



Illustrative Book Design to Introduce the Indonesian Sign Language System as an Inclusive Educational Material

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ABSTRACT

Education is the right of every human being, including children with special needs, such as deaf or hard-of-hearing children. Inclusive schools are educational institutions where children with special needs can learn alongside normal children. The Indonesia Natural School (INS) is one of the formal educational institutions in Depok City. It is an inclusive school where deaf children are also students. According to INS, it is common for deaf students to experience communication difficulties, which impedes interaction in the school environment. Difficulties are not only experienced by deaf students but also by normal students who have obstacles when they want to interact with deaf children. The objective of this research is to create educational material that introduces INS students to the Indonesian Sign Language System (SIBI). The media chosen for this study is the SIBI System illustration book, which describes various SIBI signs. The research method chosen is descriptive qualitative. The process of collecting data includes interviews, observations, and document reviews. After analyzing the data collected, it will be used as a reference to design an illustrated book about SIBI. The results of this research are illustrated books that will be used as literacy media as a reference for INS students to learn SIBI. Students can find them in school facilities like classrooms and libraries. It is hoped that through this research, normal students at INS schools will have access to media that makes it easier for them to understand and practice communicating with deaf children. The results of this study are expected to be accessible to students and teachers at INS and measured for their success in enhancing understanding and communication between normal students and students with hearing impairments.

1. Introduction

Education is the right of every human being. This has been guaranteed by the state both through state law and local government. The right to enjoy education does not only belong to regular children or children in normal conditions. However, it is also a right for children with disabilities. Children with disabilities can enjoy education with other regular children in one school called an inclusive school.

One of the children with a disability is a deaf child. A deaf child is children with hearing impairment caused by the non-functioning of the hearing organs normally. The presence of a deaf child in an inclusive school is often a challenge in the learning process. This is because the information provided both during the learning process and during social interactions cannot be easily captured by deaf children due to their hearing limitations.

The Indonesia Natural School (INS) is an inclusive school located in Depok City. INS based on Multiple Intelligences and Interests Curiosity-Based Learning. This school accommodates the needs of students and parents who have a new paradigm of education, namely efforts to balance cognitive, emotional, and behavioral abilities and skills (cognition, psychomotor, and affection). Based on the principles of education, INS is a school that develops a learning process that is carried out with concern and attention to the nation's society and strengthens humanism and multicultural. The principle of INS education is to realize educational independence with a spirit of nationalism and to foster an attitude of responsibility towards oneself and a diverse/plural environment. INS has a special section to accommodate children with special needs called the Learning Support Department (LSD).

LSD is an inclusive education support service that bridges students with special needs to various other services. A form of integrated education service where the education system provides opportunities for students with special needs to learn together with regular students. To help with the difficulties experienced by children with special needs, a Special Guidance Teacher (GPK) in INS is provided by LSD. GPK can function as a consultant for class teachers, principals, or students with special needs themselves. In addition, GPK also functions as a guide to teachers in a special class. GPK gets training provided by LSD.

In practice, there are difficulties in implementing the learning process at the school. According to principles of education, regular students face difficulties in communicating with their deaf classmates, indicating the need for effective learning media. Deaf students themselves, have received the learning provided by INS through LSD, but this is not the case with regular students. Therefore, a learning material is needed for all school residents to understand and know how to communicate with deaf students. So far, INS Junior High School has not had learning material that makes it easier for regular students to communicate with deaf students.

Based on the interview with Ms.Tria, LSD coordinator of INS Junior High School, and the results of observations at INS, learning materials are needed to introduce sign language to regular children so that they can interact with deaf children at the school. The materials can be a guidebook or module that describes sign language to deaf children.

There are two sign languages known in Indonesia, namely the Indonesian Sign Language System (SIBI) and Indonesian Sign Language (BISINDO). Although both are sign languages, they have differences. SIBI is a sign language recognized by the Indonesian government and is used in the scope of education. BISINDO is a sign language that emerged from the daily activities of the deaf community in Indonesia, but BISINDO has different variations in each region. In practice, SIBI uses one hand and BISINDO uses two hands when informing letters of the alphabet. SIBI consists of body movements, hand movements, and lip movements that are arranged systematically and function as a representation of Indonesian vocabulary (El Rahma, 2022). Based on research, deaf children support the implementation of SIBI as a communication medium in a broader practice, not limited to fellow deaf children (Utami, 2016). The use of SIBI is not only relevant in the formal learning process in the classroom but is also important in facilitating students' social interactions outside the school environment. (Satilah, 2024)

Based on these problems, it is necessary to create SIBI learning media for regular students. Based on Alfutri's research (2018), the use of picture-based media can increase the vocabulary of deaf children. In previous research, picture books were used to introduce the names of fruits in SIBI sign language (Setiawan, 2016). The results showed that the picture books successfully introduced the names of these simple objects. Other research also uses picture books to introduce the alphabet and numbers through BISINDO sign language (Riadi, 2017). Through the design of picture book illustrations to introduce

SIBI sign language, teachers and regular children will interested in getting to know SIBI as an effort to be able to communicate with deaf children. The book will have attractive and easy-to-understand visuals. In addition, this book must also be easily obtained by teachers and students at INS Junior High School and be understood by regular children at the inclusive school of INS. This is because learning media should be accessible without depending on an internet connection (Prameswari, 2021). The objective of this research is to create educational material that introduces INS students to the Indonesian Sign Language System (SIBI).

2. Method

The method employed for this study is qualitative. Qualitative methods are used to find detailed answers regarding the occurrence of a phenomenon and how the process occurs (Firmansyah, 2021). The process of obtaining data included literature studies, in-depth interviews, observations, and document reviews. In order to enhance the data, we reached out to the director or prime principal, principal, deputy for student affairs, LSD coordinator, HK teacher, class teacher, media officer, and students. The learning process was directly observed at The Indonesia Natural School in Depok City. Furthermore, the school's data on INS Junior High School data can be utilized to supplement the research. This data is given with the permission of the school director and principal. After the data collection is complete, the data will be analyzed with 5W+1H. The compilation of 5W+1H used is based on the foundation by Rudyard Kipling that consists of a question of what, where, when, why, who, and how. (Rusdiyah et al., 2017). After that, it enters the process of compiling communication strategies, creative strategies, and media strategies. The final step is the preparation of the final artwork and the creation of the book. The research steps are illustrated in the **Figure 1**.

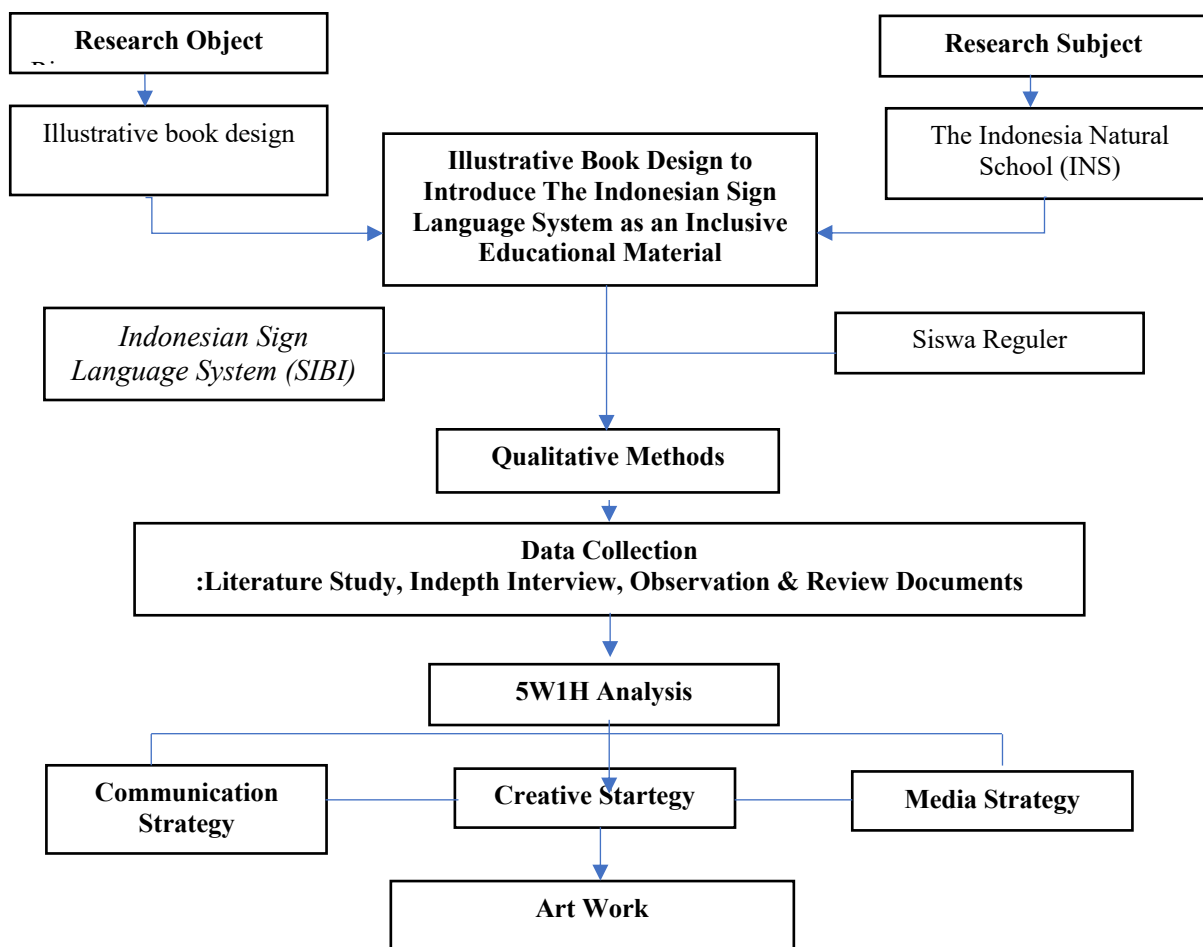


Figure 1. Methods

3. Results and Discussion

3.1 Communication Strategy

Based on the analysis of 5W+1H, there are several conclusions on what, who, when, where, why, and how the picture book is designed.

Table 1. 5W+1H Analysis

What	Where
The Indonesian Sign Language System is a medium that helps deaf people communicate with the wider community.	INS (The Indonesia Natural School) Junior High School
Who	Why
Regular Kids at INS Junior High School	Regular children have difficulty communicating with deaf children
When	How
Literacy Week 06 February 2023	Designing an illustrated book introducing SIBI sign language

The target audience is the INS Junior High School students who are 13-15 years old. On average, INS junior high school students have socioeconomic status at the upper-class level. The positioning of the SIBI System illustration book is to be the first learning medium for the INS Junior High School students which introduces numbers, the alphabet, and 20 basic words with interesting, communicative, and informative design. The book illustration is a simple and flat design style that is easily understandable and informative. The book used informative and instructional language that is straightforward and easily understood by students.

According to Ahmad (2021), Mind mapping is a technique for organizing to help a person optimize and use all his potential brain. Mind mapping is a tool for organizational thinking that makes it easier for someone to put various information inside his memory and then take information whenever he needs it. In this artwork process, the author organizes information related to this research topic which then produces keywords *and* key visuals *as* references for creative concepts.

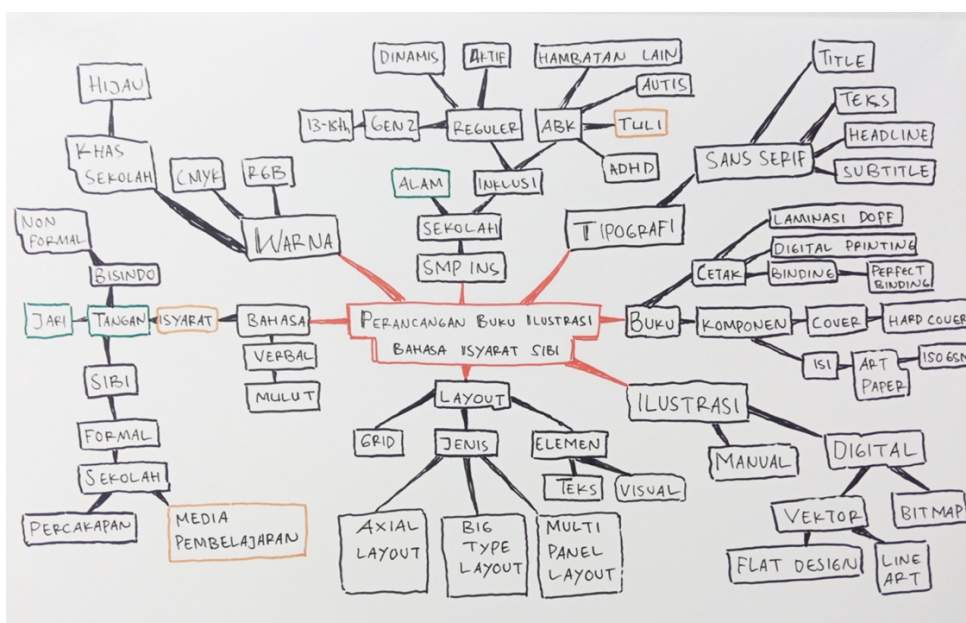


Figure 2. Mindmapping

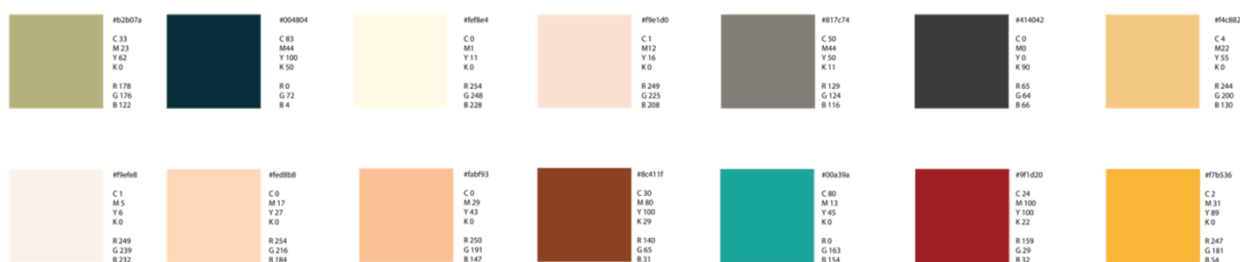


Figure 5. Scheme color for illustration

In general, a book consists of 3 parts, namely, front part (preliminaries), middle part (content, body matter/body middle/text), and back part (back matter/end matter/postliminaries)(Anggarini, 2021). The chapter inside of the SIBI System illustration book is as follows:

1. The cover consists of two parts, namely the front and back cover as follows;
 - a. The front cover contains the school logo, title book, subtitle, name of the author, and illustration of the SIBI sign with letters S, I, B, and I.
 - b. The back cover has the school logo and description owned by the school.
2. The preliminaries page included information on the contents. The preliminaries page consists of :
 - a. French Page (France Title) – title small containing title and name writer
 - b. Copyright - page This displays the Constitution's right to create
 - c. Title page - contains title, publisher, and name of author.
 - d. Colophon - contains information related to publisher, editor, writer, and illustrator.
 - e. Additional pages - contain a foreword or introduction from an author.
 - f. Table of contents - contains the order of the contents in the book.
3. The contents section discusses information or core material of the SIBI sign:
 - a. The alphabetical chapter contains information alphabet from the A to Z alphabet of the SIBI sign system.
 - b. The numbers chapter contains an information guide and illustrations of numbers 1-10 in the SIBI sign system.
 - c. The words chapter contains an information guide and illustrations of 20 basic words in the SIBI sign system.
4. The postliminaries chapter contains information on the book series.

3.2.2 Illustration Concept

Illustrations play an important role in encouraging teachers and students to use textbooks as the main reference material in the teaching and learning process (Zakaria, 2022). The illustration design style used is flat design. The illustration is made by showing the outline, but without giving shadows in the coloring. All illustrations made are in the form of a right hand, by the provisions of the National Education Office regarding the use of SIBI sign language. The illustration technique uses digital techniques, from sketches, and outlines, to coloring. The process of making alphabetic sign language illustrations begins with photographing the hands of the main source as a reference. After that, the photo is cropped to get a point of view so that the hand gestures are easier to understand or informative when seen by the reader. After the cropping process, the next process is the tracing process to create a digital sketch, followed by providing an outline and color.

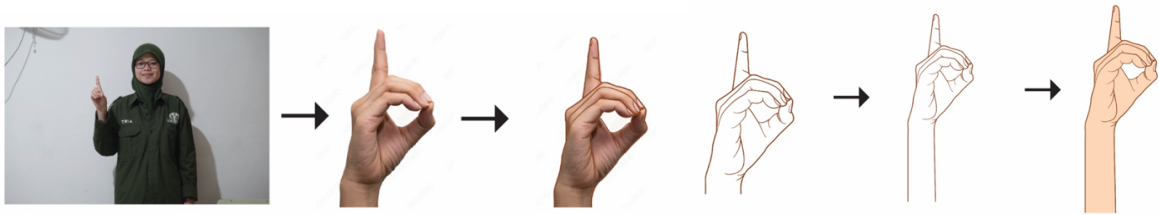


Figure 6. The process of illustration for the alphabetical chapter

The characters used in this SIBI sign language illustration book are inspired by teenage boys aged 13-15 years. The illustration design style used is a flat design style like hand illustrations. The illustration process begins by looking for references to images of boys aged 13-15 years and cartoon-style flat-design characters. Based on these two references, a sketch of a teenage character is made. From the sketch, the outlining is continued and completed with hand gesture details according to the sign language that will be explained. The last process is giving color to the character. This illustration process uses the Adobe Illustrator application for digital techniques.

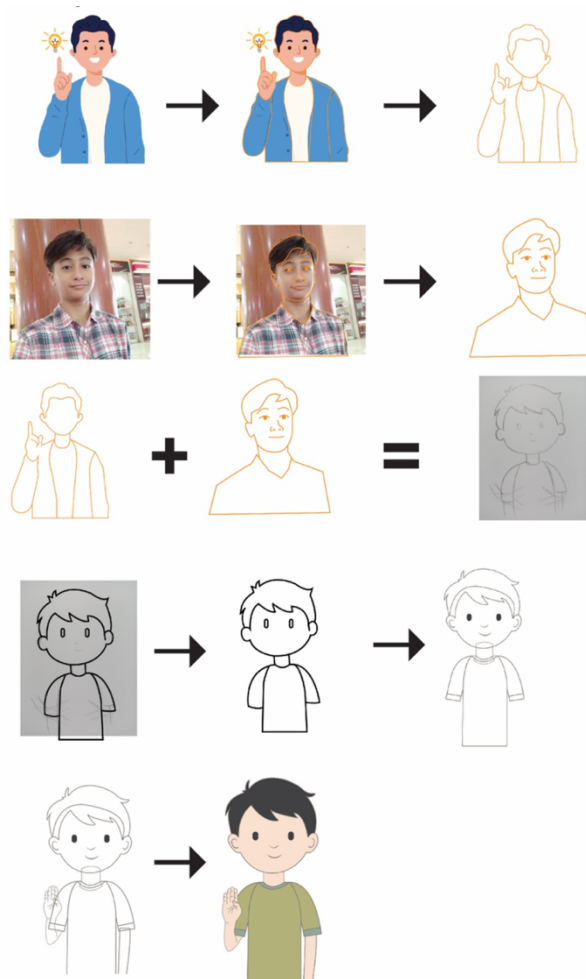


Figure 7. The process of illustration for the number and word chapter

3.2.3 Layout Concept

Layout is a fundamental element in book design to create comfort in reading. SIBI sign language illustration book uses three types of layouts, which is axial layout on the cover page, numbers and words, multi-panel layout on the alphabet page, and big type layout at the beginning of the alphabet page, numbers and words. The book uses a type of grid system, namely a column grid. In this type of grid, the number of columns used is one column. This column grid makes it easier to organize the layout of a book containing text and images.

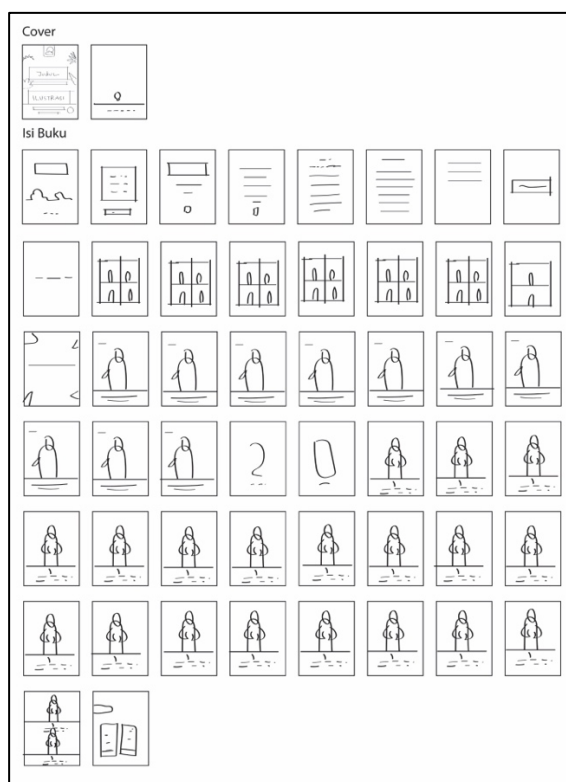


Figure 8. Page layout

3.2.4 Final Artwork

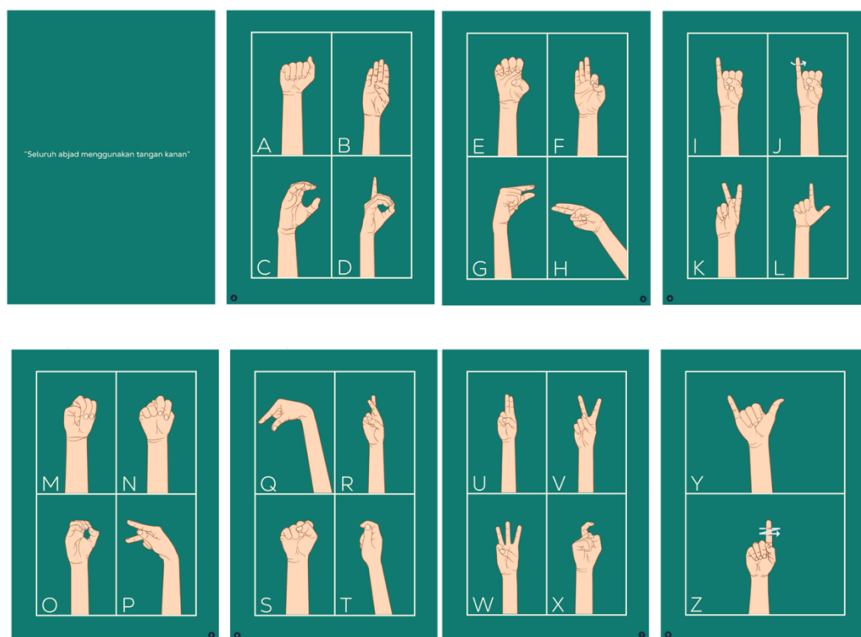
In modern color management, it is preferable to retain the image in its original color space, usually RGB which has the advantage of a smaller file size compared to a four-channel CMYK counterpart (Sharma, 2018). After that, the image will be converted to CMYK for the printing process.



Figures 9. Page design for Book Cover



Figures 10. Page design for Introduction Section



Figures 11. Page design for Alphabet Section



Figures 12. Page design for Numerical Section



Figures 13. Page design for Numerical Section

4. Conclusions

Based on the research and the design process of this study, there are several conclusions. In the primary research of this study, the author concluded that there are still very few schools that provide learning media related to sign language, many still consider it unimportant and only special schools are specifically for studying it. This is to facilitate the desire for children with deafness to get the same opportunities and treatment as children in general. It is important to have a variety of interesting and interactive media created to introduce sign language. As an inclusive society, we must provide more opportunities for deaf people to have a fair education and a chance in the professional world.

This study has a design conclusion like several previous studies. The findings of this study align with the findings of Husna (2025) and Iqbal (2023) which indicate that visual media can enhance students' understanding of sign language. Good visual design plays an important role in strengthening understanding and interaction between deaf people and normal people. In proper typography design, the use of easy-to-read sans serif fonts can help improve the readability and visual appeal in information media (Iqbal, 2023). In practice, this book is made with attractive illustrations according to the target audience. It is hoped that this book will not only teach sign language, but also enrich understanding of deaf culture (Husna, 2025). This research contributes to the development of media that supports inclusive education and paves the way for further in-depth studies on social interaction among students.

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