
Developing English and sign language module for hearing impaired students at SEN School Idayu 1 Malang

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ABSTRACT

Keywords:

English Module, Hearing-Impaired Students, Inclusive Education, Learning Material Development, Sign Language Module.

This study aimed to develop an English and sign language module for hearing-impaired students, addressing significant gaps in existing educational resources tailored to their unique learning needs. Despite the importance of effective communication for this demographic, there remains a scarcity of comprehensive materials that integrate both English language skills and sign language, particularly at the elementary level. The researchers employed the ADDIE model Analyze, Design, Develop, Implement, and Evaluate to create a module specifically designed for 15 hearing-impaired students at Grade 4 SEN School Idayu 1, Malang City. Validation was conducted through feedback from an English lecturer and a hearing-impaired students' teacher, alongside student responses post-implementation. The results indicated that this module not only meets the academic needs of the students but also enhances their English skills, particularly in vocabulary acquisition and comprehension through the use of sign language. This study underscores the necessity for targeted educational tools that facilitate effective learning environments for hearing-impaired students, ultimately contributing to their language development and academic success.

1. INTRODUCTION

Textbooks serve as essential resources that provide structured content, facilitate learning, and support the development of language skills. In Indonesia, while educators possess a degree of autonomy in their selection of teaching materials, textbooks remain the most prevalent resource due to their alignment with the core competencies and basic competencies stipulated by the Regulation of the Minister of National Education number 8 of 2016 (Hakim & Wahyuni, 2024). However, traditional textbooks often do not cater to the unique needs of hearing-impaired learners, who may face significant challenges in accessing auditory information and engaging with spoken language activities. This disability manifests in impaired performance of economic activities, such as employment, as well as social activities, including education and communication (Wijaya et al., 2024). Recent studies have shown that inclusive materials are crucial for enhancing the educational experiences of hearing-impaired students (Johnson & Lee, 2018; Fadare et al., 2024; Putera et al 2024). These materials should incorporate visual aids, interactive elements, and alternative communication strategies to ensure that all students can participate fully in the learning process. Moreover, research indicates that tailored instructional approaches can significantly improve language acquisition and comprehension for hearing-

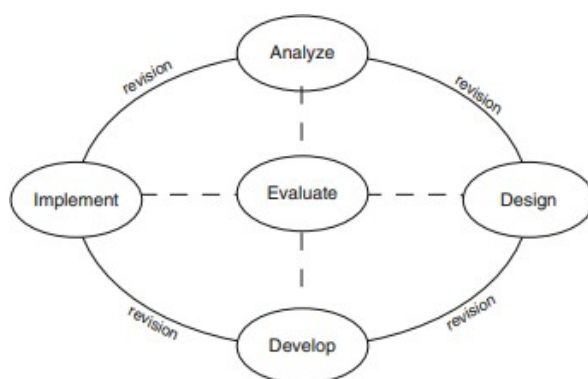
لَيْسَ عَلَى الْأَعْمَى حَرَجٌ وَلَا عَلَى الْأَعْرَجِ حَرَجٌ وَلَا عَلَى الْمَرِيضِ حَرَجٌ وَلَا عَلَى أَنْفُسِكُمْ أَنْ تَأْكُلُوا مِنْ بُيُوتِكُمْ أَوْ بُيُوتِ آبَائِكُمْ أَوْ بُيُوتِ أُمَّهَاتِكُمْ أَوْ بُيُوتِ إِخْوَانِكُمْ أَوْ بُيُوتِ أَخَوَاتِكُمْ أَوْ بُيُوتِ أَعْمَمِكُمْ أَوْ بُيُوتِ عُمَّتِكُمْ أَوْ بُيُوتِ أَخْلَاكُمْ أَوْ بُيُوتِ خَالَتِكُمْ أَوْ مَا مَلَكَتُمْ مَفَاتِحَهُ أَوْ صَدِيقِكُمْ ۚ لَيْسَ عَلَيْكُمْ جُنَاحٌ أَنْ تَأْكُلُوا جَمِيعًا أَوْ أَشْتَاتًا ۚ فَإِذَا دَخَلْتُمْ بُيُوتًا فَسَلِّمُوا عَلَى أَنْفُسِكُمْ تَحِيَّةً ۚ مِمَّنْ عِنْدَ اللَّهِ مُبْرَكَةٌ طَيِّبَةٌ ۚ كَذَلِكَ بَيَّنَّ اللَّهُ لَكُمْ أَنْ ءَابَتِ لَكُمْ تَعْقُلُونَ

Based on the previous studies, the problem can be handled by using sign language to facilitate student communication and language development (Jameel & Bibi, 2016). Thus, this study aimed to develop an English and sign languages module to fulfill the needs of hearing-

impaired students. This module can address teacher difficulties in learning English in elementary SEN School for hearing-impaired students. Apart from that, it is also a solution to the problem of students' limitations in understanding foreign language contexts because this textbook will provide sign language.

2. METHOD

This is an R&D or Research and Development study. Sugiyono (2013) stated that Research and Development is used to develop or validate a research product in education. The model used by the researcher is ADDIE model, which is the acronym of Analyze, Design, Develop, Implement, Evaluate (Branch, 2009). This model is a learning product formed in a cycle. Product development using this model is made systematically and uses significant theories. The cycle is drawn in the following picture:



Picture 1.
ADDIE Model cycle

The selection of this model is carried out to develop an English textbook that is equipped with sign language for Impaired Hearing students. The schemes that will be carried out in this study are:

1. Need Analysis,

Need analysis is an activity to find out in depth about students' needs for learning media, learning strategies, and other learning instructions. Need analysis is essential in preparing modules to ensure that the designed materials effectively and efficiently meet students' needs. In this study, two types of need analysis were conducted: the analysis of student needs and curriculum needs. The analysis of student needs was carried out through direct observation using structured instruments, including an observation checklist and interview guidelines, to ensure the validity and comprehensiveness of the data collected. Meanwhile, the analysis of curriculum needs was conducted by studying the curriculum applicable to the students.

2. Design

The researcher designed the module. Researchers design modules equipped with activities that can facilitate student learning experiences. This activity was preceded by Let's Observe, Let's Practice, Let's Be Creative, Let's Write, Let's Read, Let's Sing, Let's Have Discussion, and Learn with parents. Then each activity is equipped with exercises, vocabulary games, and other forms of variation that can build students' abilities. At the end of the theme will be accompanied by self- reflection that can be filled in by students.

3. Develop

The researcher developed an English and sign language module according to the module design. The module is developed by following the material, curriculum, learning outcomes in accordance with the National Standards set by the government, and the need analysis of the learning media that the hearing-impaired students' need.

4. Implement

Researchers implement the product or module after the product has gone through the revision stages of the expert validator. Researchers will implement the module for hearing impaired students in consultation with the teacher in SEN School Idayu 1.

5. Evaluate

The evaluation phase combined both qualitative and quantitative approaches. Qualitatively, the researchers conducted semi-structured interviews with teachers and observations of classroom implementation to gain insights into student engagement and learning behavior. Quantitatively, the researchers used simple achievement tests and performance-based assessments to measure vocabulary acquisition and reading comprehension before and after using the module.

The qualitative data were analyzed using thematic analysis to identify recurring patterns in teacher and student responses. Meanwhile, the quantitative data were interpreted descriptively to evaluate improvement in student performance. This mixed-method approach provided a comprehensive understanding of the module's effectiveness in enhancing learning outcomes for hearing-impaired students.

3. RESULTS AND DISCUSSION

3.1 The Result of Need Analysis

3.1.1 Curriculum analysis

Based on field exploration that have been conducted to the curriculum and syllabus used by Hearing Impaired teachers, this syllabus follows the existing thematic subject matter by adjusting it to English learning. Furthermore, there are also Hearing-Impaired teachers who use English books for normal children as references, but adapt them to the skills of Hearing-Impaired children. In this study, teachers at SEN School Idayu 1 used the English Books reference that had been provided by the Ministry of Education, Culture, Research and Technology. The book used is entitled "My Next Word". Hearing-Impaired teachers, in teaching English, feel appropriate in using this book.

However, there are some skills and materials that are not fully used. The researchers find it difficult for the teachers to determine a fully appropriate English courses syllabus and curriculum for hearing-impaired students, since this has not been provided by the curriculum developer. Therefore, the researchers adopted the material and curriculum from the book used by SEN School Idayu 1 teachers by perfecting the materials and skills needed by Hearing Impaired students. In this study, according to the research object, the researchers developed a module for the Hearing-Impaired class 4 which has an age range of 10-12 years. The development module coverage of material adapted from the book "My Next Word" which will be adapted to the needs of Hearing-Impaired students. Here is the framework:

Table 1. Framework for the Development of the Module for Hearing-Impaired Students

Unit	Objective	Language Focus
1 What are you doing	<input type="checkbox"/> Children are able to express activities using Verb ing <input type="checkbox"/> Children are able to produce sentences about their activities.	hat are you doing? hat is she/he doing? Going, singing, playing, having breakfast, watching, swimming,
2 There are sixtyseven English books	<input type="checkbox"/> Children are able identify numbers 50-100. <input type="checkbox"/> Children are able to count the things.	How many English books are there? Fifty, sixty, seventy, eighty, ninety one hundred Plus, minus.
3 My living room is beside the kitchen	<input type="checkbox"/> Children are able to identify prepositions. <input type="checkbox"/> Children are able to describe the rooms. <input type="checkbox"/> Children are able to produce sentences using prepositions	here is the kitchen? How is the room? living room, dining room, bed room, bath room, kitchen, garage. Beside, behind, in front of, between, Clean, dirty, tidy, big, large, empty.
4 Dinda cooks in the kitchen	<input type="checkbox"/> Children are able to identify their activities in the house. <input type="checkbox"/> Children are able to talk their activities in the house.	hat do you do in the dining room? reads, watches, sleeps, cooks, takes a bath, does, doesn't, do, don't. Simple present tense.
5 Where is my pencil	<input type="checkbox"/> Children are able to say things in each room. <input type="checkbox"/> Children are able to produce sentence related to the things in each room.	hat are in the living room? able, lamp, cupboard, picture, shelf, vase, television, sofa, clock, bed, pillow, bolster, wardrobe
6 The stove in the kitchen	<input type="checkbox"/> Children are able to identify things in each room. <input type="checkbox"/> Children are able to describe sentences in each room.	here does Kimi eat? Plate, spoon, fork, glass, bowl, pan, stove, frying pan, water, bathtub, soap, tooth paste, tooth brush, shampoo, towel, dipper, do, don't

In this book, several activities and materials cannot be applied to the Hearing Impaired, namely activities that involve the sense of hearing and the production of spoken language. Some examples of the activities are Listening activity, speaking activity, singing activity, Presenting activity, Game. Thus, the researchers developed the materials and activities. There are 5 units in the book, they are I am going to school, I have one apple, My bedroom near the living room, I sweep the floor on Sunday, and I love my classroom. There are also objective and Language Focus which we displayed in detail in the table below:

Table 2. Adapted Activities and Materials for Hearing-Impaired Students

Unit	Objective	Language Focus
1 I AM GOING TO SCHOOL	<input type="checkbox"/> Children are able to express activities in class using sign language <input type="checkbox"/> Children are able to produce sentences about their activities in English.	What are you doing in the library? school, morning, clean, classroom, studying, playing, school yard, reading, book, library, drawing, home/ house.
2 I HAVE ONE APPLE	<input type="checkbox"/> Children are able to identify numbers 1-20 in sign language. <input type="checkbox"/> Children are able to count the things.	I eat 5 bananas Fruit, Orange, Banana, Apple, Grape. One, two, three, four, ten, eleven, twelve, fifteen, twenty.
3 MY BED ROOM NEAR THE LIVING ROOM	<input type="checkbox"/> Children are able to describe the rooms. <input type="checkbox"/> Children are able to use prepositions <input type="checkbox"/> Children are able to produce sentences using prepositions in sign language	here is the kitchen? house, living room, dining room, bed room, bath room, kitchen. Beside, behind, in front of, between.
4 I SWEEP THE FLOOR ON SUNDAY	<input type="checkbox"/> Children are able to identify their activities in the house. <input type="checkbox"/> Children are able to practice their activities in the house using sign language.	What are you doing in Sunday? Waking up, sweeping, floor, reading, newspaper, cooking, kitchen, cycling, park, breakfast, watching, TV, family, father, mother, brother
5 I LOVE MY CLASSROOM	<input type="checkbox"/> Children are able to mention things in classrooms. <input type="checkbox"/> Children are able to produce sentence related to the things in classroom using sign language. <input type="checkbox"/> Children are able to identify things in each room.	The pencil is long pencil, eraser, ruler, pencil case, book, drawing book, bag, English, art, colours, uniform. What are in the living room? Sofa, chair, table, bed cupboard, shower,

1. Students' Analysis

In addition to analyze the necessary curriculum, researchers need to also analyze student's need analysis according to Brown (1995). The analysis steps are as follows: a) Making basic decisions about the analysis; b) Gathering information; and c) Using the information.

a. Making basic decision about the analysis

Before the researchers carry out a need analysis on students, there are several things that need to be done, namely determining several components that will support the analysis process. In this study the components that exist and must be determined are the first target group, the target group is how many targets or students will be examined. The target group is 15 Hearing Impaired students at SEN School Idayu 1 Malang. Second audiences, the audience in this research is someone who will be a source of information in this research where this person is involved in the whole research process as well as student learning. Researchers chose 2 teachers who accompany students to be the audience. Thirdly Expert, Expert is dependable individual with unique expertise and understanding in a given field who will assist the researcher. An English education department lecturer and a teacher of early childhood special education would serve as the expert. They would contribute by reviewing and editing the created material.

The researcher would build the instrument utilized for the need analysis after settling on the participants. The actual process would take the shape of an observation. There were three points considered by the researcher in creating the guideline; Firstly Classroom-Learning Analysis, this aspect is how the learning process occurs and is carried out. learning materials, learning methods and assessment to evaluate students. Objective Second Need, objective need is the purpose of learning to be carried out, essentially covering the topics to be discussed, this point will make it easier for researchers to make honey products. Thirdly Learning Process. The learning process is how the learning occurred and how Hearing-Impaired students learn English.

b. Gathering information

In this phase, the researcher used the observation guideline which relied on Dudley-Evan and St. John (1998, 125). Those are: 1) Professional Information; 2) Personal information; 3) Language information; 4) Learners' Lack; 5) Teachers' character; 6) Learners' need; 7) Language learning need; 8) How to communicate to the target language; and 9) Environmental situation.

c. Using Information

The data gathered throughout the needs analysis process served as the foundational data for creating the curriculum, teaching materials, and instructional methodologies. The data is supplied in the form of interview transcripts after the researcher collected it by interviewing teachers. In this study, to obtain student analysis, the researcher used an observation instrument. Researchers observed situations and learning activities in learning English. There are 9 aspects that will be observed by researchers which are adopted by the theory of Dudley-Evan and St. John (1998, 125). These aspects include the above (1). Professional Information, (2). Personal information (3). Language information (4). Learners' Lack (5). Teacher's character, (6) Learners' need (7). Language learning needs (8). How to communicate to the target language (9). Environmental situation. In this observation, the researcher conducted an interview with the class teacher who taught English lessons for the validity of the data. The results of observations and interviews are as follows:

1) Professional Information

Professional Information is an aspect that relates to the purpose of the material provided for students. Based on observations and interviews, it was found that in teaching English only teachers understood the essence of the importance of learning English for hearing impaired EYL students.

2) Personal Information

Personal Information is an aspect that affects students' English learning, including information on how English is conveyed to students. Based on observations and interviews, it was found that the data were consistent, namely that English lessons were taught once a week with 2 x 30 minutes, 1 hour.

3) Language Information

Language Information is an aspect that explores how the conditions for teaching language with the conditions of student skills. Based on the observations that have been made in learning English students can take part in reading, writing, counting skills. But in learning vocabulary students can not follow. Then practicing skills in English is indeed not provided for students. In can be concluded that students' language skills have been able to participate in reading, writing, counting skill activities. However, the students' language skill in vocabulary still requires the right methods and media. Then in practicing skills, students do not yet have this ability.

4) Learners' Lack

Learners' lack is an aspect of the mismatch between students' abilities and the target language. In short, it is when students are expected to achieve goal A but the student's abilities have not yet reached target A. Based on the observations that have been made, it is found that there are difficulties that cause a discrepancy between students' abilities and the target language, namely writing skills, vocabulary, and practice.

5) Learners' Need

Learners' need is an aspect that contains what students need for English learning material. Based on the observations, it was found that students found it easier to understand learning English about surrounding material such as the school environment and home environment. Based on the teacher's answer, surrounding materials such as homes and schools can be understood and become students' needs. Then in learning English students only need to be given advanced understanding.

6) Language Learning Need

Language learning need is an aspect of the needs of student learning activities that will invite students to learn English. Based on the observation and interview results, it was found that students were enthusiastic about fun learning activities, using visual media, and active learning.

7) How to communicate to target language

Communication to target language is how language is used as a target for situational-linguistic analysis, discourse analysis and genre analysis.

8) Environment Situation

Environmental situation is an aspect that shows the condition of the place students will use for learning, this aspect can also include school facilities and infrastructure in supporting learning English. Based on the observations and interviews that have been conducted, it was found that the facilities that support learning English are quite adequate, namely in the form of textbooks, but students are still lacking in supporting sign language.

2. Designing English Module

After completing the analysis, the next step was to design the learning module. In this phase, the researcher began by organizing data obtained from the previous stage. The module consists of course content and a performance sequence. Before designing the module, it was essential to manage and categorize the material that had been studied. The content used in the module was adapted from the English book "My Next Words". The module design followed several stages,

namely. (1). Developing themes for one semester, (2). Determining learning objectives for each theme, these objectives were based on key findings from the needs analysis, (3). Selecting, organizing, and sequencing themes so they are familiar and accessible to students. The themes were arranged from simplest to most complex and divided into appropriate sub-themes, (4). Setting learning priorities, with a focus on the development of English and sign language, and (5). Designing student-centered learning activities, including reading, writing, arithmetic, observation, and practice, to help achieve learning objectives.

Before dividing themes and determining learning goals and language aspects, the researcher first created an inventory of learning needs. This served as a guide for module development to maintain focus and ensure alignment with priority learning areas. After the needs inventory was finalized, the researcher specified the themes, objectives, language focus, and vocabulary to be included in the module.

3. Developing English Module

After designing the module, dividing the themes, skills and determining the vocabulary, the next step is to develop the topic of the material. The following is how to develop material according to Jolly and Bolitho (2011) as follows:

a. Identifying students' need of the material

In developing material, it is necessary to identify students' need. In this study, two stages of need analysis were carried out, namely curriculum analysis and student analysis. Students' analysis is carried out by conducting observations and interviews. The results of the analysis of student needs are from curriculum analysis, the framework that will be used by researchers is material adapted from normal grade 4 elementary English books with the title "My next words". Furthermore, in the analysis of students, it was found that students' difficulties were in writing skills, vocabulary, and practice. Students' need to learn English about surrounding material such as the school environment and home environment. Furthermore, students' language learning need is fun learning, using visual media, and active learning.

b. Exploration of need

After knowing the needs of students, namely material that students easily understand is material about the surrounding environment. Researchers elaborate on data and classify materials. in this phase the researcher will determine the priority focus of learning English.

c. Contextualization of material

After the learning priority is determined, the researcher then collaborates with the class situation and context in the material to be developed. So that the teacher in conveying material from this module can be in accordance with the student's condition which is effective to apply.

d. Pedagogical realization of material

Furthermore, what researchers must pay attention to is that the material being developed has instructions that will be easily understood by students, so that teachers in teaching through this module will feel comfortable. The pedagogical realization in this module is that the researcher makes the module by accompanying clear instructions in each phase or exercise. In addition, to make it easy for students to understand, researchers also complete instructions using 2 languages, namely Indonesian and English.

e. Production of material

Next is to produce the material, in constructing the material the researcher pays attention to the aspects and designs that have been determined. Researchers developed English material that had the theme of the environment around students, namely home and school. This module present

several English skills that are suitable for Hearing Impaired students. These skills include reading, writing, observation, coloring, counting skills. Furthermore, this module also provides an important vocabulary column which will make it easier for students to focus on the material being discussed.

4. Result of Expert Validation

The next step in this research after the module product is finished is to evaluate it. Evaluation is carried out in order to assess a product so that it can increase the effectiveness or quality of a product. In this study, expert judgment was carried out on one English lecturer at UIN Malang and one teacher at SEN School Idayu 1 Malang.

Table 3. Evaluation of the Module for Hearing-Impaired Students by Experts

Construct Theory	Aspect	Indicator
(Tomlinson, 2013)	The relevance of the material	<ul style="list-style-type: none"> • The suitability of English material for hearing impaired students • Suitability of the material with the needs of students • Suitability of the material with the age of learner • Use of materials that have been developed as a reference for teachers
	Teachers' role toward the developed material	<ul style="list-style-type: none"> • The teacher's ease in using English material that has been developed • Use of English and sign language materials as an evaluation of student skills
	The learners' role toward the developed material	<ul style="list-style-type: none"> • The use of materials that have been developed will be easy for students to understand • The use of material in skills developed in English and sign language is appropriate to the student's level
(Soni, 2015)	The thematic material to introduce "Environment" in English	<ul style="list-style-type: none"> • Appropriateness between the scope of themes for hearing impairment students • The scope of the theme is part of student interest • Influence between the scope of the theme with student learning activities
(Permendikbud, 2015)	Suitability of materials developed with basic competencies	<ul style="list-style-type: none"> • Appropriateness between the material that has been developed and the basic competence of the students' level.
(Tessmer, 1994)	Suitability of material formation in developing module	<ul style="list-style-type: none"> • Construction of variations in the use of subjects, verbs, noun forms, use of subjects and time changes. • Construction of skill activity is not redundant. The subject matter must be formulated clearly and unequivocally.

As shown in Table 3, the evaluation was conducted by considering several aspects adapted from expert guidelines. In this study, the researcher aimed to explore the shortcomings of the module based on these criteria. The results of expert validation, conducted by two experts, led to differing suggestions for revision. The results of expert validation conducted by the English lecturer regarding the module are that there is no major revision in terms of the relevance of the material, teachers' role toward the developed material, the learners' role toward the developed material, the thematic material to introduce "Environment" in English, Suitability of materials develop with basic competencies, Suitability of material formation in developing modules has no serious problems with these aspects. But in the last aspect, namely 'Suitability of material formation in developing modules'. there is a slight revision, namely: 1) the use of various sentences, with the suggestion that it is enough to use a simple sentence; 2) Consistency in the use of tenses; 3) writing/typo errors; 4) some reflections are not in accordance with learning goals; and 5) add Key Answer. So, it is concluded that the English module for EYL hearing impaired students is "The instrument can be used with slight revision"

Then, the results of the validation expert conducted by the SEN Teacher regarding the module are that there is no major revision in terms of the relevance of the material, teachers' role toward the developed material, the learners' role toward the developed material, the thematic material to introduce "Environment" in English, Suitability of materials develop with basic competencies, Suitability of material formation in developing modules has no serious problems with these aspects. But in the first aspect, namely 'relevance of the material'. there is a slight revision, namely regarding (1) some themes that may be foreign to students, please replace them with ones that are closer. (2). There are some exercises that are too difficult, please make it easier (3). There are some sign languages that are not clear, please enlarge the picture. (4) For the exercise observations, please add more variations. So, it is concluded that the English module for EYL hearing impaired students is "The instrument can be used with slight revision".

5. Evaluating English Module

In this study, to obtain student responses using observation instruments. Researchers observed situations and learning activities in learning English. There are 9 aspects that will be observed by researchers adapted from Herliana et al. (2020) regarding student's perspective. In this observation, the researcher conducted an interview with the class teacher who taught English lessons for the validity of the data. Data were collected using a combination of structured observations and semi-structured interviews with class teachers. The evaluation applied specific criteria such as: (1) the ability to complete a task independently, (2) the frequency of assistance requested, and (3) the level of engagement shown during tasks. For example, 3 out of 5 students were able to complete the 'Parts of the Body' task without assistance, indicating strong comprehension of the material.

A teacher noted, "Students became excited when we reached the section with flashcards and sign language, they finally understood how to match English words with signs and pictures." This qualitative feedback helped affirm that the material was accessible and engaging. The researchers also used a simple scoring rubric for classroom tasks, with three categories: 'understood' (task completed independently and correctly), 'partially understood' (completed with minor assistance), and 'not understood' (task not completed or heavily assisted). This rubric allowed for a consistent interpretation of learning outcomes across different classroom activities. The results of the students' perspective are:

This aspect gained each of points, they are Selection and Organization of Content, Student's Level, Physical Appearances, Content, Exercises and Activities, Vocabulary, Clarity of Instructions, Supporting Sources, Development of Learner Autonomy, Consideration of Learning Style Differences. The results of the observations and interviews are:

a. Selection and Organization of Content

After the module is implemented in one class containing Hearing Impaired students. The observation results obtained are that students can take part in learning that makes good use of the module. Students can follow the entire series of activities that have been provided in the module. In line with the interviews that were conducted, it was found that students felt they fit in with the content selection and organization. It can be concluded that none of the students complained or found it difficult when using the module.

b. Student's Level

The next aspect is the student's level, the observation results obtained are that the material and exercises given to students in the form of modules are suitable for students. Observations were also made by observing the results of student work. As a result, it was found that there were no bad scores for students' English proficiency.

c. Physical Appearances

The next aspect is physical appearance, the results obtained are that students are interested in the English E module that has been developed. This was proven by the students who were very happy when the books were distributed.

d. Content

The content of the module is related to theme development with the metrics that have been collected. The results of observations and interviews obtained are in line, namely students can understand the content well. Students can also take part in activities with material that has been displayed in the module.

e. Exercises and Activities

Exercises and activities in this module are language activities of reading, writing, observation and practice. Based on the results of observations students can complete learning activities well. However, students still need more habituation for the practical activities.

f. Vocabulary

The introduction of vocabulary in this module is conveyed by displaying pictures to make it easier for students to understand contextually. Based on observations and interviews, it was found that students could understand well aspects of the vocabulary category. It is marked by students being able to do exercises, especially observation and reading well.

g. Clarity of Instructions

In developing this module, instructions have been delivered in 2 languages, namely English and Indonesian to make it easier for students to understand the activities they will be doing. Based on the results of the teacher's instructions, the teacher asks them to open a certain page and mention the skills they will do, then the students can do the exercise well by themselves. Based on the results of observations and interviews, it can be concluded that the preparation of instructions is very clear.

h. Supporting Sources

Supporting sources are the contents of the module which are developed from several sources. Development resources that support the material are found from students' interest. The results of observations and interviews obtained are in line, namely students can understand the content and

supporting resources properly because they are in accordance with students' interests. Students can also take part in activities with material that has been displayed in the module.

i. Development of Learner Autonomy

Learner autonomy can be interpreted as giving responsibility to our students to regulate how they want to learn, and what they want to achieve in learning. In learning through this module students are expected to understand that the main goal of their learning is English and Sign Language skills. Based on the results of observations and interviews, it was found that students could understand this. When the teacher teaches, students already know that the lesson they will be working on is English. They also started practicing sign language in school activities.

j. Consideration of Learning Style Differences

Each student has different styles of learning. Based on observations and interviews, this book has paid attention to differences in student learning styles. Based on expert validation and student try-out results, several revisions were made to improve the alignment with student learning styles. Initially, the module used longer reading passages and abstract vocabulary, which were difficult for some students. After expert feedback, these were replaced with shorter, more contextual texts and more familiar words.

Following the student trial, changes included enlarging images for better visibility, simplifying some instructions, and increasing the number of visual-based exercises. One teacher suggested adding color-coded instructions to guide students step-by-step, which was incorporated into the final version. These iterative changes demonstrate the module's adaptability and responsiveness to actual classroom dynamics.

The findings support the argument that the integration of sign language in English materials significantly aids comprehension among hearing-impaired students. This confirms previous studies by Audina et al. (2020) and Alimuddin & Wairata (2018), which emphasized the effectiveness of visual aids and non-verbal communication strategies. However, the study has limitations. The implementation was limited to one school and one grade level, which may not represent the broader population of hearing-impaired students. Further research should test the module across diverse contexts and explore long-term impacts.

4. CONCLUSION

This study aimed to develop an English and Sign Language module specifically designed for fourth-grade hearing-impaired students in a Special Education Needs (SEN) school setting. The research followed the ADDIE model, which included the stages of Analyze, Design, Develop, Implement, and Evaluate.

The findings indicate that the module is pedagogically sound, contextually relevant, and effectively enhances students' engagement and English skills particularly vocabulary acquisition, reading comprehension, and understanding of basic English through the use of sign language. Students were observed to show improved ability in connecting English words with their sign language counterparts, indicating growth in both receptive and productive sign language skills.

These findings contribute to inclusive language education by offering a structured, bilingual learning model that supports deaf learners an area often underdeveloped in curriculum planning. The module stands as an example of how sign language can be effectively integrated into second language learning materials to increase accessibility and comprehension.

However, the study has limitations. It was conducted in only one school with a small sample size (n=15), and the implementation period was relatively short. Long-term impacts on language retention and sign language development were not evaluated. Future research should

examine the long-term use of such modules, involve more diverse learner populations, and investigate other language skills such as writing or conversational fluency in sign-supported English.

Practically, the module equips teachers with an inclusive, ready-to-use resource that aligns with the national curriculum while supporting students' linguistic and visual learning needs. Theoretically, it reinforces the significance of multimodal and differentiated instruction in material development for students with sensory disabilities. The module's development highlights the importance of not only teaching English to hearing-impaired learners but also reinforcing their sign language comprehension through academic content bridging communication and literacy.

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