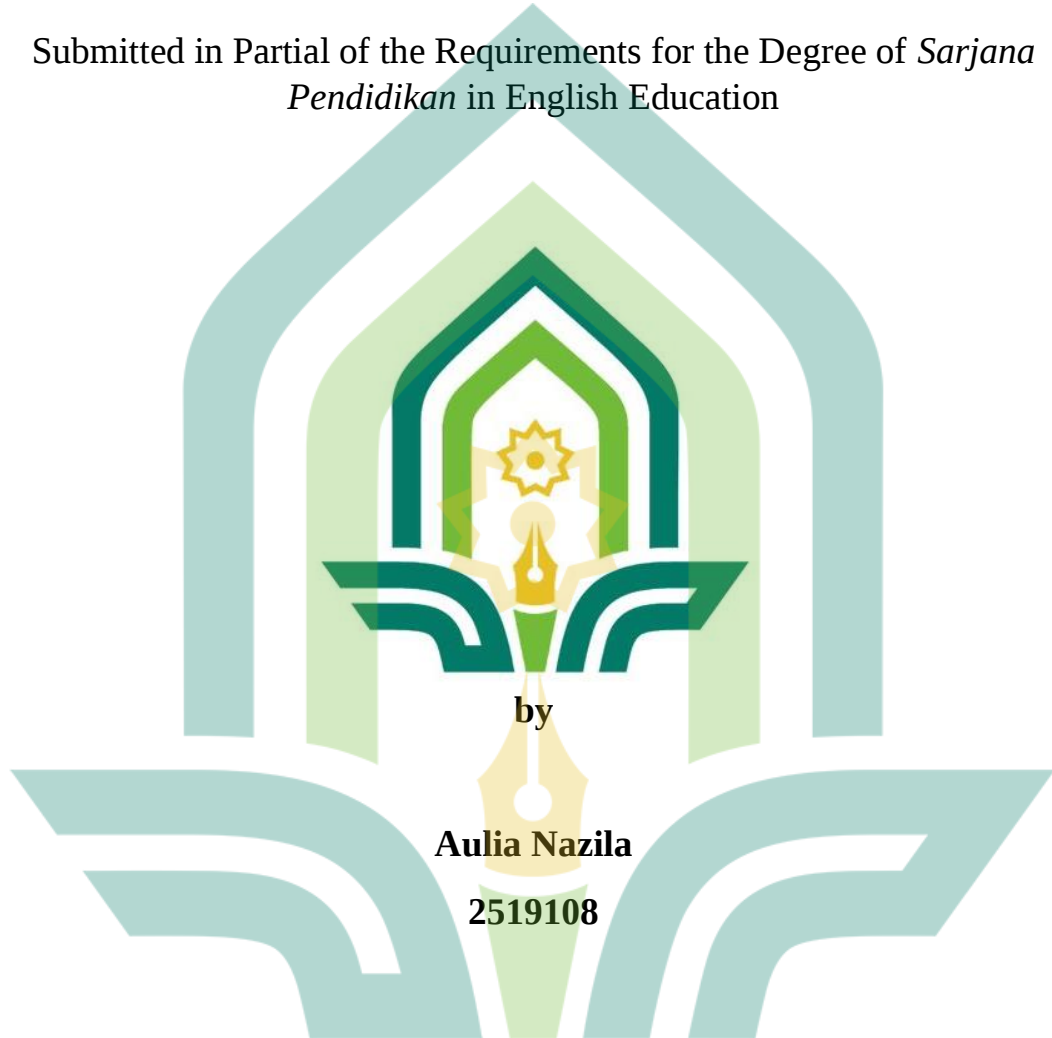


TEACHERS' STRATEGY IN TEACHING SCIENCE IN BILINGUAL CLASSROOM

A Thesis

Submitted in Partial of the Requirements for the Degree of *Sarjana
Pendidikan* in English Education



by

Aulia Nazila

2519108

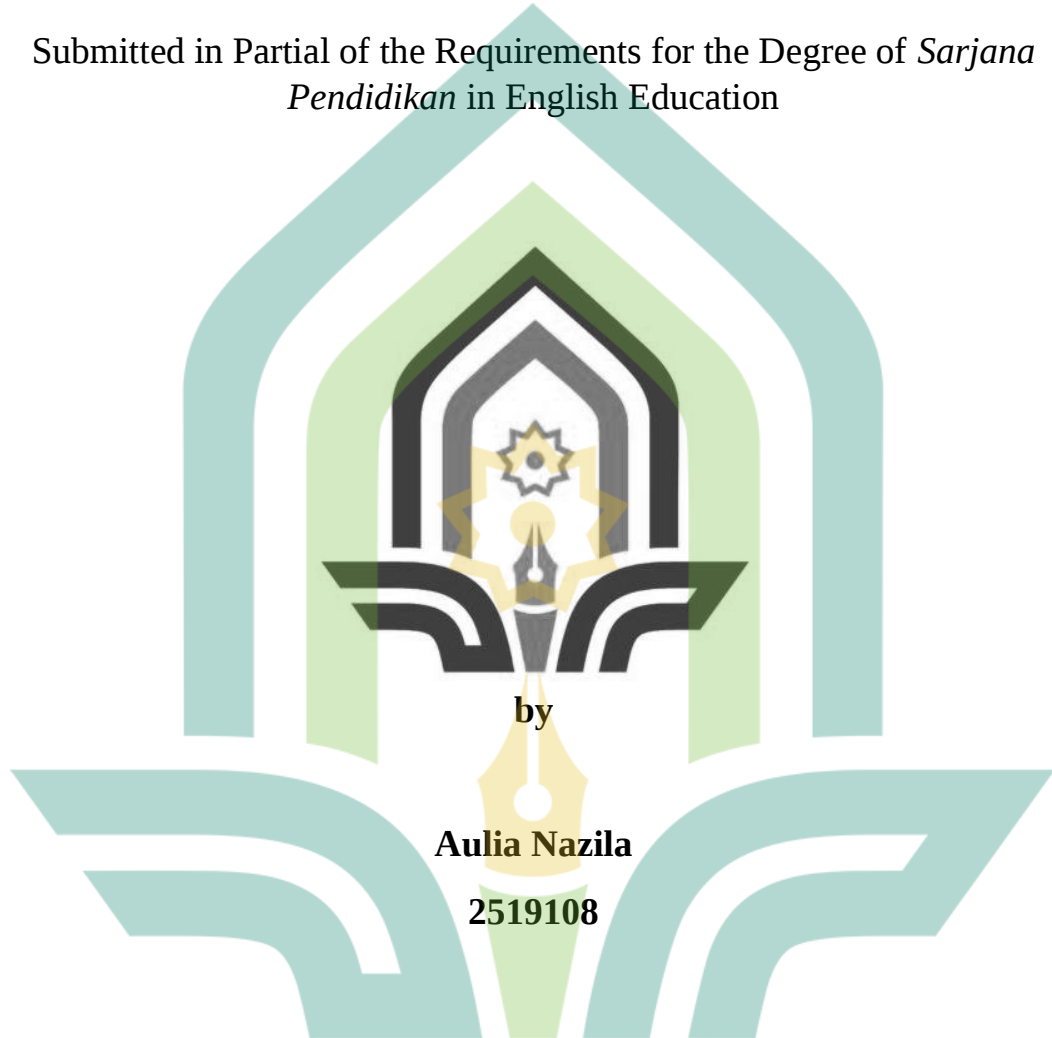
**ENGLISH EDUCATION DEPARTMENT
FACULTY OF EDUCATION AND TEACHER TRAINING
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PEKALONGAN**

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Dengan ini mohon agar skripsi tersebut segera dimunaqosahkan.

Demikian nota pembimbing ini dibuat untuk digunakan sebagaimana mestinya. Atas perhatian bapak/Ibu, saya sampaikan terima kasih.

Wassalamu'alaikum Wr.Wb.

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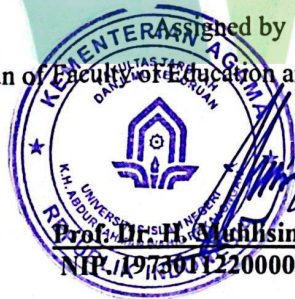
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MOTTO

“Speak to inspire, learn to grow.”

(Anonymous)

“With every word, we build a bridge.”

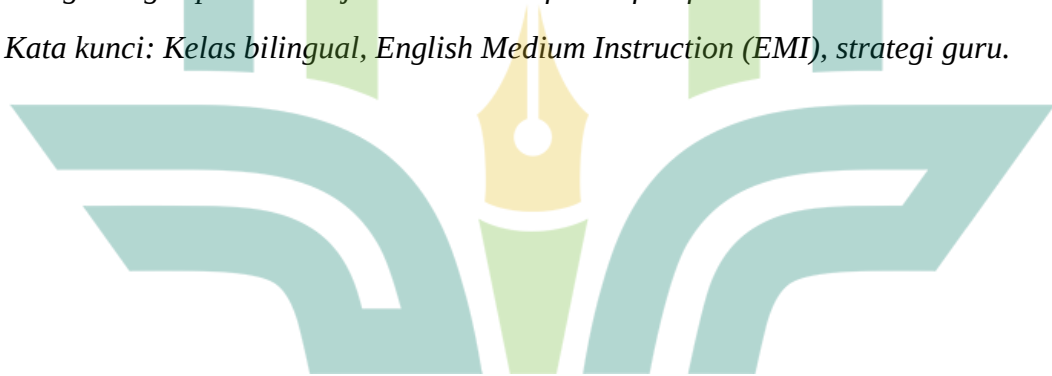
(Simon & Garfunkel)



Abstrak

Bahasa Inggris yang digunakan di sektor atau bidang selain Bahasa Inggris dikenal sebagai Bahasa Inggris sebagai Bahasa Pengantar (BPP), atau EMI. Dengan kata lain, siswa dan guru dapat berkomunikasi satu sama lain menggunakan Bahasa Inggris. Penelitian ini bertujuan untuk mengeksplorasi strategi dan tantangan guru dalam mengajar teks ilmiah menggunakan bahasa Inggris di kelas bilingual. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi kasus. Data dikumpulkan melalui wawancara semi-terstruktur dan observasi terhadap guru sains di salah satu sekolah islam di Pekalongan. Hasil penelitian menunjukkan bahwa guru menerapkan berbagai strategi pembelajaran berbasis translanguaging, seperti penggunaan label bilingual, pengulangan dan terjemahan antarbahasa, penerapan literasi simultan, serta penggunaan dua bahasa untuk tujuan fungsional yang berbeda. Strategi ini membantu siswa memahami konsep ilmiah sekaligus meningkatkan kemampuan bahasa Inggris mereka. Namun, penelitian ini juga menemukan beberapa tantangan utama, antara lain perbedaan kemampuan bahasa siswa, keterbatasan sumber daya pengajaran, tuntutan penguasaan dua kurikulum, kesulitan dalam menilai pemahaman siswa, dan kurangnya pelatihan profesional bagi guru. Temuan ini menegaskan pentingnya penerapan strategi translanguaging dalam pembelajaran sains bilingual agar proses belajar lebih inklusif dan efektif.

Kata kunci: Kelas bilingual, English Medium Instruction (EMI), strategi guru.



Abstract

English employed in a sector or scope other than English is known as English Medium Instruction, or EMI. To put it another way, kids and teachers can communicate with each other using English. This research aims to explore teachers' strategies and challenges in teaching scientific texts using English in a bilingual classroom. The study employed a qualitative approach with a case study method. Data were collected through semi-structured interviews and classroom observations of a science teacher at an Islamic junior high school in Pekalongan. The findings revealed that the teacher implemented several translanguaging-based strategies, including the use of bilingual labels, repetition and translation across languages, simultaneous literacy, and the use of both languages for different functional purposes. These strategies helped students comprehend scientific concepts while improving their English proficiency. However, several challenges were also identified, such as differences in students' language proficiency levels, limited teaching resources, the demand to master two curricula, difficulties in assessing students' understanding, and a lack of professional training. The study highlights the importance of adopting translanguaging strategies in bilingual science instruction to promote more inclusive and effective learning.

Keywords: bilingual classroom, English Medium Instruction, teachers' strategies.



PREFACE

Praises and gratefulness are sent to Allah SWT who has poured His grace and His gift and bestowed me guidance, health, and patience so that the writing process of my final project research entitled “TEACHERS’ STRATEGY IN TEACHING SCIENCE IN BILINGUAL CLASSROOM” could be completed. It was submitted to the English Education Department, UIN K.H. Abdurrahman Wahid Pekalongan to fulfill one of the requirements for the Degree of Sarjana Pendidikan in English Education. The research was completed thanks to a lot of help from many people. Thus, I would want to use this opportunity to thank those who are listed below :

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Pekalongan, 10 November 2025

The Writer

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CHAPTER I

INTRODUCTION

1.1 Background of Study

The growth of English as a global language has continued to grow from time to time. For example, the use of English to teach academic subjects (other than English itself) in countries or regions where the majority of the population does not speak English is known as English as Medium Instruction (EMI) (Dearden, 2015). Artini and Crandall (as cited in Kurniati, 2024) argue that the use of EMI can be considered an effort to renew in the field of learning that targets the achievement of two goals at once. The two goals are: (1) competence in the content of the field of study (subject competence) and (2) language competence (language competence).

EMI or English Medium Instruction is the English used in a field or scope other than English (Smit, 2023). In other words, English can be used as a means of communication between two parties, namely students and teachers. By using EMI, students in non-English speaking countries can have wider access to these resources, allowing them to gain the latest knowledge and information in their respective fields (Maiworm, 2014). English in education is usually used for the communication process between students and teachers. Students and teachers who learn two languages more fluently and effectively will appreciate the ease of engaging in learning. This is intended so that students and teachers can truly engage in dialogue,

where the second language serves as a medium and method of teaching, not just as a subject.

The key to success in implementing EMI-based learning is to implement bilingual learning. Bilingual learning means some of the lessons are delivered in English commonly Math, Science, and other local contents (Anggiarima, 2019). Kurniati (2024) stated in her journal that students who learn bilingually and switch between two languages have better learning abilities and longer attention spans because their frontal lobes become more active. As a result, bilingual learners are better than monolingual learners in terms of concentration, multitasking, and problem solving (He, 2018). In the scope of learning science, a teacher can also implement EMI-based bilingual learning. This is proven in a study conducted by Anaam & Kerouad (2024) which stated that EMI improves the English language proficiency of mathematics and science teachers. Several of her research subjects admitted that in preparing EMI-based learning, they would try their best to learn English so that they would get a lot of terminology in science learning. Not only that, the experience of teaching EMI allows them to learn some basic English including pronouns and tenses, a practice that her research subjects did not master before taking the EMI teaching class.

This finding indicates that the implementation of English as a Medium of Instruction (EMI) not only contributes to teachers' linguistic and professional development but also highlights the central role of language in mediating classroom interaction and content understanding. When teachers

engage in EMI-based teaching, they become more conscious of how language functions as a pedagogical tool to construct meaning and facilitate learning (Macaro, 2018). This awareness bridges the connection between language and content, reinforcing the notion that effective bilingual instruction requires both linguistic competence and strategic adaptation of language use to support students' comprehension (Lin, 2016).

The language that is regularly used in schools to deliver teaching is known as the language of instruction. It is important to modify the instruction's terminology to fit the national context. In order to accomplish educational objectives, the language of instruction serves as a means of understanding, appreciating, and explaining the subject matter (Then, 2011). Every student should have the chance to learn through listening, questioning, replying, explaining, expressing opinions, reading, and writing throughout teaching and learning activities in the classroom. If students are given the confidence to speak up, this can be accomplished. English is an international language that is taught in all schools overseas.

However, there are also significant obstacles to overcome when utilizing English in science education, particularly in non-English speaking nations (Johns, 2012). It could be challenging for students whose command of the English language is poor to comprehend the material. For science education to continue being successful and inclusive, it is crucial to incorporate learning methodologies that consider students' language

proficiency, such as bilingualism. Therefore, there are many advantages to using English in science, but it still needs to be done with flexibility.

With the importance of students using English in science class, the researcher will take the research title 'TEACHERS' STRATEGY OF SCIENTIFIC TEXT IN BILINGUAL CLASSROOM' which focuses on what science teachers teach using English. Of course, science teachers have their own strategies when teaching science using English. Researchers chose this title due to students were interested in learning science using English. There are motivations for conducting this research. The researcher was previously a tutor for children in a junior high school in a BILINGUAL classroom; beginning with the researcher observing students studying science in English, they were required to study science material in English, which required them to be able to speak English well in order to understand science subjects. The researchers want to discover how science is taught in English. Finally, the researcher conducted semi-interviews with scientific teachers, some of whom had difficulty teaching science in English, therefore the researcher wanted to learn more about why they had such issues. Researchers hope that by identifying the issues they confront and the strategies they employ while teaching science in English, they can find a solution to these difficulties. This paper investigates how science teachers in Pekalongan's junior high schools present science subjects in English. The goal of producing this study is to learn about science teachers' learning strategies, the challenges they face when learning and teaching

science in English, students' comprehension of science information provided in English, and their learning outcomes.

1.2 Formulation of The Problems

This study provides two questions:

- a. What are the teacher's strategies in teaching science using English in bilingual classroom?
- b. What are the teacher's challenges in teaching science using English in bilingual classroom?

1.3 Operational Definitions

To avoid misunderstanding the terms in this study, the researcher provides several definitions relating to the research as follows:

- a. Bilingual classroom: A classroom where teacher and students use of two or more languages during learning activity (Creese, 2010).
- b. English as Medium Instruction (EMI): A term that has historically referred to an educational practice in which academic subjects are taught to pupils in a non-majority language—typically a minority language, a second language, or a foreign language (Rose et al., 2021)
- c. Teachers' strategy: A way, method, or approach designed by a teacher to achieve specific learning objectives (Eggen, 2024).

1.4 Aims of The Study

This research aimed to explore how teacher using English in communication with students during learning process.

- a. To explore the teachers' strategies in teaching science using English in bilingual classroom
- b. To explore the teachers' challenge in teaching science using English in bilingual classroom.

1.5 Significance of The Study

- a. Theoretical use : This study will validate Creese's theory, which states that bilingualism contributes to identity performance, class completion, and participant confidence. Moreover, the researcher hopes that this study will support other related theories about english medium instruction in bilingual classroom and can serve as an example for other studies.
- b. Empirical use : This study provides insight into English can be used to teach academic subjects or other than English itself and can be used as one of the references for lecturers in conducting learning evaluations.
- c. Practical use : The findings of this study are expected to give a contribution to the educational setting regarding the implementation of english medium instruction in bilingual classroom. Furthermore, this study can serve as a reflection source on how EMI should be involved in bilingual class. Therefore, it is important for teachers to prepare their performance better so that students can also be actively involved in bilingual classes.

CHAPTER V CONCLUSION

5.1 Summary of The Findings

Based on the result and discussion, the findings revealed that the participant faced some of strategies and challenges. Overall, the strategies implemented by teachers reflect a pedagogical shift from monolingual EMI compliance towards translanguaging as a practice.

The findings revealed that the teacher used some strategies during teaching process, namely use of bilingual label quests, repetition, and translation accros languages; abillity to engage audiences through translanguaging and heteroglossia; endorsment of simultaneous literacies and languages to keep the pedagogic task moving; recognition that teachers and students skill-fully used their languages for different functional goals; use of translanguaging for anotating texts, providing greater access to the curriculum and lesson accomplishment.

However, there are still many challenges faced by the teacher in applying those strategies, namely differences in language proficiency level, limited teaching resources, demends for mastery of two curriculum, difficulties in assesing student understanding, lack of proffesional training. Each challenges have some impacts on the teaching process.

5.2 Recommendation

The result of this study underlined the strategies and challenges in teaching scientific with English. This research has many weaknesses in

various aspects. This section provides recommendations for teachers and future researcher to optimize the teaching scientific with English.

5.2.1 For teachers

For teachers, the findings suggest that teachers can conduct learning that keeps students active and makes it easy for them to follow classroom learning activities. In addition, the teacher is also expected to provide clear explanations because the material is presented in English. This is also related to the fact that different students have different levels of understanding.

5.2.2 For Future Researchers

Future research could empirically measure the impact of translanguaging practices on students' cognitive understanding of scientific texts and academic achievement in EMI, compared to strictly monolingual EMI classes. Further teaching bilingual research, especially exploring strategies, can explore the strategies and the way how to solve them. The researcher hopes further researchers could reviewed this topic with different focus, as well as adding reliable reference sources.

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