention even during lessons scheduled at the end of the school day.

In addition, students viewed collaborative learning as one of the strengths of STEAM implementation. Most students preferred working in groups because it allowed them to exchange ideas, discuss solutions, and support one another in completing writing tasks. Nevertheless, several challenges were identified, including limited vocabulary, fear of making mistakes while writing, differences in students' abilities, and unequal participation among group members. Despite these challenges, students generally believed that STEAM-Based Learning helped them learn more effectively and increased their engagement in writing activities. Therefore, the findings indicate that both teachers and students perceived the implementation of STEAM-Based Learning positively, particularly in terms of enhancing motivation, collaboration, engagement, and support for the development of writing skills in a vocational high school context.

4.2 Discussion

4.2.1 The Contribution of STEAM-Based Learning to Writing Skill Development

The findings of this study demonstrate that STEAM-Based Learning contributed positively to the development of students' writing skills at SMKN 1 Banyuwangi. The implementation of STEAM was carried out through the integration of technology, project-based learning, collaborative activities, and interdisciplinary learning experiences. The teacher incorporated several STEAM elements, particularly Technology, Arts, and Mathematics, into writing instruction, especially in learning activities related to recount texts and other writing projects. Through these activities, students were encouraged to generate ideas,

organize information, and express their thoughts in written form.

This finding supports the theory proposed by Adlina (2022), who states that STEAM-Based Learning integrates Science, Technology, Engineering, Arts, and Mathematics to promote creativity, critical thinking, communication, collaboration, and problem-solving skills. In the present study, the integration of technology through Canva, WPS Office, and Google Forms provided students with opportunities to explore information and develop ideas more effectively during the writing process. Furthermore, project-based activities allowed students to connect writing tasks with authentic learning experiences, making the learning process more meaningful and contextual.

The findings also support the concept of writing proposed by Mustofa et al. (2024), who emphasize that writing involves not only grammatical accuracy but also the ability to develop ideas, organize content, and communicate messages effectively. The teacher's use of brainstorming activities, keywords, and writing guidance helped students overcome difficulties in generating ideas and organizing their writing. As reported by student N, brainstorming and teacher guidance facilitated the writing process and enabled students to complete writing tasks more confidently.

In addition, the findings are consistent with Siswanto (2022), who highlights the importance of innovative teaching approaches in writing instruction. The implementation of STEAM-Based Learning provided students with varied learning activities that encouraged active participation rather than passive learning. This finding also confirms the argument of Suryaningsih et al. (2025), who state that STEAM-Based Learning supports writing skill development by providing opportunities for students to engage in project-based and technology-supported learning activities.

The results of this study are also in line with previous studies. Nihayati and Wulandari (2024) found that STEAM project-based learning improved students' creativity and

problem-solving skills, while Filipe, Baptista, and Conceição (2024) reported that integrated STEAM activities enhanced students' creativity and digital competence. Similarly, the present study found that STEAM-Based Learning encouraged students to become more creative, collaborative, and active during writing activities. Therefore, it can be concluded that STEAM-Based Learning contributed significantly to the development of students' writing skills by supporting idea generation, creativity, collaboration, and the effective use of technology in the writing process.

4.2.2 The Influence of STEAM-Based Learning on Students' Participation and Learning Motivation

The findings of this study reveal that STEAM-Based Learning positively influenced students' participation and learning motivation in writing instruction. Both the teacher and students perceived STEAM as an engaging and enjoyable learning approach. The teacher explained that students tended to be more enthusiastic when participating in STEAM-based activities because they enjoyed the learning methods and projects provided during the lessons. This indicates that STEAM-Based Learning created a more student-centered learning environment where students were actively involved in the learning process.

This finding supports the theory of STEAM-Based Learning proposed by Adlina (2022), which emphasizes active participation, collaboration, creativity, and problem-solving as essential components of the learning process. Through project-based activities, group discussions, games, and technology integration, students were encouraged to participate actively rather than merely receiving information from the teacher. Students reported that these activities made learning more enjoyable and helped them maintain their focus, even during lessons conducted at the end of the school day.

The findings also support Conradty and Bogner (2020), who found that STEAM-based instruction increases students' motivation, creativity, and self-efficacy. Similar results were found in this study, where students expressed

positive attitudes toward STEAM-Based Learning because technology facilitated access to information and supported the completion of learning tasks. Students M and C, for example, stated that STEAM made learning easier because technology helped them find information and complete assignments more effectively.

Another important finding is the role of collaborative learning in enhancing participation. Most students preferred group discussions because they provided opportunities to exchange ideas and work together in completing writing projects. This finding aligns with Ridwan et al. (2024), who argue that interdisciplinary learning approaches such as STEAM contribute to the development of collaboration, communication, and other twenty-first-century skills. Collaborative activities not only increased student participation but also helped students learn from their peers during the writing process.

Despite these positive outcomes, several challenges remained. Some students reported limited vocabulary, fear of making mistakes, and unequal participation among group members. These findings are consistent with Mustofa et al. (2024), who explain that writing remains a challenging skill for many students due to difficulties related to vocabulary development and idea expression. Nevertheless, teacher support through brainstorming activities, keywords, and continuous guidance helped students address these challenges.

Overall, the findings indicate that STEAM-Based Learning positively influenced students' participation and learning motivation by creating engaging, collaborative, and technology-supported learning experiences. The approach encouraged students to become more active learners, increased their enthusiasm for writing activities, and supported the development of important twenty-first-century skills within the vocational high school context.

CHAPTER V

CLOSING

5.1 Conclusion

Based on the discussion, it can be concluded that STEAM-Based Learning contributed positively to the development of students' writing skills and learning engagement at SMKN 1 Banyuwangi. The implementation of STEAM was carried out through the integration of technology, project-based learning, collaborative activities, and interdisciplinary learning experiences that were adjusted to the learning objectives and materials.

Through the use of digital tools, brainstorming activities, group discussions, and project assignments, students were provided with opportunities to develop ideas, organize information, and express their thoughts more effectively in written form. These learning experiences supported not only the development of writing skills but also creativity, critical thinking, communication, and collaboration, which are important competencies in the twenty-first century.

Furthermore, the findings revealed that STEAM-Based Learning positively influenced students' participation and learning motivation. Both the teacher and students perceived the approach as engaging, enjoyable, and relevant to students' needs. The integration of technology and collaborative learning activities encouraged students to become more active participants in the learning process and increased their enthusiasm for writing activities.

Although some challenges remained, such as limited vocabulary, fear of making mistakes, and unequal participation during group work, the teacher's guidance and support helped students overcome these difficulties. Therefore, STEAM-Based Learning can be considered an effective approach for creating meaningful and interactive writing instruction, while simultaneously fostering students' engagement and supporting the development of their writing skills in the vocational high school context.

5.2 Limited Research

This study has several limitations that should be considered when interpreting the findings. First, the study was conducted in only one vocational high school, namely SMKN 1 Banyuwangi. Therefore, the findings may not fully represent the implementation of STEAM-based learning in other schools with different educational contexts, student characteristics, or learning environments.

Second, the participants of this study consisted of one English teacher and 28 students who were involved in STEAM-based learning activities during the data collection process. Although the participants provided valuable information regarding the implementation of STEAM-based learning, the relatively limited number of participants may affect the generalizability of the findings. In addition, five students from the class were unable to participate in the research activities because they attended remedial classes at the time of data collection.

Third, this study focused specifically on the implementation of STEAM-based learning in developing students' writing skills. As a result, other English language skills such as listening, speaking, and reading were not examined in this research. Furthermore, the study employed a qualitative approach, which emphasized participants' experiences, perceptions, and responses rather than measuring students' writing improvement quantitatively.

Finally, the duration of the research was limited to the period of data collection conducted by the researcher. Consequently, the study was unable to investigate the long-term effects of STEAM-based learning on students' writing development. Future researchers are encouraged to conduct longitudinal studies or employ mixed-method approaches to obtain a more comprehensive understanding of the effectiveness of STEAM-based learning in English language education.

5.3 Suggetion

5.3.1 For the Teacher

Based on the findings of this study, English teachers are encouraged to continue implementing STEAM-based learning as an alternative approach to developing students'

writing skills. Teachers should provide authentic and meaningful learning experiences through project-based activities that are closely related to students' daily lives and vocational backgrounds. In addition, teachers are expected to facilitate brainstorming sessions, collaborative discussions, and technology-supported learning activities to help students generate and develop ideas more effectively. Since students have different levels of English proficiency, teachers should also consider applying differentiated instruction to ensure that all students can actively participate and benefit from the learning process.

5.3.2 For the Students

Students are encouraged to actively participate in STEAM-based learning activities and take advantage of the opportunities provided through projects, discussions, and technology integration. They should develop their critical thinking, creativity, and collaboration skills by engaging in classroom activities and sharing ideas with their peers. Furthermore, students are expected to use technology wisely as a learning resource to support the writing process while still relying on their own understanding and creativity. By actively engaging in STEAM-based learning, students can improve their writing skills and gain meaningful learning experiences that are beneficial for both academic and future professional purposes.

5.3.3 For Aspiring Researchers

Future researchers are encouraged to conduct further studies on STEAM-based learning in different educational contexts and with larger numbers of participants to obtain more comprehensive findings. Since this study focused on writing skills in a vocational high school setting, future studies may explore the implementation of STEAM-based learning in developing other English language skills, such as speaking, reading, or listening. Additionally, researchers may employ quantitative or mixed-method approaches to investigate the effectiveness of STEAM-based learning in improving students' language achievement. Further research is also

recommended to examine the long-term impact of STEAM-based learning on students' academic performance, creativity, and critical thinking skills.

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Appendix 1. Supporting Attachments The Research

UNIVERSITAS KH. MUKHTAR SYAFAAT
FAKULTAS TARBIYAH DAN KEGURUAN
Blokagung – Banyuwangi
UIMSYA
Alamat : PP. Darussalam Blokagung Banyuwangi, No Hp : 081133129333
E-Mail: official@uimsya.ac.id, Website: uimsya.ac.id, Kode Pos : 68491

Nomor : 51.2.12/131.142/ UIMSYA/FTK/B.7/V/2026
Lamp. : -
Hal : **Pengantar Penelitian**

Kepada Yang Terhormat:
Kepala SMKN 1 Banyuwangi
Mojopanggung, Giri, Banyuwangi
Di - Tempat

Assalamu'alaikum warahmatullahi wabarokatuh

Yang bertanda tangan di bawah ini Dekan Fakultas Tarbiyah dan Keguruan (FTK) Universitas KH. Mukhtar Syafaat (UIMSYA) Blokagung Banyuwangi, memohonkan izin penelitian atas mahasiswa kami:

Nama	: Arin Ma'rifatul Layyinah
TTL	: Banyuwangi, 29 April 2003
NIM	: 2211221013
Fakultas	: Tarbiyah dan Keguruan (FTK)
Program Studi	: Tadris Bahasa Inggris (TBIG)
Alamat	: Balokan, Dasri, Tegalsari, Banyuwangi
Dosen Pembimbing	: Moh. Mahmud, M.Pd.

Untuk dapat diterima melaksanakan penelitian di lembaga yang Bapak/Ibu pimpin, dalam rangka penyelesaian program **tugas akhir skripsi**.
Adapun judul penelitiannya adalah: ***"An Analysis Of Steam-Based Learning In Developing Students Writing Skill At SMKN 1 Banyuwangi"***.

Atas perkenan dan kerja samanya yang baik diucapkan banyak terima kasih.

Wassalamu'alaikum warahmatullahi wabarokatuh

Blokagung, 10 Mei 2026
Dekan

Dr. Zulfi Zumala Dwi Andriani, S.S., M.A.
NUPTK. 6554762663230193

Appendix 2. Sertificate of Having Conducted Research

PEMERINTAH PROVINSI JAWA TIMUR
DINAS PENDIDIKAN
SMK NEGERI 1 BANYUWANGI
Jalan Wijaya Kusuma Nomor 46, Mojopanggung, Giri, Banyuwangi, Jawa Timur 68425
Telepon dan Faksimile (0333) 424541, Laman smkn1banyuwangi.sch.id, Pos-el smk1bwi_wk46@yahoo.co.id

SURAT KETERANGAN
Nomor: 400.3/ 842 /101.6.7.18/2026

Saya yang bertanda tangan dibawah ini :

Nama	: Drs. MULYADI, M.Pd.
NIP	: 196607041994121003
Pangkat/Golongan	: Pembina Utama Muda/IVc
Jabatan	: Kepala Sekolah

Dengan ini menyatakan mahasiswa/i yang tercantum dibawah ini:

NO	NAMA	NIM	Program Studi	Fakultas dan Universitas
1	ARIN MA'RIFATUL LAYYINAH	2211221013	Tadris Bahasa Inggris (TBIG)	Fakultas Tarbiyah dan Keguruan Universitas KH. Mukhtar Syafaat Blokagung

Bahwa yang bersangkutan telah melaksanakan kegiatan penelitian dengan judul ***An Analysis of Steam-Based Learning in Developing Students Writing Skill at SMKN 1 Banyuwangi*** pada tanggal 26 Mei 2026 di SMK Negeri 1 Banyuwangi.

Demikian Surat Keterangan ini dibuat dengan sesungguhnya untuk dapat dipergunakan sebagai mestinya.

Banyuwangi, 29 Mei 2026
Kepala SMKN 1 Banyuwangi

Drs. MULYADI, M.Pd.
Pembina Utama Muda/ IVc
NIP 196607041994121003

Form : F.3.0 – 04
Tgl. : 2 Mei 2007

Revisi : 00

Appendix 3. Guidence Card

6/10/26, 8:18 PM SISTEM INFORMASI MANAJEMEN AKADEMIK UIMSYA BLOKAGUNG ::

NIM	**2211221013**
NAMA	**ARIN MA'RIFATUL LAYYINAH**
FAKULTAS	**TARBIYAH DAN KEGURUAN**
PROGRAM STUDI	**S1 TADRIS BAHASA INGGRIS**
PERIODE	**20252**
JUDUL	**STEAM INTEGRATION IN VOCATIONAL EDUCATION THROUGH READING AND VIEWING :STRENGTHENING CREATIVITY AND PROBLEM SOLVING SKILLS OF VOCATIONAL HIGH SCHOOL STUDENT**



No	Periode	Tanggal Mulai	Tanggal Selesai	Uraian Masalah	Bimbingan
1	20252	10 Juni 2026	10 Juni 2026	Kelengakapan berkas dan persetujuan ujian	Bimbingan 16
2	20252	13 Mei 2026	13 Mei 2026	Kesimpulan dan saran	Bimbingan 15
3	20252	15 April 2026	15 April 2026	filter data/coding	Bimbingan 13
4	20252	15 April 2026	15 April 2026	Pembahasan temuan data	Bimbingan 14
5	20252	26 Maret 2026	26 Maret 2026	Tampilan data	Bimbingan 12
6	20252	12 Maret 2026	12 Maret 2026	Temuan data dokumentasi	Bimbingan 11
7	20252	25 Februari 2026	25 Februari 2026	Temuan data wawancara	Bimbingan 10
8	20252	11 Februari 2026	11 Februari 2026	Temuan data Kuisioner	Bimbingan 9
9	20251	20 Januari 2026	20 Januari 2026	Fiishing dan persetujuan seminar proposal	Bimbingan 8
10	20251	17 Januari 2026	17 Januari 2026	Teknik dan Instruemne Pengumpulan data, dan teknik analisa data	Bimbingan 7
11	20251	14 Januari 2026	14 Januari 2026	Metode Penelitian/Design Penelitian, Tempat dan Subjek, Waktu Penelitian	Bimbingan 6
12	20251	07 Januari 2026	07 Januari 2026	Peneltian terdahulu	Bimbingan 5
13	20251	31 Desember 2025	31 Desember 2025	Kajian Teori	Bimbingan 4
14	20251	17 Desember 2025	17 Desember 2025	Rumusan masallah dan Tujuan Penelitian dan manfaat penelitian	Bimbingan 3
15	20251	03 Desember 2025	03 Desember 2025	Bimbingan Latar Belakang	Bimbingan 2
16	20251	26 November 2025	26 November 2025	Koansultasi topik penelitian	Bimbingan 1

Appendix 4. Documentation

Teacher Trancript

A : Assalamu'alaikum Wr. Wb., Bu. Perkenalkan, saya Arin, mahasiswa yang sedang melakukan penelitian mengenai penerapan STEAM dalam pembelajaran. Apakah Ibu bersedia menjadi narasumber dalam penelitian ini?

C : Wa'alaikumussalam Wr. Wb. Ya, silakan.

A : Apakah pembelajaran di SMKN 1 Banyuwangi telah menerapkan pendekatan STEAM, khususnya dalam mata pelajaran Bahasa Inggris?

C : Sebagian guru telah menerapkan pendekatan STEAM dalam pembelajaran.

A : Apakah Ibu sendiri telah menerapkan pendekatan STEAM dalam pembelajaran Bahasa Inggris?

C : Ya, saya telah menerapkannya, khususnya di kelas XI PPLG.

A : Bagaimana penerapan pendekatan STEAM dalam pembelajaran Bahasa Inggris yang Ibu lakukan?

C : Penerapan STEAM disesuaikan dengan materi yang diajarkan. Tidak semua elemen STEAM digunakan secara bersamaan dalam setiap pembelajaran. Pada beberapa materi, seperti recount text, saya mengintegrasikan beberapa elemen STEAM yang relevan.

A : Elemen STEAM apa saja yang biasanya digunakan dalam pembelajaran tersebut?

C : Pada materi fiction dan non-fiction, seperti narrative text dan recount text, saya memanfaatkan elemen Technology melalui penggunaan berbagai aplikasi dan situs web pendukung pembelajaran. Selain itu, elemen Arts dan Mathematics juga dapat diintegrasikan sesuai dengan kebutuhan proyek yang diberikan kepada siswa.

A : Apakah seluruh elemen STEAM harus digunakan dalam satu pembelajaran?

C : Tidak harus. Penggunaan elemen STEAM disesuaikan dengan tujuan pembelajaran dan materi yang diajarkan. Dalam perencanaan pembelajaran, saya menggunakan metode proyek (Project Method) dengan pendekatan STEAM.

A : Teknologi apa saja yang biasanya digunakan dalam pembelajaran tersebut?

C : Beberapa teknologi yang digunakan antara lain Canva, WPS Office, dan Google Form.

A : Bagaimana cara mengintegrasikan elemen Mathematics dalam pembelajaran Bahasa Inggris, khususnya pada keterampilan menulis (writing)?

C : Elemen Mathematics diintegrasikan melalui proyek tertentu yang mengharuskan siswa mengolah dan menyajikan data dalam bentuk numeric yang mendukung tugas menulis. (Informan menunjukkan beberapa contoh hasil proyek siswa.)

A : Berapa lama pelaksanaan proyek tersebut?

C : Sekitar dua minggu.

A : Apa saja kendala yang Ibu hadapi selama menerapkan pembelajaran berbasis STEAM?

C : Pembelajaran berbasis proyek tidak dilaksanakan secara terus-menerus selama satu semester. Dalam satu hingga dua bulan, kami tetap mengombinasikannya dengan pembelajaran reguler. Selain itu, guru perlu memastikan siswa tetap disiplin selama pelaksanaan proyek.

A : Berdasarkan pengalaman Ibu, bagaimana respons siswa terhadap pembelajaran berbasis STEAM?

C : Siswa cenderung lebih antusias karena mereka menyukai konsep dan metode pembelajaran yang digunakan. Namun, guru tetap perlu memberikan pengawasan dan pengingat terkait kedisiplinan siswa.

A : Baik, Bu. Terima kasih atas waktu dan informasi yang telah diberikan. Mohon maaf apabila terdapat pertanyaan atau perkataan yang kurang berkenan.

C : Sama-sama. Semoga penelitian dan penyusunan skripsinya berjalan lancar serta memberikan manfaat.

A : Aamiin. Terima kasih, Bu.

C : Sama-sama.

Student Trancript

A. Wawancara Siswa 1 (N)

A : Assalamu'alaikum Wr. Wb. Terima kasih telah bersedia meluangkan waktu untuk mengikuti wawancara ini. Wawancara ini dilakukan untuk mendukung penelitian mengenai pembelajaran Bahasa Inggris. Sebelum memulai, boleh diperkenalkan nama lengkapnya?

N : Wa'alaikumussalam Wr. Wb. Nama saya Naufal.

A : Dari berbagai keterampilan dalam Bahasa Inggris, keterampilan apa yang paling kamu sukai?

N : Saya paling suka writing.

A : Saat ini kamu sedang mempelajari keterampilan menulis (writing). Menurut kamu, bagaimana pembelajaran tersebut? Apakah menarik?

N : Menarik. Saya memang suka menulis, jadi tidak masalah.

A : Menurut kamu, bagaimana pembelajaran Bahasa Inggris di kelas selama ini?

N : Seru. Tergantung kegiatannya juga. Kalau suasananya menyenangkan saya jadi lebih fokus.

A : Biasanya media apa yang digunakan Miss Pauline saat mengajar?

N : Kebanyakan menggunakan LCD.

A : Saat ada kegiatan menyusun kalimat yang diacak (jumble sentence), bagaimana menurut kamu? Apakah merasa tertantang?

N : Sejauh ini tidak ada kak.

A : Selama belajar Bahasa Inggris, apakah ada kesulitan yang kamu alami?

N : Tidak terlalu.

A : Saat menulis, apakah kamu mencari referensi terlebih dahulu atau menulis berdasarkan pemikiran sendiri?

N : Kadang mencari referensi juga. Namun biasanya sudah diberikan brainstorming, kata kunci, dan petunjuk oleh Miss Pauline.

A : Apakah kamu percaya diri saat menulis dalam Bahasa Inggris?

N : Kurang percaya diri.

A : Apa alasannya?

N : Karena kosakata saya masih terbatas.

A : Apakah kamu pernah mengerjakan tugas menulis secara berkelompok?

N : Pernah.

A : Menurut kamu, lebih nyaman bekerja secara berkelompok atau individu?

N : Berkelompok lebih enak.

A : Mengapa demikian?

N : Karena bisa saling bertukar pikiran dengan teman-teman.

A : Saat berdiskusi, apakah diperbolehkan menggunakan telepon genggam?

N : Tidak boleh. Jadi kami harus saling berdiskusi dan berpikir bersama.

A : Baik, terima kasih atas waktu dan jawaban yang telah diberikan. Semoga harimu menyenangkan.

N : Sama-sama.

B. Wawancara Siswa 2 (F)

A : Assalamu'alaikum Wr. Wb. Terima kasih telah bersedia mengikuti wawancara ini. Saya ingin menanyakan beberapa hal terkait pengalaman belajar Bahasa Inggris di kelas.

F : Wa'alaikumussalam Wr. Wb. Baik.

A : Dalam pembelajaran Bahasa Inggris, keterampilan apa yang paling kamu sukai?

F : Speaking dan listening.

A : Bagaimana dengan writing?

A : Lumayan.

A : Apakah kamu pernah mengalami kesulitan saat menulis dalam Bahasa Inggris?

F : Belum ada.

A : Bagaimana menurut kamu pembelajaran Bahasa Inggris di kelas?

F : Cukup saya suka.

A : Biasanya kegiatan pembelajarannya seperti apa?

F : Biasanya menggunakan LCD untuk menjelaskan materi, lalu kami berdiskusi.

A : Apakah kegiatan tersebut menyenangkan?

F : Seru.

A : Apakah ada kesulitan yang kamu alami?

F : Kadang saat kerja kelompok karena kemampuan teman-teman berbeda-beda, jadi harus tetap kompak.

A : Apakah kamu pernah menggunakan aplikasi saat mengerjakan tugas Bahasa Inggris?

F : Jarang.

A : Jika pernah, aplikasi apa yang digunakan?

F : Chrome atau Google Translate.

A : Apakah kamu mengikuti kursus Bahasa Inggris di luar sekolah?

F : Tidak. Saya belajar sendiri.

A : Bagaimana pendapatmu tentang kegiatan diskusi kelompok?

F : Kalau bisa nyambung dengan teman-teman ya enak. Kalau tidak nyambung jadi sulit.

A : Selama ini diskusi kelompok berjalan lancar?

F : Iya, cukup lancar.

A : Baik, terima kasih atas waktu dan partisipasinya dalam wawancara ini.

F : Sama-sama.

C. Wawancara Kelompok Siswa (M dan C)

A : Assalamu'alaikum Wr. Wb. Terima kasih atas kesediaannya mengikuti wawancara ini. Saya ingin mengetahui pengalaman kalian selama mengikuti pembelajaran Bahasa Inggris.

M,C : Wa'alaikumussalam Wr. Wb.

A : Apakah kalian menyukai kegiatan menulis?

M,C : Saya kurang suka menulis.

A : Mengapa demikian?

M,C : Tergantung mood. Apalagi kalau pelajarannya di jam terakhir, biasanya sudah mengantuk.

A : Kalau begitu, kegiatan apa yang lebih kamu sukai?

M,C : Lebih suka mendengarkan penjelasan.

A :
Apakah ada kesulitan saat menulis dalam Bahasa Inggris?

M,C : Sebenarnya tidak terlalu sulit, hanya tergantung mood.

A : Kalau kamu, apakah suka menulis?

M,C : Suka.

A : Mengapa?

M,C : Karena membuat saya lebih fokus. Kalau hanya mendengarkan kadang malah mengantuk.

A : Apakah ada tantangan saat menulis Bahasa Inggris?

M,C : Kadang malas dan bingung ketika harus langsung menulis setelah mendengarkan penjelasan.

A : Menurut kalian, dengan adanya pendekatan STEAM apakah pembelajaran menjadi lebih mudah atau lebih sulit?

M,C : Lebih mudah.

A : Mengapa demikian?

M,C : Karena teknologi membantu pekerjaan dan pembelajaran. Sekarang banyak informasi yang bisa dicari dengan bantuan teknologi.

A : Bagaimana kegiatan pembelajaran Bahasa Inggris selama ini?

M,C : Seru.

A : Mengapa?

M,C : Karena sering ada permainan (games), sehingga tidak mengantuk meskipun pelajaran berada pada jam terakhir.

A : Setelah belajar menulis, apa kesulitan yang masih dirasakan?

M,C :. Kadang takut salah saat menulis.

A : Apakah kalian percaya diri saat menulis Bahasa Inggris?

M,C : Iya, cukup percaya diri, asalkan jawabannya benar.

Pembelajaran Kolaboratif

A : Apakah kalian lebih menyukai diskusi kelompok atau belajar secara mandiri?

M,C : Diskusi.

A : Mengapa?

M,C : Lebih seru dan lebih fokus bersama teman-teman.

A : Apakah ada kesulitan saat berdiskusi?

M,C : Kadang ada teman yang pasif atau tidak ikut berdiskusi.

A : Menurut kalian, apakah pendekatan STEAM membantu meningkatkan kemampuan Bahasa Inggris?

M,C : Iya, membantu.

A : Baik, terima kasih atas waktu, partisipasi, dan jawaban yang telah diberikan. Semoga hasil wawancara ini dapat bermanfaat bagi penelitian yang sedang dilakukan.

M,C : Sama-sama.

Appendix 5. Final Project



Final Project 1



Final Project 2

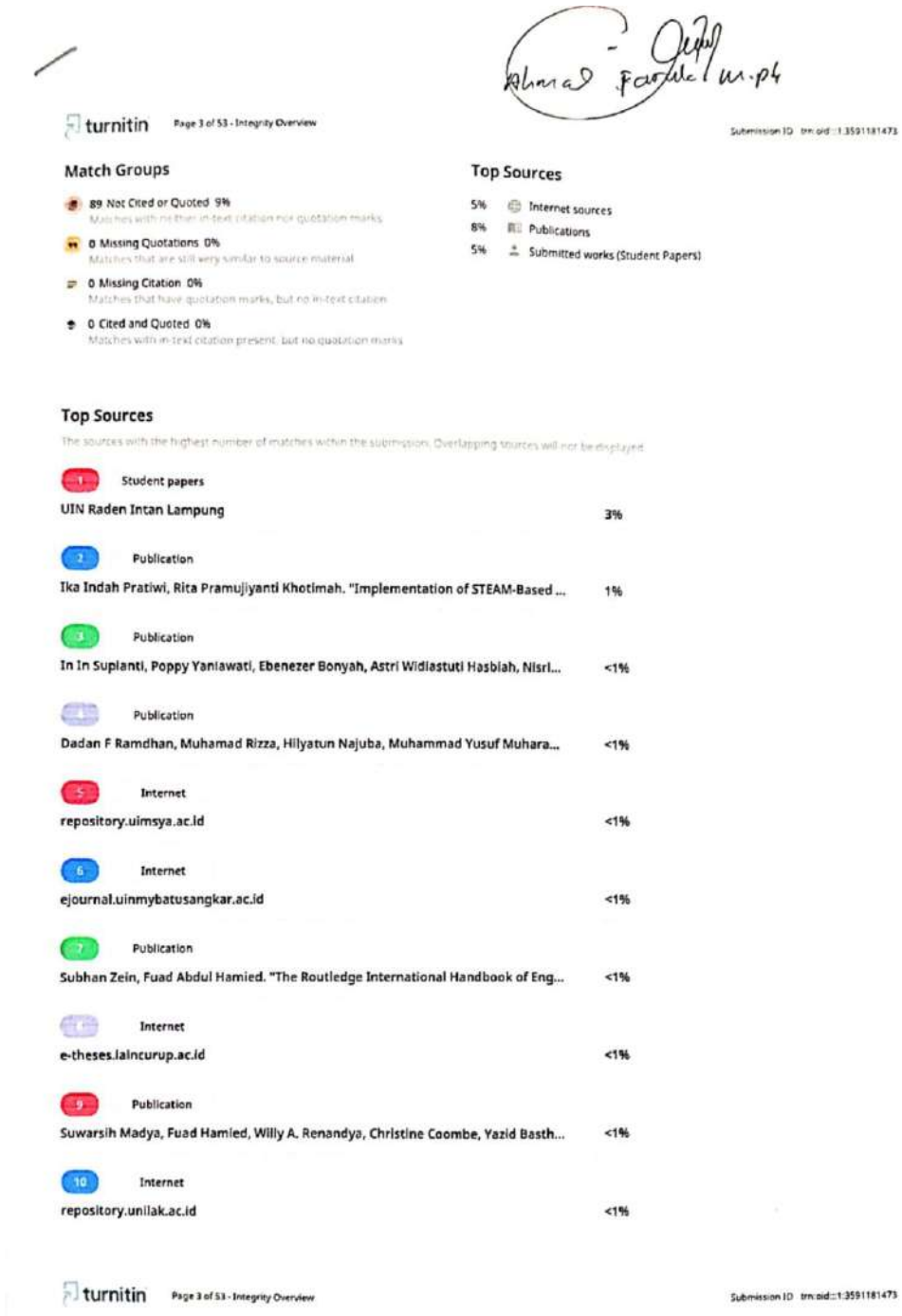


Final Project 3



Final Project 4

Appendix 6. Plagiarism



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5% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

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HISTORY LIST LIFE



Nama	:	Arin Ma'rifatul Layyinah
NIM	:	2211221013
TTL	:	Banyuwangi. 29 April 2003
Jenis Kelamin	:	Perempuan
Agama	:	Islam
Prodi	:	Tadris Bahasa Inggris (TBIG)
Alamat	:	Rt. 01/ Rw. 02, Dsn. Balokan, Ds Dasri, Kec. Tegalsari, Kab. Banyuwangi

Riwayat Pendidikan

1. Paud Tunas Mulia (2006-2008)
2. TK Alam Tunas Harapan (2008-2010)
3. SD Negeri 2 Genteng (2010-2016)
4. SMP Plus Darussalam (2016-2019)
5. SMA Darussalam (2019-2022)

Pengalaman Organisasi

1. Anggota Osis SMA Darussalam (2019-2021)
2. Wakil Ketua KSR Unit UIMSYA (2023-2024)
3. Anggota Paduan Suara UIMSYA (2022-2024)

"Education is the most powerful weapon which you can use to change the world."

– Nelson Mandela –

UNIVERSITAS
KH. MUKHTAR SYAFAAT
ENGLISH EDUCATION DEPARTMENT
FACULTY OF TARBIYAH AND TEACHERS TRAINING