CHAPTER V

CONCLUSION, IMPLICATION AND SUGGESTION

Based on the results of research that has been discussed by researchers regarding "Student Perspectives on Teacher Instructions Using English and Indonesian in Biology Classes", researchers can draw the following conclusions. The research culminates with its key conclusions and implications both in academic and pedagogical contexts. The study sheds light on the significance of language choice in biology education, reflecting the participants' diverse language preferences and factors influencing their choices. The findings emphasize the importance of considering individual language needs and valuing language diversity in creating inclusive learning environments. Moreover, professional development opportunities can aid educators in effectively implementing bilingual instructional practices. Students are encouraged to embrace language diversity and actively engage in bilingual discussions to develop a more holistic understanding of biology concepts. For future researchers, the study serves as a foundation for further exploration of language integration in biology education, providing potential areas of inquiry to uncover the long-term effects and effective strategies for successful bilingual science instruction.

5.1. Conclusion

The conclusions drawn from this research are multi-faceted and provide valuable insights into the significance of language choice in biology education. The participants' responses showcased diverse language preferences and the factors influencing their choices in learning Biology. Some participants felt equally comfortable with both languages, while others preferred their native language or English for personal reasons or specific learning advantages. These findings highlight the importance of considering individual language needs and preferences when designing language integration strategies in biology instruction.

1. The research questions explored how students understood the teacher's use of Indonesian and English instructions in Biology classes. Research participants provided valuable insights into the impact of language on education. These findings emphasize the importance of consistent exposure to both languages, highlighting knowledge between the two and the influence of the language of instruction on content depth. This study also recognizes the potential benefits of multilingual education in developing critical thinking skills. The conclusion is that this research demonstrates the importance of embracing language diversity in the classroom and provides valuable insights for educators. By fostering a multilingual learning environment and taking students' language preferences into account, teachers can enhance students' learning experiences and support their academic growth in Biology and beyond.

The findings of this research offer a foundation for further exploration of language integration in various educational contexts, paving the way for more inclusive and effective teaching practices.

2. The research question investigates students' expectations for future Biology classes taught in Indonesian and English. By exploring their anticipations, this research seeks to understand the perceived role of English in Biology education, its potential benefits, challenges, and impact on learning experiences and career prospects. Participants' responses showcased a variety of language preferences. While some find Indonesian and English equally useful, others prefer one language over the other due to personal convenience or the perceived effectiveness of teaching in their native language. One of the participant preferences for studying in English was associated with a positive emotional connection to the language, while participants' preference for Indonesian reflected a stronger sense of connection to the subject matter. One of the observations of Biology participants who were taught English emphasizing critical thinking and biotechnology exemplifies the impact of language on educational content. The research findings underscore the importance of considering affective factors, linguistic identity, and cognitive advantages in language choice for an effective language integration strategy in Biology education. Teachers and educators can use this knowledge to create inclusive and engaging learning environments that cater to diverse linguistic backgrounds.

Recognizing students' individual language preferences can enhance their learning experience, motivation, and academic achievement.

The conclusions from this study provide valuable insight into students' language expectations and preferences for future Biology classes. By understanding these factors, educators can design language-integrated Biology lessons that optimize learning outcomes and accommodate the diverse linguistic needs of their students. Further research in this area can explore the long-term effects of bilingual education and offer innovative approaches to increasing language integration in science education. Ultimately, cultivating language diversity in the classroom can result in enriched learning experiences and better prepare students for a multilingual world.

5.2. Implication

The following initial implications, both academically and pedagogically, point to the importance of considering diverse linguistic backgrounds and preferences in creating an effective and inclusive learning environment.

1. From an academic perspective, the study highlights the importance of creating inclusive and adaptable learning environments that consider the diverse linguistic backgrounds of students. Recognizing and valuing students' language preferences can contribute to a positive and engaging

educational experience, leading to increased motivation and improved academic achievements.

2. Pedagogically, the research indicates that integrating both Indonesian and English in biology lessons can provide students with a more comprehensive and enriched learning experience. Teachers can leverage the strengths of each language to effectively convey complex concepts and cater to different learning styles (Cummins, 2014). By offering bilingual learning opportunities, educators can foster critical thinking skills, cognitive development, and multiliteracies among students (Pavlenko, 2014).

The implications of this study are significant for educators and institutions aiming to enhance language integration in their teaching practices. By embracing a multilingual approach, educators can create an inclusive and engaging learning environment that caters to the linguistic diversity of students. Such an approach can promote active participation and higher motivation among learners, ultimately leading to improved academic performance. Additionally, incorporating both languages in biology lessons can provide students with a deeper understanding of the subject matter, as they can benefit from different perspectives offered by each language. This enriching experience can enhance students' critical thinking abilities and cognitive skills, preparing them for a more diverse and interconnected world. Educators can use these implications to inform their teaching methodologies and strategies. By recognizing the importance of

accommodating language preferences and leveraging the strengths of each language, teachers can create a dynamic and effective learning environment. Incorporating bilingual learning opportunities can encourage students to actively engage with the subject matter, fostering a deeper understanding and appreciation for biology concepts.

In conclusion, the academic and pedagogical implications of this study underscore the value of language integration in biology education. Embracing both Indonesian and English in the classroom can lead to a more inclusive and comprehensive learning experience, benefiting students' motivation, critical thinking, and cognitive development. As educators adapt their practices to accommodate diverse linguistic backgrounds, students can thrive and excel in their biology education, laying a foundation for future success in an interconnected global society.

5.3. Suggestion

Here’s some suggestions for teachers, students, and other researchers conducting studies in the same field as ours are as follows:

1. For teachers, the study's implications lie in promoting an inclusive and supportive classroom environment that respects and accommodates language preferences. Teachers can implement a dynamic language approach, allowing students to use both Indonesian and English to express themselves and engage with the subject matter. Furthermore, professional

development opportunities can help teachers enhance their bilingual instructional practices and maximize the potential benefits of language integration in Biology education.

2. For teachers and schools, they need to be able to identify students' language proficiency levels, differentiate between students who have strong English language skills and those who have lower proficiency, and consider individual students' needs and the extent of their English and Indonesian language proficiency. This is because students have varying levels of proficiency. Students can be grouped according to similar language proficiency levels or additional language classes can be formed that focus on developing English language skills so that these students can be on par with those who already have high language proficiency.
3. Students can be encouraged to embrace language diversity and actively participate in bilingual discussions. By recognizing the value of both Indonesian and English in their learning journey, students can develop a more holistic understanding of biology concepts and become more adaptable in a multilingual world. Self-reflection on their language preferences and learning styles can also empower students to take ownership of their education.
4. For future researchers in the field, this study serves as a foundation for further exploration of language integration in biology education. Investigating the long-term effects of bilingual biology instruction on academic performance and language proficiency can provide a deeper

understanding of its impact. Comparative studies between monolingual and bilingual classrooms can shed light on the advantages of incorporating multiple languages in science education.

In conclusion, this research highlights the importance of language preferences and choices in biology education. By acknowledging the significance of individual language backgrounds and preferences, educators can create inclusive and dynamic learning environments that cater to diverse student needs. Incorporating both Indonesian and English in biology lessons can offer students a more comprehensive understanding of the subject and foster critical thinking skills. Embracing language diversity has the potential to benefit students academically, promote cognitive development, and prepare them for a multilingual world. Future research in this field can further explore the long-term effects of bilingual biology instruction and identify effective strategies for language integration in science education.