

# SIBIKU SIGN LANGUAGE APPLICATION INTRODUCCION FOR JUNIOR AND SENIOR HIGH SCHOOL STUDENTS AT SLB NEGERI 2 DENPASAR

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## Abstract

Hearing impaired is the condition of a person who experiences a deficiency or loss of the sense of hearing so that they are unable to perceive stimuli in the form of sounds, voices, or the like, which results in normal communication skills being unable to be carried out properly by people with hearing loss. They need sign language for communication between them and normal people. Due to hearing difficulties, exclusive learning is needed using learning media in the form of a sign language dictionary to recognize vocabulary in sign language. The SIBIKU application was created to make it easier for hearing-impaired people to learn sign language vocabulary with features from the SIBIKU application, which uses moving images to make it easy to model sign language movements. There is also a Morse vibration feature, which converts numbers and letters into Morse in the form of vibrations generated by the user's smartphone. And for practice materials, this application has a sign word guessing feature as an evaluation material for learning sign language vocabulary. With dynamic data, it is hoped that the SIBIKU application can help solve problems faced by teachers and children with hearing loss at SLB Negeri 2 Denpasar in learning sign language vocabulary.

**Keywords:** Application, Hearing Impaired, High School, Learning, Sign Language

## INTRODUCTION

The right of each citizen to obtain education is emphasized in 1945 Constitution article 31 paragraph 1, explicitly, the right to gain an education without exception, comprise normal, physically challenges or special needs (Ansori, 2020). The fact is that every student who has a different special need must be treated differently. Every citizen, without exception, has the right to an education. According to Law No. 8 of 2016, individuals who have impairments have the right to quality education, which is offered through special and inclusive education. Due to their limitations, those with hearing impairments need a different language to communicate, and sign language as a language of communication that can be used both in school and in everyday life. SIBI is a sign language system used in special education that adheres to the proper and appropriate rules of the Indonesian language. The Indonesian Signing System Dictionary (SIBI) was established on June 30, 1994, by Minister of Education and Culture Decree No. 0161/U/2994 regarding the standardization of the Indonesian Sign System (El Rahma et al., 2022). The priority issues to be addressed in this Community Service activity, based on the initial situational analysis, are how students at SLB Negeri 2 Denpasar can gain insight and knowledge about learning SIBI sign language using the SIBIKU application while also maximizing their IT skills. Then, how SLB Negeri 2 Denpasar students can improve their literacy skills by using alternative media to encourage students' reading independence. During the implementation, the team was assisted by a teacher who is fluent in sign language.

## METHOD

This Community Service activity is carried out using the Service Learning methodology. Service Learning is a methodology based on real needs, problems, and challenges that can be found in both local and global contexts. Service Learning begins with analysis and a reality check to determine which interventions can be carried out to correct identified deficiencies [3]. The stages of implementing Service Learning are captured in Figure 1.

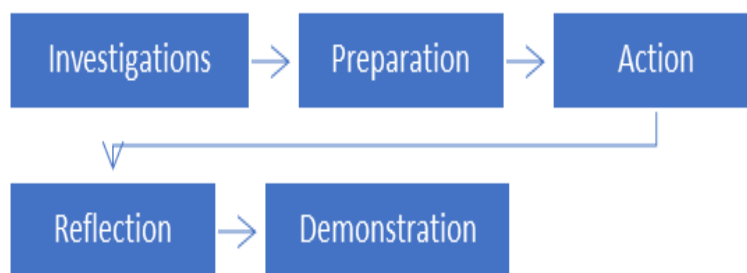


Figure 1. Service Learning Method

## RESULTS AND DISCUSSIONS

### Results

Based on the stages of implementing Service Learning, community service activities are carried out in the following stages.

- **Investigations** - The team conducted preliminary interviews with the learning coordinator at SLB Negeri 2 as well as the Principal, Mrs. Ni Wayan Rapiyanti, S.Pd. After team members agreed on proposed activities, the team leader communicated with the activity coordinator at SLB Negeri 2 Denpasar, Mr. I Made Gede Artha Mahardika, S.Pd, M.Pd., via WhatsApp messages, about activity methods and approaches. At SLB Negeri 2 Denpasar, two sign language systems are used in the teaching and learning process: BISINDO for elementary (SDLB) and junior high (SMPLB) levels, and SIBI for high school (SMPLB and SMALB). This served as the foundation for the activity, which focused on introducing the SIBIKU sign language learning application to help students improve their vocabulary.
- **Preparation** - The team then held internal discussions, which were carried out by a WhatsApp forum group discussion (FGD) consisting of the lecturers, and students involved in this activity, to identify sources of problems as material for analysis and develop strategies to provide solutions to these problems.
- **Action** - Following the preparation stage, the team engages in follow-up activities with partners to provide solutions to their problems (both online and offline). The team communicated with SLB Negeri 2 several times about the visit's preparation prior to the actual learning event on March 14, 2023.
- **Reflection** - Following the completion of activities and visits (both online and offline) with partners, the team reflects on what was accomplished and determines what values were obtained from each of these activities and visits.
- **Demonstration** - The team creates an execution or visit report (both online and offline) and formats the report for presentation (in the form of a ppt, documents, photos, or video documentation).

Figure 2 and 3 captures documentation from the stages of investigation and activity preparation.



Figure 2. Investigation and Preparation's Stages



Figure 3. SIBI's Literacy at SLB Negeri 2 Denpasar

*Implementation of the Activities*

Figures 4, 5, and 6 capture the documentation of the next three stages: action, reflection, and demonstration.



Figure 4. Action, Reflection, and Demonstrations' Stages



Figure 5. Pre and Posttest Learning Evaluation using the Quizziz Web Tool



Figure 6. SMPLB and SMALB teachers and students, along with the Community Service Team

This Community Service took place between December 2022 and February 2023, as shown in Table 1, and concluded on March 14th.

Table 1. Implementation schedule

No.	Activity	Period														
		December				January				February						
		1	2	3	4	1	2	3	4	1	2	3	4			
1.	Preparation	■	■													
2.	Activity Planning		■	■	■											
3.	Implementation					■	■	■	■	■	■	■	■	■	■	■
4.	Evaluation													■	■	■
5.	Reporting Stage					■	■	■	■	■	■	■	■	■	■	■

*Location*

This Community Service was conducted in collaboration with the SLB Negeri 2 Denpasar, which is located on Jl. Pendidikan No.26, Sidakarya, South Denpasar, Denpasar City, Bali 80224. The location of this community service activity is approximately 4.5 kilometers from the campus location of the proposer. The map of the location of the proposer and the location of community service activities is shown in Figures 7 and 8 below.

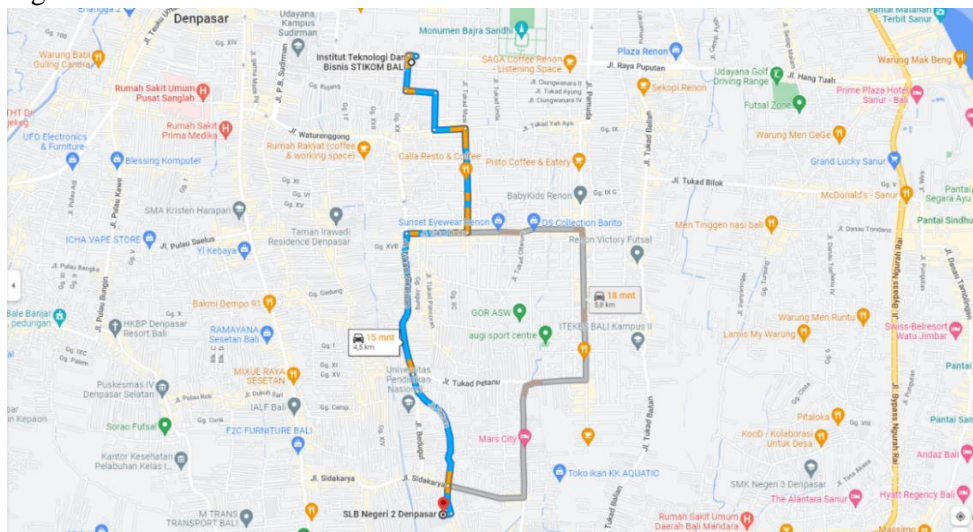


Figure 7. Location Maps (Bali Island Map, 2020)













Figure 8. Location of Community Service

*Evaluation*

Evaluation of the results of the activity was carried out using a questionnaire made using Quizzis before and after the implementation of the activity to assess the results of the students' understanding of learning using the SIBIKU application. To attract students' attention, the team conducted the Pretest and Posttest using Quizziz, a Web Tool for creating interactive quizzes (Kalahatu, 2021). Table 2 consists of the Pretest and Posttest's questioner.

Table 2. Pretest and Posttest Questioner

No.	Question	Multiple Choice
1	What does this sign mean? 	<input type="checkbox"/> A d <input type="checkbox"/> B c <input type="checkbox"/> C a <input type="checkbox"/> D s
2	What sign is this? 	<input type="checkbox"/> A u <input type="checkbox"/> B a <input type="checkbox"/> C y <input type="checkbox"/> D d
3	What alphabet is this? 	<input type="checkbox"/> A p <input type="checkbox"/> B c <input type="checkbox"/> C w <input type="checkbox"/> D b
4	What number is this? 	<input type="checkbox"/> A 5 <input type="checkbox"/> B 4 <input type="checkbox"/> C 0 <input type="checkbox"/> D 3
5	What sign is this? 	<input type="checkbox"/> A o <input type="checkbox"/> B f <input type="checkbox"/> C p <input type="checkbox"/> D l
6	What does this sign mean? 	<input type="checkbox"/> A d <input type="checkbox"/> B g <input type="checkbox"/> C a <input type="checkbox"/> D j
7	What alphabet is this? 	<input type="checkbox"/> A o <input type="checkbox"/> B k <input type="checkbox"/> C i <input type="checkbox"/> D j
8	What is the sign for 'sleeping'?	

9	What this button is? 	<input type="checkbox"/> A maju <input type="checkbox"/> B berhenti <input type="checkbox"/> C berhenti sebentar <input type="checkbox"/> D mundur
10	What sign is this? 	<input type="checkbox"/> A z <input type="checkbox"/> B H <input type="checkbox"/> C c <input type="checkbox"/> D A

### Discussion

Aside from hearing problems, children with impairments can take a variety of other conditions. They frequently believe they are not going to be capable of living an ordinary life. Impairment Hearing influence physical and psychological conditions such as posture and body alignment. Due to their capability, their intellectual average is limited; emotionally vulnerable; less capable of socializing with others; appears to lack vocabulary; and less capable of controlling rhythm and tone of language (Andriani, 2016). As a result, SLB-B has a significant impact on improving the quality of life for hearing-impaired students. Manual method, in which hearing-impaired students are taught or practiced to communicate using a language cue or spelling finger. Language manuals contain elements, particularly hand-captured body movements via vision. Language cues (Tat et al., 2021). It refers to language using the hand, though expression, face, and arms are also used or played a role. Reynolds and Mann define language cue as a general term that refers to any gestural or visual language that uses shape and movement specific to fingers, hands, and arms, as well as movement of the eyes, face, head, and body, according to Nugroho (2016).

According to Bloom (Rahmat, 2019), if given enough time and conditions for fun learning, almost any student can achieve mastery in material learning. Mastery draft refers to a student's ability to understand meaning in a scientific manner, that is, theory and application in everyday life. Enhancement mastery draft can be trained with related activities. The mastery concept in students can be controlled if the student can remember, understand, and apply it, so that students can integrate new and old knowledge (Tat et al., 2021).

In terms of communication and language, American Sign Language (ASL), oral language, or a combination of the two are methods for gaining access to a rich communication and language environment. Parental cues remain while sign language evolves into options. Language cues originated in America, but they are occasionally mixed with Spanish cues. Meanwhile, in Indonesia, students with impairments use two types of language gestures: Indonesian Sign Language (BISINDO) and System Indonesian Sign (SIBI). At SLB Negeri 2 Denpasar, two sign language systems are used in the teaching and learning process: BISINDO for elementary (SDLB) and junior high (SMPLB) levels, and SIBI for high school (SMPLB and SMALB). This served as the foundation for the activity, which focused on introducing the SIBIKU sign language learning application to help students improve their vocabulary.

### CONCLUSION

The Community Service activities require the availability of both parties, both team members and students, along with their teachers. The team was wowed by the students' interest and participation in the activity, both at the SMPLB and SMALB levels, who demonstrated high levels of involvement with the assistance of accompanying teachers due to the team's limitations in mastering sign language. This is proved by the posttest results, which were higher than the pretest before the interaction, as well as the students' enthusiasm for completing the pre- and post-tests, which were completed using Quizizz. The results of the Quizizz posttest indicated a rise in vocabulary mastery.

### RECOMMENDATION

Moving forward, it is hoped that students and accompanying teachers will be capable of creating a vocabulary in SIBIKU through the 'Add Sign Words' feature in the SIBIKU application, that also allows users to add sign words locally for personal sign language learning materials. Since language evolves over time, the SIBIKU application can grow the amount of sign vocabularies to accommodate the requirements of SLB Negeri 2 Denpasar in particular and Indonesia in general.

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