

Reading Skill Improvement in First Grade Students in SLB-B Karya Bakti Wonosobo through Multisensory Approach

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Abstract— Reading skill improvement in first grade students in SLB-B Karya Bakti Wonosobo through multisensory approach. This research aimed to reveal: (1) the process of improvement can be done by teachers to develop reading skills in deaf students, (2) the types of functional sensory improvement found for instructional reading in deaf students, (3) if multisensory theory can give contribution in instructional reading in deaf students. This study is a classroom action research. This research applied multisensory approach to improve reading skills. This study was conducted in SLB-B Karya Bakti, an extraordinary school in Wonosobo. The subjects of the research are four students with lower-level reading skill compared to their classmates. The data were collected through tests and observation on subjects and observation on teacher collaborator. The technique of analyzing data is descriptive quantitative. The result shows that multisensory approach applied in the instructional process can improve the reading skill. The visual aspects performed in students include viewing the writing, reading lips, viewing and mimicking teacher's pronunciation, and observing sound meter to know the level of sound produced. In auditory aspect, students mimic teacher's pronunciation and produce sound so it can be detected by sound meter, thus the sound produced is then heard. In kinesthetic aspect, students imitate mouth's movements and understand the vibration and movements when reading. In tactile aspect, students feel the vibration of the sound produced when reading and they understand the difference between plosive consonant and continuant consonant.

Keywords—deaf students, reading skill, multisensory approach.

I. INTRODUCTION

Viewing a language learning process, reading becomes one of the most essential supporting stages. Science can be achieved easily by a learner through reading. Also, various information are mostly published by printed media, therefore it makes reading as one of the most needed elements by individuals since it is a source of science and information. Learning process almost often involves reading activity and it makes the reading skill must be taken into account by students. As a result, when students face difficulties in understanding or generating information from reading, it leads to further difficulty in achieving acquired knowledge. stated in a research that a sufficient reading skill is one's basic asset to meet the successful goal in any courses or lessons. In language learning, there are four significant skills can be studied such as reading, listening, speaking, and

writing. Pointed out the reading concept as a process to match pronunciation and writing. This process involves other complex skills like perception, cognition, social skill and linguistic skill. Reading skill also covers some stages begin with recognizing alphabet, reading syllables, and reading sentences to paragraph.

The hearing-impaired students are expected to be able to acquire knowledge through reading. Ashman and Elkins affirmed that level of reading comprehension and vocabulary mastery shown by deaf students are under those of students without disability in the same age and they are also lack of sufficient vocabulary knowledge. Mayberry, *et al.* in [1] explained that teaching reading subject for deaf students can be fairly challenging in the classroom since there are factors and mechanism which are different to those applied to normal students. Researcher noted that teaching reading to deaf students needs special approach which is specifically designed to improve their reading ability. Reading classroom activity for deaf students in elementary school is expected to teach them to read lips, understand linguistic symbols, produce words in clear language articulation, read text, write and give questions. Reading skill for deaf students becomes major tool in developing their ability and sciences. Reading skill improvement that affects the improvement on language skill is highly needed to be applied in teaching deaf students. As quoted Wei, *et al.* in [2], Itard stated that young students should involve in a suitable activity for their age at the right growing stage, otherwise they can face continuing and cumulative obstacles or drawbacks as consequences. Rahmanian, *et al.* in [3] also noted that *"the linguistic obstacles for deaf students require training and shaping in linguistic aspect as soon as possible. The immediate training is meant to teach deaf students to be able to talk in an extensive communication in their lives"*. Students with hearing impairment with all their weaknesses still can perform their potential for it can be developed optimally, especially their communication skill. It is expected that early training and intensive speaking training done through the reading subject in school, home, or their environment can stimulate them to have better speaking and communication. One of the main tasks for teachers at school is to improve student's reading skills that it leads to the improvement on their speaking ability and it eventually escalates the deaf student's communication ability.

Teachers as professional educators are expected to carry out their duties professionally. There are two perspectives

can be used to identify teacher's professionalism. First, professionalism can be viewed through minimum education level and the background of education regulated by the school where he or she teaches. Second, it can be seen through teacher's mastery on instructional material, management on teaching process, management in students, accomplishment on supervising tasks, and more. On the other words, a professional teacher must have adequate education and strong competence that include the mastery on basic ability or competence obliged by an educator in order to create their précised and effective professional performance. BP is a teacher in first grade in SLB-B Karya Bakti Wonosobo who had been working for 10 months and a graduation of English Language Diploma Program. From the qualification, the educational background is irrelevant with regulation written in PP RI No. 72 year 1991 about Extraordinary Education which is also highlighted by PP RI No. 19 year 2005 National Education Standard about Educator Standard and Education Staff Standard. The minimum duration of working experience can influence the teaching ability in the classroom, the ability can refer to the mastery of instructional material. The teacher taught only based on the conversation in the morning which was then developed independently without referring to the required handbook. In the class management aspect, students were still seen crying, yelling, refusing to do teacher's instruction or incompletely doing the given homework. Furthermore, the unavailability of instructional media in the classroom is evidence that learning activity program had not been planned and composed appropriately. The class activity was reported to the Headmaster in the form of activity report. The requirements such as lesson plan (RPP), syllabus, annual and semester program were not found in class. Teacher's articulation when speaking was not clearly heard and it gave impact on how student responded to the teacher. Moreover, students were sometimes not actively responding teacher's instruction and less enthusiastic in listening to teacher's explanation since they talked with friends instead. This then affected student's attraction and participation during the learning process. This behavior shows that students are less participative in doing the classroom activity. This description is also proven by student's behavior in class, for instance when one of them was called forward to read, the other students talked to each other and made noise. The monotonous activity causes students to respond less enthusiastically when they are called forward to meet the teacher at the front desk. When they were facing problems during the learning process, they tended to be passive and reluctant to ask questions. On the other hand, students who actively obeyed the instruction were not given any rewards like compliments or even support.

Observation was conducted on student's behavior and gestures when reading. Students occasionally showed some responses such as frowning, anxious, making higher tone, biting lips, or rejecting. Students with reading problems often show unreasonable behavior or attitude [4]. The symptoms of the tense gestures include: (1) frowning; (2) anxious; (3) making higher tone; (4) biting lips; (5) feeling insecure by rejecting the instruction, crying, or trying to fight the teacher. These signs emerge as the effects of student's reading

problems which can be solved by applying precise approach. Through reading subject, students can improve their language learning experience. Also, teachers must be able to care, understand student's behavior and needs, give proper treatment to students as individuals, have the ability in class management, have the ability to prevent potential problems in learning process, give sufficient attention, and have the ability to compose proper reading strategy for students. Teachers are also expected to be able to establish teaching standard, have relevant knowledge and motivating professionalism in this teaching expertise. Teacher's sufficient knowledge in teaching can help to mend reading difficulties in students.

The approach applied in reading subject conducted in the classroom is expected to be used as a tool to create conducive teaching and instructional process. A suitable teaching approach will construct educative interaction between teachers and students. The technique of teaching reading meant in this discussion is to instruct every student to come forward to teacher's desk one by one and read the text shown to them. Every student was given about ten minutes. As a result, this activity felt monotonous because student was only asked to read text shown by the teacher. The class activity that involves visual, auditory, kinesthetic, and tactile sensory had not been conducted optimally. According to the teacher, the approach applied in this class was called *drilling* that aimed to train students to do exercises so they could have more extensive skill. Sudjana and Ibrahim in [5], pointed out that drilling approach has characteristic of making repetition on the same aspect seriously and its purpose is to strengthen an association or to complete particular skill so it can be permanently established. However, the fact shows that drilling approach applied in reading activity is merely reading the text repeatedly, not correcting the mistakes found. When a mistake during reading found, teacher only repeated the reading until sound produced by the student was better than before. The common mistakes done by the students were unclear voice production, substitution, omission, distortion, or addition. When the time given ran out, student was only asked to return to his or her seat without any additional suggestion or supplementary knowledge related to the reading activity. It means that the follow-up action like correction is still low and it causes the same mistake to occur again in the next activity.

Based on the activity conducted in classroom when students were reading individually, teacher used decoding skill approach, it is an approach related to the skill of reading code. Mumpuniarti, *et al.* in [6], affirmed that decoding skill approach can be applied to students with limited vocabulary mastery and it emphasizes on the relationship between sound and alphabet. The purpose of this approach is to help students to be able to pronounce the written alphabetical symbols. Deaf students have low vocabulary mastery, so that this decoding skill approach is hoped to improve their ability in reading. The implementation of this approach in the classroom is centered on the emphasis of sound and alphabet relationship, not planning the activity that enables the students to be able to mark and remember the pattern of reading they have learned. It is proved when student with low reading skill often forgot the material they had learned.

Even though decoding skill approach can be employed in teaching students with low vocabulary mastery, they still need to be taught further with supplementary material by using their senses, therefore what they learn will be deeply planted in their mind and meaningful. The intended senses include visual, auditory, kinesthetic, and tactile that can be employed to support the reading skill improvement apart from the available media.

Instructional media used by teachers during the reading activity is limited, researcher found out that stationary and mirror were the only media available. Suparno in [7], clarified that instructional media used in the classroom aims to distribute message from the sender to the recipient so it can stimulate student's mind, feeling, attention, and interest, as a result the teaching and learning process will be more understandable especially for students with special needs. The principle in selecting instructional media, in which media should be functional, available, affordable, and interesting, had not been fully achieved in the reading activity in this class. Based on the findings, more media are required in the reading activity especially those that are visual, auditory, kinesthetic, and tactile in order to create more understandable reading activity.

Reading activity in the classroom was held on the third lesson time which was after the break time. Students returned to their seats and started writing text/result deposit from the conversation they had in the morning. The instructional material used was taken from the text composed based on that morning conversation. The reason of that activity is because students can be more skillful when reading, especially learning that the reading material used at that day would be developed further for other courses. The limitations revealed from the way teacher created the above reading material is that the material read by students will only be those written on the whiteboard, unfortunately the writing is not developed into more structured sentences and it neglects the improvement of student's skill.

Wiriaatmadja in [8] stated that the criteria of reading skill for deaf students cover the abilities to memorize phonemes correctly, pronounce syllable and word in sentence appropriately, read by focusing on punctuation, read with proper rhyme and intonation, and understand language, symbols, and words (synonyms and antonyms). Course content given in reading subject was only related to the vocabulary written on the whiteboard without considering the improvement aspect on the reading skill. Thus it gave no challenge for students whose reading ability was better than the other for they were not given more extensive exercises to improve their reading skill.

Referring to the initial observation about student's reading skill, there were found four students whose reading skill was lower than the other students. The assessment conducted in this early observation resulted in:

- Carlo (Cr) was able to read independently and gained score 183 with a percentage of 93% on the initial instrument.
- Bayu (By) was able to read independently and score achieved in the initial instrument was 191 with a percentage of 97%.

- Naja (Nj) and Bima (Bm) gained score 196 which means that they were able to read overall given instruments.
- Imdad (Im) gained score 114 with a percentage of 58% towards the overall given instruments.
- Satya (St) showed the result of the reading skill on the initial assessment as much as 82% and the he scored 161.
- Hafiq achieved score 182 which means it was equal to percentage of 92% towards overall instrument of the assessment.
- Ikmal (Ik) was able to gain score 157 with a percentage of 80%.
- Niko (Nk) gained score 132 or 67% of the overall number of given instrument at the initial assessment.
- Andres (An) obtained score 129 and it is equal with 65% of the overall instrument of the initial assessment given to him.
- Janul (Jn) showed score 127 or 64% of the overall instrument of the assessment.

The mastery value on Indonesian Language shown by first graders in SLB/B Karya Bakti Wonosobo was 80%. The fulfillment of mastery criteria for students is those whose ability percentage shows $\geq 80\%$, therefore there are four subjects identified who acquired improvement program; Im, Nk, An and Jn. Throughout the description of initial assessment, these four subjects showed low reading ability and acquired assistance during the reading activity.

In order to improve four subjects' low reading skill, researcher cooperated with teacher collaborator to plan, conduct the action, observe, and reflect the completed action. It is done to repair the instructional practice in class and also to develop reading skill of those four subjects. The research conducted in the classroom belongs to classroom action research, Stated that Classroom Action Research (CAR) is a research carried out by a teacher in his or her own class through reflection, problem solving related to students and improving students with low mastery skill to be equal with other students in the same class. The CAR used by the researcher refers to the pattern used by Kemmis and McTaggart as in [8], [9], who coined four related stages; planning, implementing of the action, observing, and reflecting.

One of the alternative approaches that could be applied to improve reading skill in deaf students is multisensory approach. According to Hernawati in [10], the problems related to students with impairment especially their speaking ability can be solved through multisensory approach. The articulation multisensory approach is needed to improve the quality of linguistic sounds usage in communication. This approach also involves functional deaf student's modality such as visual, auditory, kinesthetic, and tactile. The application of this approach is also expected to enable deaf students to differentiate phonemes or linguistics sounds in correct manner, therefore practices of articulation by correcting unsuitable phonemes are also needed. Certainly, there are strong points found in multisensory approach so that the deep understanding is required in its implementation. Added that the advantages in applying multisensory approach are to trigger the students' learning spirit, to accelerate student's retention on material, to place long-term

memory, to present clear instruction, to involve students directly in the implementation of the activity of critical inquiry and to improve the fun learning process for students.

Deaf children majorly utilize their sense of sight in their daily lives. Thus, their sense of sight becomes an important means in language teaching by involving phonetic symbols. Stated that instructional of binawicara (speech training) for deaf children could be carried out through articulation training and sound perception. In this training, the movements are focused in the hands, the hands are brought around the facial area, and the fingers are brought into and about the mouth. This stage presents two activities, the first is that it analyzes touches, sights, and movements, whereas the second that both hands learn to make movement about the face and observe the face which is close one to another. This approach helps students to get acquainted fast and accurately. Coherent with Seguin's description above, reading subject for deaf children can be executed through speech training by optimizing children's visual skill. Acknowledged that children can learn well when the instructional content given to them involves various modalities of senses. The modality includes visual, auditory, kinesthetic, and tactile or commonly known as VAKT. Mentioned the essence of the application of multisensory approach in his journal that there are three learning styles known; auditory, visual, and touch. Every student has a unique learning style in processing and storing information. When a teacher applies strategies to all learning styles, every student will be able to optimize their strongest modality. Furthermore, the research also shows that instruction for elementary students can be implemented by using tactile or kinesthetic model. Rational consideration about the application of multisensory approach in reading instruction refers to the reason that this approach presents advantages in optimizing the untouched visual component to be activated and optimized. These optimization and activation on visual component offer functional stimulation on the purpose of reading instruction.

In conforming with the data mentioned above, predicaments occurred on the first grade in SLB/B Karya Bakti Wonosobo refer to the lack of teacher's professional ability, the deficiency of student's participation during the instructional process, the improperly and less successful application of the instructional method, the non-optimal implementation of instructional approach, the limited number of instructional media used by teachers, the inadequate variation of vocabulary introduced in the instructional content on the white board, and the finding of four students with low reading skill compared to their friends in the same class.

The writer diagnosed that there were four students facing drawback in language learning especially in differentiating phonetic symbols when reading syllables, words, or sentences. They were falling behind since all their sensory aspects had not been directly used during the reading instruction. As a result, this multisensory approach becomes one alternative to mend the process of reading instruction for them. In the accordance with the description in the background of study above, the researcher formulated problems in this research as follows:

- How the process of improvement can be implemented by teacher in order to develop hearing-impaired children's reading skill?
- Which sensory aspects are functional to be implemented in reading activity for hearing-impaired children?
- Does multisensory theory make contribution towards the instructional reading for hearing-impaired children?

The inability in hearing for deaf children affects their speech ability. This inability also affects the ability in understanding knowledge and smooth communication. Moreover, reading as one of instructional activities in the classroom can only involve visual aspect. The optimization of all sensory aspects in the instructional reading is expected to improve deaf children's skill. Adequate reading skill leads to the enhancement on the speech ability for deaf children, thus it influences on the fluent communication they make as well as the increase on skills or other knowledge.

This research focuses on the improvement of reading skill in deaf children of the first grade in SLB-B Karya Bakti Wonosobo by concentrating on four subjects who lag behind other students in the same class. For that reason, researcher is determined to compose plan, execute action, observe, and reflect by involving collaborator teacher based on the model founded by Kemmis and McTaggart. The mind frame of this class action research is given in Figure 1 as follows: (1) Deaf Children's instructional reading; (2) Reliance on visual sense; (3) Low-level reading skill; (4) Implementation of instructional improvement; (5) Optimization of visual sensory modality by using other sensory modalities.

The groundwork of the improvements include several aspects below:

- Visual sense: viewing the writing, reading lips, viewing and mimicking teacher's speech, observing sound meter to know the level of sound produced.
- Auditory sense: mimicking teacher's speech, producing sound to be detected by sound meter, sound produced or heard.
- Tactile sense: mimicking movements on mouth and comprehending the vibration and movements when reading.

Kinesthetic sense: detecting the vibration of the sound produced when reading and understanding the difference between plosive consonant and continuant consonant.

The rest of this paper is organized as follow: Section II describes the literature review. Section III describes the data used and proposed methodology. Section IV presents the obtained results and following by discussion. Finally, Section V concludes this work.

II. LITERATURE REVIEW

Research conducted Mayberry, *et al* in [1] confirmed that the effect of coding and phonologic awareness is correlated with the reading skill within the population of deaf children. Sensory coding can be implemented in deaf children's reading skill improvement. The skill in reading lips can also become compensatory for listening skill as well as the kinesthetic skill that can facilitate the development of coding. Coding in reading is needed by deaf children in

order to improve their speech ability and it is closely related to their reading achievement.

In their study, Beck and Juel in [11] mentioned that instructional coding can help the growth of reading ability. Coding ability offers opportunity for deaf children to develop their vocabulary master, concept, and knowledge on how a text is written. Through an adequate attempt on coding, children are able to understand the message contained in written words and the text itself is connected with particular sound when being pronounced.

A research concentrating on the essence of instructional reading was also conducted. The student's instructional reading inability can be improved by focusing on the combination of some skills such as coding, cognitive processing, and social experience.

Mutia and Desiningrum [12], also carried out a research about the instruction by using multisensory approach. They stated that this approach contributed alternative for students to make use of visual, auditory, kinesthetic, and tactile ability with strongest sensory modality, and at the same time this effort also trains the weaker sensory modality.

The study presented by Setyawati in [13] is related to the effectiveness of the implementation of multisensory method. She affirmed that this method can be applied to increase the early reading skill in light mentally-disabled students of the second grade in SLB Negeri Semarang. The instructional process that included visual, auditory, kinesthetic and tactile modality was able to improve the ability to memorize and to develop the learning process. The overall sensory aspects were optimized simultaneously and supported each other so students can memorize shapes, codes, and words much easier.

A. Deaf and The Characteristics

The hearing difficulty or total loss-hearing, either caused by accident or genetics, is called as hearing impairment. Etymologically, in Indonesian perception, the hearing impairment is called *tunarungu* and it derives from word "tuna" which means *lack of* and "rungu" which means *hearing*. Loss-hearing sufferer accepts different treatments compared to someone who loses the hearing ability. Suharmini in [14], stated that deaf can be defined as someone's condition that suffers the defect on auditory sense which leads to the inability to accept sound stimulation or other stimulations through their hearing sense. Hearing impairment often comes with speech problems, meaning someone with inability to hear will not accept the concept of information which has entered the brain. The concept includes words and sentences. When the brain does not have memory of words, it cannot produce the concept. Its mechanism shows that outer ear receives sound through earlobe and takes it to the middle ear. Next, middle ear transfers and strengthens the vibration of the sound to the inner ear.

Then, inner ear alters the sound vibration into electrical signals and sends it to brain. Described that hearing-impaired children are children who are deficient in hearing or lose the hearing ability. It can be caused by the damaged or dysfunctional of partial or total hearing organ so that the sufferer faces obstacles in developing the speech ability.

Children with this disability need supervision and special education to achieve appropriate life they deserve. In regard to the statements from many experts mentioned above, it can be concluded that deaf children face the damaged or dysfunctional hearing organ either partially or totally. The impacts of this disability include the problems on speech development. The classification of the disability needs to be determined to define which intervention conducted by relevant institution should be employed. The arrangement above is types of classification that categorize deaf children into some groups on the basis of loss hearing and place of the damage in the hearing organ. This classification also helps to determine and focus the subject in the research. As claimed by some experts above, hearing impairment can be classified into mild, moderate, severe, and profound loss hearing.

B. Characteristics of Hearing-Impaired Students

Hernawati and Somad in [15] described that the characteristics of hearing-impaired children could be identified through intelligence, language and speech, emotion, and social environment with further explanation as follows:

a) Characteristics based on intelligence

Basically, the deaf children's intelligence is the same with normal, their intelligence is classified into high, average, and low. Their achievement tend to be lower than other normal students, it is caused by the limited ability they have in understanding verbalized lesson. However, deaf children are able to show the same speed of improvement as the normal children when dealing with non-verbalized lesson. Low achievement is not caused by low level of intelligence but affected by the inability of deaf children to maximize their intelligence.

b) Characteristics based on linguistic and speech

The speech and speaking ability which is closely related to the hearing ability differentiates the deaf children from the normal ones. Their limited ability to hear language causes them to face obstacles in establishing communication. Language is an instrument for individual to communicate with others. This instrument consists of reading, writing, and speaking, therefore deaf children are unable to compete with normal children dealing with those three aspects. Special treatment and intensive linguistic environment to improve their speech ability are highly required. Moreover, their communicating ability is influenced by their speech ability. The speaking ability of deaf children will automatically developed, however it still needs long-term effort to train and supervise them intensively.

c) Characteristics based on emotion and social environment

Hearing impairment can trigger alienation in the environment. The alienation may result in negative effects such as egocentrism which is more serious than the normal children, feeling of insecurity towards larger living environment, dependence on others, and the difficulty in altering the attention. They also tend to be straightforward and appear to be without burden, easy to get angry and

offended. Thus, it can be concluded that deaf children are different from normal children based on the emotional aspect. They are more sensitive and more selfish.

d) Unswitchable concentration

When deaf children pay deep attention on particular object, it would be difficult to switch because they cannot respond properly through their hearing ability. As consequence, they will only focus on any objects or whatever in front of them. Also, they are unable to deal with multitasking works because their concentration is only on one point.

e) Hearing-impaired children are typically straightforward and without problems

The lack of vocabulary mastery may lead to the inability to create fantasy and expression. Deaf children will be honest and just the way they are in expressing their feeling or emotion.

f) Hearing-impaired children are easy to be angry and offended

Since deaf students find it difficult to express their feeling, they are likely to be sensitive, easy to feel angry and offended. Their speech problems also cause surrounding people facing difficulty to understand their wishes.

Based on the above-mentioned deaf children's characteristics, it can be concluded that their speech problems can be overcome by improving their cognitive, intelligent, and speech structures. By making progress in those elements, it is expected that deaf children's speech ability can meet expected improvement. During the instructional process at school, deaf children must accept treatment that applies approach that is suitable with their characteristics. In the accordance with linguistics and speech aspects, the inability to hear can affect the speech and speaking ability. Language is a means of communication widely used by human in order to interact with others. Children with sufficient speech ability will have a medium to develop their social, emotional, and intellectual aspects. The obstacles in speech and speaking development caused by the absence of sound mimicking process are reasons for deaf children to acquire suitable speech and speaking supervision by referring to the level of their hearing impairment. The weakness in understanding language often becomes trigger of misconception and it can cause emotional pressure, introvert and aggressive behavior, and lack of self-confidence.

C. Definition of Language

Language is human's achievement and it is elevated in verbal and written forms. Nuyts, *et al.* in [16] defined that "*language is the communicative process par excellence in every known society*". Language covers the ways of communicating in which individual's mind and feeling are stated in the form of symbols such as verbal, written, signs, numbers, paintings, or mimics used to express something. Language as a function of communication enables two individuals or more to express various ideas, meanings, feelings, and experiences. Moreover, language is a system of phonetic symbols which is arbitrary and widely used by people to establish cooperation, interaction and self-

identification. Speech ability is learned and earned by children naturally in order to adapt with surrounding.

Chaer and Agustina in [17], mentioned "*through language, someone can transfer thought, ideas, concepts, and feelings in verbal or written form to someone else*". Another expert, Santrock in [18], added that "*language is a form of communication, whether spontaneous, written, or signal that is based on a system of symbolic*". From those descriptions, it can be learned that language is a form of communication that includes utterance, writing or signs based on symbolic system. In addition, Hurlock in [19] pointed out that language is a form of mind and feeling communication which can be symbolized in order to send meaning to other people. The mutual opinion is also stated by Palmer through his book in [20] that "*language is a systematic means of communication ideas or feelings by the use of conventionalized signs, sounds, gestured, or marks having understood meaning*". Explained that what differentiates between human and animal's comprehension on language is that language is used to distinguish human from animal. One of the facts is shown in intellectual activity that implements written symbols to communicate, cultural changes, and new innovation in the development of human's capability. It means that there is difference in the way human and animal establish communication. Language is one of major differentiators and mostly used to express human's thought. Made further description about language by stating "*language as a set of meaning-making resources that are crucial to everybody communication and which enable speakers not only to convey information to each other but also to maintain social relationship in the sense of both transaction and interaction*". Additionally, Suggested four types of language, they are listening, speaking, reading, and writing. Language could be receptive (understood and accepted) and expressive (stated). Children accept and express speech in various ways. Listening and reading skill are receptive language skills because language is obtained and processed through visual and verbal symbols. Speaking and writing belong to expressive language skills because they engage the meaning transfer through visual and verbal symbols which are processed and expressed by children. How children use language may affect the social, emotional, physical, and cognitive development. Their achievement in any sciences is also depended on their ability to understand and create the language.

From the essential description stated by many experts above, it can be concluded that language is a form of communication that can be used to express thoughts, ideas, concepts and feeling through utterance, writing, signs, and attitudes. Language also becomes differentiator between human and animal. Language also produces meaning that is mutually approved in a society and it is able to be used to preserve social relationship among them.

In developing reading skills in deaf students, language acquisition in deaf students needs to be comprehended. Titisari in [21], stated that language acquisition on hearing children begins from experience or gathering moment between a baby and a mother or other people in their closest environments. Through that experience, learning students connect their experience and linguistic symbols achieved

through their hearing ability. This process becomes the basis of inner language development. Afterward, children will gradually understand the relationship between linguistic symbols and materials or events they have experienced, therefore it forms children's receptive language. On the other words, children understand the language used in their environment (auditory receptive language). After auditory receptive language is formed, children start to explain themselves through words as an initial ability of auditory receptive language, although basically the speaking is developed throughout auditory ability. After children enroll in school, their sense of sight takes role in language developing through reading ability (visual receptive language) and writing (visual expressive language).

Based on the process of language acquisition on hearing children, Expanded the same pattern in deaf children and applied the language behavioral achievement on them. Furthermore, the hearing technology which had not been satisfactorily developed at that period contributed the impossibility for deaf children to obtain language acquisition through visual or kinesthetic tactile, or the combination of both of them. As a result, three additional alternatives are offered, they are; signs or gestures, reading and speech reading. Deaf children who use hearing aid can connect it with the symbol of phonetic sound (auditory symbols). Subsequently, deaf children begin to understand the relationship between linguistic symbols (visual and auditory) and materials or daily events, so the visual or auditory receptive language is finally formed. Similar to the children with normal hearing ability, the ability of expressive language (speaking) can be developed after the ability of receptive language is achieved. Then, deaf children can improve the ability of visual receptive language (reading) and visual expressive language (writing).

Dealing with the explanation above, it can be understood that deaf children's low language acquisition brings about the lack of vocabulary and grammatical mastery. They face the obstacles in learning language (phonology, morphology, and syntax), therefore their ability to remember vocabularies is not as fast and automatic as normal children. The sentence construction, morphological obstacle occurs in speaker with meaning acquisition problems, whereas phonological obstacles are faced by speaker with pronunciation and speaking problems [22].

Researcher formulated conclusion that the impact of hearing impairment for a child is his or her weakness in speech ability. Deaf children accept language from their surrounding environment, so that approaches are needed to teach them language. The approaches include the constructive approach that emphasizes on the pattern of drilling exercises start with simple sentences to complex ones. Natural approach transforms children's experience into speech and it also involves MMR approach which prioritizes conversation in every activity. These three approaches are importantly applied in order to provide instructional speech for deaf children. These approaches help to visualize the speech activity into writing which is then read by the children. Therefore, these activities help students to learn how to pronounce symbols or alphabetical codes. Similarly, the process of coding becomes essential

stage in improving reading skill. A good decoding skill will affect the improvement on vocabulary mastery and speech ability by emphasizing on the unity of reading and speech ability.

D. Reading in Deaf Children

Terminologically, reading has some meanings. Reading is depicted as viewing and understanding content of what is written (by reading out loud or by heart), pronouncing what is written. Hence, reading will need special skill which is spelling and pronouncing written codes as what is stated in the purpose of instructional reading to enable students to have interacting skill through language which is transformed from code into writing explained that reading is described as a process to match pronunciation with writing form and it takes in complex skill such as perception, cognition, social skill, and speech ability. Deaf children without the ability to pronounce phonemes will not be able to recognize new words and this becomes significant obstacle in learning reading. Besides, reading is both mental and physical process that do not only recognizing and sounding the written language, but also understanding and creating meaning from what is read. Suparno in [23] stated that there are some stages in this process: (1) identifying words, (2) recognizing words, and (3) understanding the content of the reading. By paying attention on different factors and mechanism of reading on normal and deaf children, teachers must have program of approach that is designed to increase their reading ability. The drawback faced by deaf children is not only dealing with verbal speech but also the written language comprehension or speaking. Reading ability is an important aspect for deaf children because it is the best requirement for them to gain complete access to language comprehension. Reading is also a solution to strengthen and expand their speech ability as well as to generate knowledge. Deaf children will still be able to accept information like other normal children by optimizing their visual sensory. Through visual sensory, deaf children obtain information they need in increasing the information related to how to read. Learning activity cannot be separated from reading activity, therefore this skill is so important to master. Through reading, an individual will be able to learn many things and it also increase their thinking ability. Reading skill consists of several steps, it starts with recognizing alphabets, reading words, and reading sentences to paragraphs. In their journal, explained about instructional instrument for reading specifically for first and second grade, the instruments are: (1) introducing alphabet and major punctuation, (2) using appropriate volume of voice, (3) using proper intonation so that it can create meaning easier, (4) showing a proper way of holding book and posture, (5) implementing reading habit without head and lips movement when reading, (6) understanding meaning precisely, (7) moving eyes properly from left to right.

The fundamental point in this sub-variable is that reading is an activity to match writing and pronunciation. Deaf children have the ability to pronounce writing appropriately. Reading skill is a requirement for deaf children to have full access to language. The stage of reading in first grade is endured through process of alphabet and punctuation

recognition and teaching on phonetics symbols and correct sentences.

E. Reading Skills for Student with Hearing Impairment

The criteria of reading skill for students with hearing impairment are explained as follows: (1) the ability to spell each phoneme correctly, (2) the ability to pronounce syllables and words in the sentence, (3) the ability to read by paying attention on punctuation, (4) the ability to read in proper rhyme and intonation, (5) the ability to understand language, symbols, and words (synonyms and antonyms). Reading is determined as process of meaning construction from writing. Reading is a complex task that needs coordination of many needed skills. In this part, there are at least two processes involved; identifying words and employing mechanism or language processing which aims to give meaning to the identified words as called as “decoding” and “comprehending”. In the accordance with the description above, it can be concluded that reading ability is important for deaf children to establish communication and speech that may support the development of other abilities and knowledge. The criteria stated by a number of experts as have been mentioned previously include the ability to pronounce phoneme, syllable, words, sentences, and proper intonation reading.

F. Instructional Reading Approach

Pandawa, *et al.* in [24] affirmed that instructional reading is an ability of comprehension taught in equal and integrated manner. Equal means that instructional reading is taught together with other speech skills. Whereas integrated manner means that the activity in instructional reading can be incorporated with other skills like listening, speaking and reading. Mumpuniarti, *et al.* in [6] proposed definition about instructional reading by stating, “*a plan that is composed to provide individual stages in order to trigger the urge to learn reading*”. The activity in this instructional reading is arranged to help individuals to study particular reading ability and to gain new values.

Mumpuniarti, *et al.* in [6] emphasized several approaches applied in instructional reading as follows:

a) Linguistic approach

This approach refers to typical reading instruction conducted in society. Learners give meaning of the printed forms and their linguistic experience is used to predict words or phrase. This process shows that the meaning of word depends on the relationship among words in a sentence and relationship among sentences in a paragraph.

b) Whole language approach

In this whole language approach, the activity is completed by reading literature, providing times to read by heart on the daily bases, providing opportunity to read and write everyday in order to achieve realistic goal, instruction reading in particular context and non-isolated, integrating curriculum that offers literary skills which are relevant to various fields.

c) Decoding skill approach

This approach is suitable for children whose vocabulary mastery is low. Faced with psycholinguistic approach, children with limited ability will find it difficult to guess

words. This approach offers bottom-up view. The final goal of this approach, that offers the emphasis on sound and alphabet relationship, is that children will be able to pronounce written alphabetical symbols. This decoding skill aids readers to understand new vocabulary. Many deaf children with low speech ability suffer from slow improvement on their verbal language or sign language. Relevant to the findings in that research, the follow-up actions to identify specific influence of reading skill and to find proper strategy to teach words recognition for deaf children are highly needed. Also, the intervention focusing on building strong language bases in deaf children is also required, especially by developing the coding skill in every reading activity.

Beck and Juel in [11], pointed out their description on coding, “*code is a system of signals used to represent assigned meanings. Signals can be numbers (as in a military code), dots and dashes (Morse code), or letters (as in an alphabetic language like English). In themselves these signals are meaningless*”. This definition emphasizes on signal system called codes. These codes can be in the form of numbers, dots, lines or alphabets. Through the instruction of codes, numbers, dots, lines, or alphabets, the forms that previously have no meaning become meaningful. By applying coding skill approach, deaf children will have improvement on spelling code initiated by sounding alphabets, construct it into syllable, words, and then sentence. Through this approach, the connection between alphabet and sound are deeply taught to deaf children so that they can pronounced written alphabetical symbols.

Huda in [25] pointed out that (a) visual is modality used to access visual imagery which is created or memorized, for example colors, spatial connection, photos, or pictures; (b) auditory is modality that accesses any types of sounds and words created or memorized, such as music, tone, rhythm, rhyme, internal dialogue and sound; (c) kinesthetic is modality that accesses any gestures and emotions which are formed or memorized like movements, coordination, rhymes, emotional responses and physical comfort. Multisensory method as explained by Fernald in [26] is a method that makes use of visual, auditory, kinesthetic and tactile ability. He argued that this method is a compatible learning to do assignments by using the strongest sense modality which at the same time also trains weaker sense modality. Taking note from what has been suggested in the previous study, researcher intends to examine the influence of multisensory method on improving words reading ability in deaf students in elementary school. Added that multisensory approach emphasizes on assumption that children can obtain proper learning when the materials offered contain of varied senses modalities. The modalities involved include visual, auditory, kinesthetic, and tactile (known as VAKT). Multisensory reading approach covers touching (palpability), listening (auditory), speaking (gesture), and sighting (visual).

Hernawati in [10], stated that deaf students’ problems, especially in communicating, can be solved by implementing articulation multisensory approach as it is a proper effort to increase phonetic variation used when

communicating. This method signifies the functioning modality in deaf students for instance the visual ability, partial hearing ability (auditory), gestures (kinesthetic), and touches (tactile). It is expected that the application of this approach can help students to differentiate phonemes or phonetic comprehensively and to correct inaccurate phonemes usage.

These methods are created by Fernald and Gillingham. According to Fernald, Tactile-Kinesthetic approach is considered to be suitable to be applied on children with reading problems. The major purpose of this method is to train student's observing ability to be more focused, accurate, and systematic during the reading activity. Another method in multisensory approach belongs to Gillingham that makes use of visual-auditory-kinesthetic-tactile approach. The basic assumption about this method is that in teaching reading, writing and spelling word are considered as one combination of alphabets. This method is originated from alphabetical method, it is sounds that are symbolized by alphabets which help learners to learn easier since it involves the unity of visual, auditory, kinesthetic, and tactile sensory.

Affirming the previous description above, it can be concluded that multisensory approach, both proposed by Fernald and Gillingham, has similarity in the form of teaching technique that are stimulating several sensory organs during the process of reading activity. It strengthens an assumption that this approach helps children to have better alternative in reading since it is supported with an understandable process for teachers and safe for the children. Also, interesting instructional media is another surplus. On the other hand, viewed from the principal aspect, Fernald approach presents more essential aspects to learn reading, they are memory and visualization. Stated that *"reading has a close relationship with perception, it is also related to visualization or sensory sensitivity towards visual stimulus and recognition that helps to remember everything stored in the memory"*.

G. Strengths of Multisensory Approach

Multisensory approach offers some strengths so it is important to understand how this approach is carried out. The strengths include; (a) multisensory instruction raises student's learning motivation; (b) multisensory instruction speeds up the process to comprehend material; (c) multisensory instruction plants longer memory since it is stored in a long-term memory; (d) multisensory instruction creates clearer learning process; (e) multisensory instruction involves learner's direct participation; (f) multisensory instruction develops the fun instruction for learners [27]. From the narration above, researcher had made several modification in the multisensory instruction that are relevant to the purpose of the study by paying close attention on subject's age and education, time availability, and the level of reading skill need to be achieved. The implementation of multisensory instruction involves activity as follows:

- Visual – subject's visual ability is stimulated with activity as subject learns to see writing, reading lips, viewing and mimicking teacher's speech and

observing sound meter to see the level of sound produced.

- Auditory – subject's auditory ability is stimulated with activity as subject learn to mimic teacher's speech by producing sound to be detected through sound meter, then the sound produced by subject is heard.
- Kinesthetic – subject's ability is stimulated with activity as subject mimicking the example of speaking organ's movement and understanding both vibration and movement when reading.

Tactile - subject's ability is stimulated with activity to feel vibration produced when sound is made as they are reading and to understand the difference between plosive consonant and continuant consonant.

III. MATERIAL AND METHODOLOGY

Technique of data analysis used in this research is descriptive quantitative. This technique is used to analyze the test result obtained from students. The Minimum Mastery Criteria (KKM) in Bahasa Indonesia subject consists of indicator of student's ability in spelling syllable, pronouncing words, and showing proper fluency and intonation. KKM score is then altered into percentage by using technique as explained by Ngalm Purwanto (2006):

$$NP = \frac{R}{SM} \times 100\%$$

Details:

NP	= percentage value sought
R	= raw value achieved by student
SM	= maximum ideal value from related test
100	= fixed point number

By using the above calculation, KKM score is then changed into percentage to be 80%, below is the formula:

$$NP = \frac{80}{100} \times 100\%$$

The data taken from the observation consists of tasks done by teacher and the participation of students in implementing the multisensory approach. The data is then explained in narrative form. The evaluated data was obtained from the result of children ability test which asked them to read based on the set indicator. The result of evaluation contains of data taken in Pre-Action and post action in Cycle I and post action in Cycle II. The following cycles can be used when needed. The pre test completed was initial evaluation before students were given action, whereas the data of the post test was obtained from the score of the final evaluation after post action in Cycle I or Cycle II. Data obtained from Pre-Action and post action were analyzed and compared. In analyzing the data, researcher used numbers and graphics to illustrate student's improvement in reading by applying multisensory approach.

This classroom action research was conducted together with collaborating teacher of the first grade in SLB-B Karya Bakti Wonosobo. This research was conducted to enhance the reading skill in deaf children by using multisensory approach. The stages of action completed by researcher refer to Kemmis's and McTaggart's patterns (Wiriatmadja

in [8] : Tanuredja, *et al*, in [9], by taking in four stages such as planning, implementing the actions, observing and reflecting. These stages were taking into account by considering the time availability and level of reading ability needed to be achieved in the research. The description of the four activities are explained in the following details:

a) Planning

Planning was conducted by holding meeting between teacher and researcher to discuss instructional material and scenario and to compose lesson plan (RPP). The activities done by teacher and collaborating teacher in this step include:

- Selecting material to be used in teaching such as spelling the patterned syllables, simple sentences, and sentences with punctuation marks.
- Preparing the observation guide
- Composing the lattice instruments of reading skill that are relevant to the reading criteria.
- Preparing instruments and media (whiteboard, mirror, sound meter)
- Preparing the instrument for evaluation such as questions on reading test that include patterned syllables, patterned sentences, and sentences with punctuation marks that are relevant to Theme 4.
- Determining the basic competence and instructional indicator based on the basic competence as follows in Table I below:

TABLE I. COMPETENCE STANDARD AND BASIC COMPETENCE ON LEARNING ASPECTS IN BAHASA INDONESIA LESSON

Competence Standard	Basic Competence
3. mimicking words and simple sentence	3.1. reading some simple words 3.2. reading some simple sentence

- Developing the basic competence into instructional indicator, it is described in the following Table II:

TABLE II. DEVELOPMENT OF INSTRUCTIONAL INDICATOR

Basic Competence	
3.1. Reading some simple words	3.1.1. Patterned syllables 3.1.2. Patterened words
3.2. Reading some simple sentence	3.2.1. Reading sentence with punctuation

- Composing lesson plan based on the theme.
- Preparing the observation guide of teacher’s duty in the form of check list to take data related to teacher’s skill in applying multisensory approach in instructional reading.
- Setting the successful action criteria, that student’s reading ability should achieve the KKM as much as 80%.
- Providing definition, comprehension, and steps in conducting the multisensory approach done by researcher for collaborating teacher. These include; researcher explains the definition of multisensory approach to collaborating teacher, researcher and collaborating teacher discuss the relevance between major material and stages found in the approach, teacher learns to apply multisensory approach and

researcher provides suggestion for needed correction.

b) Action

Action was conducted in four meetings each week, each meeting was 1 x 20 minutes for each student. This stage is formulated based on the multisensory approach that includes:

- Visual: teacher and students hold visual activity (observing pronunciation on the mirror, correcting mistakes, showing sound meter).
- Auditory: teacher guides students in this auditory activity (reading shown writing and showing the sound produced by student through sound meter).
- Kinesthetic: teacher exemplifies the movement of speech organ when reading the text to students and students mimic this gesture, teacher shows movement to feel vibration of sound produced (cheek, neck, chest or head area).
- Tactile: teacher demonstrates the way to trace or touch resonating area as an effect of sound production (cheek, neck, chest or head), teacher also exemplifies to student how to differentiate plosive consonant and continuant consonant.

c) Observation

Observation is conducted to observe the improvement on reading skill shown by deaf children of the first grade when multisensory approach is applied. The observation is done by using the observation guideline. There are detailed data to reveal:

- Student’s reading skill focusing on the spelling of patterned syllables, patterned sentence, simple sentence, and sentence with punctuation mark.
- The implementation of multisensory approach in students.
- The implementation of multisensory approach on teachers.

d) Reflection

It is discussion activity between researcher and collaborating teacher to analyze the result generated from the application of multisensory approach in instructional reading in each cycle. The data under discussion include the results of observation on teacher and students and also the score gained by students from the test of reading skill. Based on the evaluation on Cycle I, it is revealed that four subjects did not meet the successful criteria and they need to continue the action in Cycle II.

IV. RESULT AND DISCUSSION

This section presents the results used and the proposed discussion

A. Result

a) Description of Observation Results in Student’s Behavior and Gestures when Reading

The indicator of subject’s behavior and gestures when reading in observation instrument cover; frowning, anxious,

making higher tones, biting lips, and rejecting. The discussion of the observation is specifically discussed in the following details:

a. Subject And

The observation was held on 26 February 2018. The observation completed on Pre-Action and post action activity. During the Pre-Action in Cycle I, subject was often frowning when being asked to read, either before or after the example was given by teacher. When subject mimicked the reading independently, there were anxiety and uncomfortable behavior. Subject's voice was often disappearing and sometime completely gone. When anxiety seen, subject bit his lips and even rejected to mimic the reading he thought difficult.

From the post action activity held on 07 March 2018, subject showed changes on behavior such as the frequency of frowning when thinking or recalling decreased. However, subject still looked anxious when being asked to read independently as his eyes made left-to-right movement and moved the feet restlessly. The voiced produced was more stable and heard. Subject also rarely bit his lips when reading independently, but when he faced the difficult in recalling, he would bit his lips again. Subject obeyed teacher's instruction so that rejection when being asked to read did not occur anymore.

The Pre-Action activity on subject And achieved 4 answers categorized as "yes" and 1 answer categorized as "no". Whereas from the post action activity, 1 answer categorized as "yes" answer, 2 answers categorized as "sometimes" answer, and 2 answers categorized as "no" answers were generated.

b. Subject Nk

The Pre-Action was conducted on 26 February 2018. From this activity, the result showed 4 answers categorized as "yes" and 1 answer categorized as "sometimes" answers. The details include: subject often frowned whenever being asked to read. Subject felt anxious and worried for the lack of confidence. The sound produced was dominantly high. When facing obstacle, subject bit lips, felt afraid to ask question, disobeyed the command, or even cried.

The post action on Subject Nk was held on 07 March 2018. This activity resulted in 2 answers categorized as "yes"; 2 answers categorized as "sometimes", and 1 answer categorized as "no". The details of observation in Cycle I include subject made frowning gesture when facing difficulty, felt afraid to ask question, rejected teacher's command on what was considered a difficult task and tended to be passive. The anxiety appeared when subject faced problems, but the biting lips habit was reduced. However, the sound produced was better, even though teacher kept reminding to use esophageal and diaphragms speech. Although subject was no more emotional when reading, he chose to skip difficult task.

c. Subject Im

The Pre-Action was conducted on 27 February 2018, the result shows 3 "yes" and 2 "no" answers. During the execution of this Pre-Action in Cycle I, subject showed his

anxiety by frowning when being asked to read, looked uncomfortable, looking at other friends, biting lips, and being passive. When facing difficulty, Im often put his index finger on his forehead and refused to ask question to teachers. Nonetheless, although he found it difficult to read, he never rejected teacher's order and read as best as he could. He also produced sufficient quality of sound.

The post action was held on 08 March 2018. The details of observation result are as follows: 1 "sometime" and 4 "no" answers. From the implementation of post action activity in Cycle I, it was revealed: The frowning was still observed when facing difficulty and subject tended to wait teacher to give assistance. Subject's anxiety was declined as he no longer bit his lips and tended to be more relaxed. The sound produced was still good, although it sounded growling. However, Im still frowned when meeting reading problem and put his index finger on the forehead, yet he kept reading the best he could.

d. Subject Jn

The Pre-Action activity on this subject was held on 27 February 2018. The detailed answers include 2 answers categorized as "yes", 2 answers categorized as "sometimes", and 1 answer categorized as "no" answers. The description of the observation result is subject was seen frowning when being asked to read, either before or after the teacher gave example. Subject bit his lips every time the teacher ordered him to imitate the text. The anxiety clearly appeared when imitating teacher to read as he sat restlessly and scratched his feet repeatedly. The sound produced was low and sometimes there was no sound heard. When being asked to mimic teacher's speech, subject often bit his lips and refused the instruction when he felt he could not do it.

The post action activity held on 08 March 2018 during Cycle I produced the result; 2 answers categorized as "sometimes" and 3 answers categorized as "no" answers. From the implementation of this activity, subject reduced his frowning habit and only did it when facing reading problems. The anxiety was still visible as he still frequently scratched his feet and turned his head unfocusedly, but the lips biting habit had gone. On the contrary, subject's voice got better and could be well-heard, the high pitching sound disappeared.

Based on the observation on subject's behavior and gestures when reading in Cycle I, it is concluded that subjects need to make deeper concentration when reading. When troubling gesture that leads to the loss of concentration occurs, collaborating teacher should make immediate response by redirecting the attention. Teacher should not only remind the subject to concentrate, other students must also be reminded when they start disturbing or distracting subject's concentration. Collaborating teacher needs to always calm subjects down when giving action and motivate them to build self confidence so that the subject's behavior and gesture when reading will be more conducive.

B. Description of Reading Skill Test Result

a. Subject And

On the Pre-Action activity, reading indicator on patterned syllables shows: subject was able to read syllables with “KV” and “VK” pattern independently, the sound produced was fairly clear. The reading indicator on patterned word with “VKV” pattern showed fluent and independent result, whereas on “KV-KV” pattern, subject could not show independent work. However, his voice was clear when reading. Subject still faced difficulty when reading words that contain /k/; /g/; /r/ consonants. On the indicator of patterned words “KV-KVK”, “KVK-KVK” “KV-KV-KV”, subject also faced difficulty and needed assistance to read several words. Subject looked difficult when reading velar and glottal consonant. When reading patterned words ‘KV-KVKK”, subject had difficulty and produced unclear sound even though teacher had assisted him. The indicator on simple sentence reading shows that subject was unable to perform independent action and still needed assistance. The voice produced was unclear and he needed to do more repetition. Subject was not able to read imperative sentence fluently and subject needed help to do it, also the sound produced was still unclear. Subject’s intonation did not show the hardening intonation in the end of sentence reading and it still sounded flat. The reading indicator on interrogative sentence, subject was unable to read independently and fluently. Subject’s voice was not clearly heard when reading imperative sentences and assistance was often given. Subject was unable to read interrogative sentences with falling intonation. The improvement of test result achieved by subject on reading skill is 33,33% with Pre-Action score 48, and post action score 68. The score achievement is categorized into good result (the observation result enclosed).

b. Subject Nk

The result of observation generated from Pre-Action activity in Cycle I showed that subject had fluently read patterned syllables “KV” and “VK”, however subject was unable to work independently and needed frequent repetition. The sound produced was quite clear to hear. Subject faced difficulty to read syllables with /k/ and /g/ phonemes. The reading indicator on patterned words “VKV”, “KV-KV”, “KV-KVK”, “KVK-KVK”, “KV-KV-KV”, “KVK-KV” and “KV-KVKK” showed that subject was still facing difficulty and the sound produced was not clear enough. Subject required helps and repetition. On the reading indicator of simple sentence, subject also showed influent reading, longer pause, unclear sound and stumbled reading. When reading imperative sentence and interrogative sentence, subject showed unclearly heard voice, influent reading, and dependable work. The subject’s intonation was flat. The score achieved by subject on Cycle I as much as 58 and it gained increase percentage of 13,20% so the score becomes 60. This score is categorized into good result (the observation result enclosed).

c. Subject Im

The reading activity on Pre-Action in Cycle I shows that subject was able to read patterned syllable “KV” and “VK”, but assistance was required. The sound produced was clearly heard. On the reading indicator of patterned sentence “VKV”, the sound produced was clear and fluent, but word with /k/ phoneme was not heard. When pronouncing patterned words “KV-KV”, “KV-KVK”, “KVK-KVK”, “KV-KV-KV”, “KVK-KV”, subject still needed help and repetition. The reading process was influent and the sound was stumbled. When reading patterned word “KV-KVKK” ending with /ng/ phoneme, subject always closed one of his nostrils and it produced nasal sound production on overall words. On the reading indicator of simple sentence, either imperative or interrogative sentence, subject still required much assistance, the sound produced was unclear, and intonation was flat and monotonous. The score achieved from this Pre-Action activity was 37, and it increased as much as 72% on post action stage in Cycle I so that the score becomes 64. It is categorized into fair result. The score achieved by subject Im is significant since subject was diligent and did continuant practice independently. The result of subject Im is enclosed.

d. Subject Jn

From the Pre-Action activity in Cycle I, subject Jn had result that shows the ability to read patterned syllables “KV” and “VK”. However, the pronunciation on syllables with /k/, /g/, /c/ and /r/ consonant was still unclearly heard. The reading indicator for patterned words “VKV” and “KV-KV” was fairly done but subject was unable to do independent work. On patterned words “KV-KV”, “KV-KVK”, “KVK-KVK”, “KV-KV-KV”, “KVK-KV” and “KV-KVKK”, subject still required assistance and repetition. Although The reading was influent, the overall sound production was well heard. In reading simple sentences, interrogative sentences, and imperative sentence, subject was still unable to work independently. The intonation produced was still flat. The score gained by subject in Pre-Action in Cycle I was 53, whereas the score in post action was 68. It is categorized into good result although the score was still under mastery criteria.

C. Description of Observation Result of Teacher’s Multisensory Approach Implementation

The observation on teachers was conducted by researcher when collaborating teacher accompanied subjects during the reading activity. The description made from observation result in Cycle I is categorized based on some aspects. On visual aspects, teacher had not delivered the purpose of the activity and teacher did not correct the errors occurred as subjects were reading. Teacher only repeated the reading until it sounded better than previous effort. On the auditory aspect, teacher did not do loud reading so that the hearing ability was not optimized. When errors occurred, teacher did not correct them immediately and only made repetition. On kinesthetic aspect, teacher’s articulation or the speech organ was not adequately moved so subject found it difficult to mimic. Teacher also did not show the

effort to feel vibration produced about cheek, neck, chest or head. On tactile aspect, teacher did not give example to subjects the techniques to touch the area that produce vibration or sound. Moreover, teacher did not always show to subject how to differentiate plosive consonant and continuant consonant.

D. Description of Observation Result of Students in Multisensory Approach Implementation

Within the observing activity, there are three categories of answer; always, sometimes, and never. The indicator of observation towards subjects is enclosed. The details of observation result of each subject are discussed as follows:

a. Subject And

Pre-Action activity:

a) Visual Aspect

Subject had not shown full concentration during the activity as he did not always pay attention on the words or sentences given by the teacher. Subject's concentration was disturbed by playing things on his table. When teacher read the sentence or text, subject observed teacher's lip through mirror, but did not imitate the gestures properly or imitated it playfully. He also did not check out the sound meter when reading.

b) Auditory Aspect

Subject had not fully imitated teacher's utterance when being asked to listen and read the text. The sound produced was weak, so the sound meter could not detect it within ± 15 cm or even be heard by the teacher.

c) Kinesthetic Aspect

Subject's speech organ was not perfectly moving as exemplified by the teacher. Subject also did not touch other speech organs that produce sound or vibration to ensure the sound production

d) Tactile Aspect

Subject seldom touched his cheek, neck, chest, or head areas to feel the vibration, so that he did not completely understand how to differentiate the air difference in plosive consonant and continuant consonant by using the back of hand. From the Pre-Action observation, there are 2 answers categorized as "always", 7 answers categorized as "sometimes", and 2 answers categorized as "never".

Post action activity:

a) Visual Aspect

The level of concentration was increasing for subject paid more attention on the text shown by teacher. Subject observed teacher's pronunciation through mirror. Subject had not fully repeated teacher's pronunciation he saw through mirror and his own pronunciation was not clear as well, so he still needed more helps. However, subject started to check sound meter when being asked to repeat syllables, patterned words or sentences.

b) Auditory Aspect

Auditory Aspect: Subject imitated teacher's pronunciation but did not produce clear result. Subject's voice was weak and not well-heard, it caused the sound meter failed to detect it within ± 15 cm.

c) Kinesthetic Aspect

Subject imitated the movement of teacher's mouth but his speech organ did not move the same way as what had been exemplified. However, his consciousness to produce sound increased by making gestures to touch the vibrating speech organ areas.

d) Tactile Aspect

Subject started to understand the sound produced by tracing or touching vibrating areas (cheek, neck, chest, or head). Subject's comprehension on the differences between plosive consonant and continuant consonant by using the back of his hand showed satisfactorily improvement.

On this post action activity in Cycle I, subject And made improvement in understanding the implementation of multisensory when reading. It is proved through the score he achieved that shows 7 answers categorized as "always" and 4 answers categorized as "sometimes".

b. Subject Nk

Pre-Action activity:

a) Visual Aspect

Subject always observed the sentence shown by teacher. While observing teacher's pronunciation or reading the lips through mirror, subject lose his concentration and sight because he also paid attention to his friends. Teacher's pronunciation was not correctly imitated and subject often forgot to repeat the words. Yet, subject checked the sound meter when being asked to repeat the pronunciation.

b) Auditory Aspect

The sound produced was weak so that it affected the result shown through sound meter. When reading, subject's sound was not heard or even disappeared.

c) Kinesthetic Aspect

Subject was lack of concentration so he was unable to imitate the teacher's example properly. He was not consistent in touching or tracing the vibrating area and it causes the awareness of sound production low.

d) Tactile Aspect

Subject occasionally touched his cheek, neck, chest, and head area to feel the vibration of the sound produced, but it was not done frequently. Thus, Subject had not understood the air difference between plosive consonant and continuant consonant

On the Pre-Action activity, subject Nk achieved 2 answers categorized as "always", 7 answers categorized as "sometimes", and 2 answers categorized as "never".

Post action activity:

a) Visual Aspect

Subject's ability to concentrate increased. The sentence shown by teacher was well observed. He paid attention on teacher's pronunciation through mirror. Subject also imitated teacher's pronunciation by watching the speech organ through mirror. He checked the sound meter when reading syllables, patterned words, and sentences.

b) *Auditory Aspect*

Subject had not repeated teacher's pronunciation and the sound he made did not match the example given. However, the sound was clearly heard by teacher and detectable through sound meter.

c) *Kinesthetic Aspect*

The need for assistance decreases and Subject was able to imitate the example given as his speech organ could make movement properly. The awareness of sound increased as subject often touched the vibrating area of speech organs.

d) *Tactile Aspect*

Subject was more comprehensive on his sound by touching vibrating areas (cheek, neck, chest, or head). He also showed more understanding on the differences of plosive consonant and continuant consonant through the back of hand. The result observation of Subject Nk on the post action showed 9 answers categorized as "always" and 2 answers categorized as "sometimes".

c. *Subject Im*

Pre-Action activity:

a) *Visual Aspect*

Subject sometimes observed words or sentences shown by teacher, paying attention on teacher's pronunciation, reading lips, and imitating the pronunciation by watching speech organ through mirror. The lack of concentration was also shown as subject never checked out the sound meter to ensure that the sound was produced while repeating syllables, words, or sentences.

b) *Auditory Aspect*

Subject occasionally imitated teacher's pronunciation by using the remaining hearing ability even though the sound produced was unsatisfactorily heard. The sound was undetected by sound meter in +15 cm of distance. Subject's voice was heard even though it was not clear.

c) *Kinesthetic Aspect*

Speech organ infrequently moved imitating teacher, but subject had not touched vibrating organ to ensure the sound produced.

d) *Tactile Aspect*

Subject occasionally traced or touched vibrating area such as cheek, neck, chest, or head, however the purpose of this gesture had not been fully understood. Thus, subject could not identify the difference between plosive consonant and continuant consonant through the back of hand.

On the Pre-Action activity, subject achieved 1 answers categorized as "always", 8 answers categorized as "sometimes" and 2 answers categorized as "never"

Post action activity:

a) *Visual Aspect*

Subject's ability to focus on the learning process increased. The words shown by teacher were observed properly. However, subject did not satisfactorily pay attention on teacher's pronunciation through mirror and did not entirely imitate the action as well. The questions or instrument were not read clearly and he needed more assistance. Yet, subject was able to check out the sound

meter when reading syllables, patterned words or sentences.

b) *Auditory Aspect*

Teacher's pronunciation was imitated in better manner. The sound produced by subject was more clearly heard and detectable through sound meter within +15 cm of distance. Teacher could hear the sound even though it was weak.

c) *Kinesthetic Aspect*

Although subject had followed the example given by moving his speech organ, the movement did not fully match the example. Subject also had not traced or touched vibrating area that indicated the production of sound

d) *Tactile Aspect*

Subject had not completely understood the sound produced through touching the vibrating area, thus the comprehension on air difference between plosive consonant and continuant consonant had not been accomplished either.

On the post action activity in Cycle I, subject showed improvement on the level of comprehension by gaining 5 answers categorized as "always" and 6 answers categorized as "sometimes".

d. *Subject Jn*

Pre-Action activity:

a) *Visual Aspect*

Subject always checked on words shown by teacher, paid attention on the pronunciation, and read lips through mirror. The concentration ability was not performed well so that he seldom imitated teacher's pronunciation through mirror. Yet, subject always observed the sound meter to ensure that his sound came out by repeating syllables, words, or sentences.

b) *Auditory Aspect*

Even though the sound was not satisfactorily produced, subject made use of his remaining hearing ability. His voice was detected within +15 cm through sound meter. The sound was well-heard although the clarity level was low.

c) *Kinesthetic Aspect*

Subject's speech organ did not show proper movement as exemplified and he had not made touching gestures to vibrating area.

d) *Tactile Aspect*

Subject touched or traced cheek, neck, chest, or head area to feel the vibration, but he did not understand the purpose of the action. It means, he had not understood yet about the air difference between plosive consonant and continuant consonant. Subject's achievement shows 7 answers categorized as "always", 1 answer categorized as "sometimes", and 3 answers categorized as "never".

Post action activity:

a) *Visual Aspect*

Subject's concentration ability was improved as he paid attention on words shown by teacher. Subject observed teacher's pronunciation through mirror and imitated it. The pronunciation he made was not clear as it did not

match the example given, so more assistance were still needed. Subject checked the sound meter when reading syllables, patterned words or sentences and the sound produced was more clearly heard and detectable by sound meter within +15 cm of distance. Teacher was able to hear the voice although it was not clear.

b) *Auditory Aspect*

Subject's concentration level increased. He observed the words shown by teacher properly. He observed teacher's pronunciation and imitated it through mirror but was not able to produce clear pronunciation. Subject checked out the sound meter when reading syllables, patterned words, and sentences.

c) *Kinesthetic Aspect*

Even though the organ speech had not moved perfectly as exemplified, subject imitated every example given by teacher. His awareness on sound was improved by touching the vibrating speech organ.

d) *Tactile Aspect*

Subject understood the sound he produced by touching or tracing vibrating area like cheek, neck, chest, or head. Therefore, subject understood the air difference between plosive consonant and continuant consonant by using the back of hand.

From the post action activity, subject Jn made improvement on his comprehension on the application of multisensory approach. He gained 10 answers categorized as "always" and 1 answer categorized as "sometimes".

B. *Result of Cycle I Reflection Action*

Based on the evaluation conducted on Cycle I action, it is learned that the test result of reading skill of deaf students of first grade shows improvement compared to the test result on the Pre-Action stage, even though this result has not meet the determined mastery criteria of 80%. The data related to the reading skill of each subject is given in the following Table III:

TABLE III. PERCENTAGE OF PRE-ACTION DATA TOWARDS POST ACTION DATA IN CYCLE I IMPROVEMENT OF READING SKILL ON HEARING-IMPAIRED STUDENTS OF FIRST GRADE SLB-B KARYA BAKTI WONOSOBO THROUGH MULTISENSORY APPROACH

No	Name	Pre-Action Test			Post Action Test in Cycle I			Improvement
		Score	Value	Criteria	Score	Value	Criteria	
1.	Andrew	48	48	Incomplete	64	64	Incomplete	33,33%
2.	Niko	53	53	Incomplete	60	60	Incomplete	13,20%
3.	Janul	53	53	Incomplete	68	68	Incomplete	28,30%
4.	Imdad	37	37	Incomplete	64	64	Incomplete	72%

Referring the Table III above, it is illustrated that there is improvement shown by each subject in Cycle 1. Subject And showed improvement percentage of 33,33% from 48 to 64, subject Nk showed 13,20% from 53 to 60 which means

he upgraded 7 points, subject Jn had 28, 30% from 53 to 68, and subject Im made 72% of improvement from 37 to 64.

Figure 1 below provides clear illustration about the improvement of reading skill of each subject:

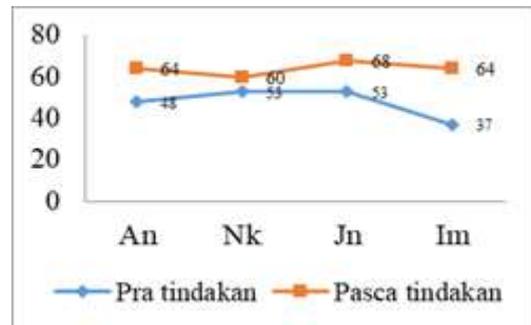


Fig. 1. Graphic of Reading Ability Improvement of First Grade Hearing-Impaired Students on Pre-Action and Post Action Activity in Cycle I

In line with the result of observation, there are several problems faced by deaf students during the instructional process as described in the following details:

- Deaf students had difficulty to pronounce words that contain / k/, /g/, /c/, /j/, /r/ and /ng/ consonants.
- Student's concentration was easy distracted by objects on the table. They sometime still frowned their foreheads, looked anxious, bit lips and even rejected to read difficult reading. Students need motivation to establish stronger confidence.
- When facing difficulty, a student chose to cry because they refused to ask questions and tend to be passive. Students need to do more practices and repeat the course material given by teachers.
- Teachers showed low comprehension on the application of multisensory approach when supervising deaf students either in the aspect of visual, auditory, kinesthetic, or tactile. Teachers also did not follow the arranged lattice work. For example, in the discussion of visual aspect, teacher sometimes forgot to show sound meter as control in student's sound production. In auditory aspect, teacher's voice production was not maximum when reading, so that the remaining hearing ability of the students was not optimally used. In tactile and kinesthetic aspects, teachers skipped several activities.

Referring to the problems appear above, they can become serious obstacles in instructional process especially in the implementation of reading activity. Thus, it is important to study the causes and solutions by executing the actions on Cycle II. However, the overall activities in Cycle I was considered well-conducted.

C. *Description of Cycle II Implementation Action*

Cycle II presents improvements on the carried out actions. The correction includes the action to provide guideline for students and special supervision for students with low ability. The instructional process in this cycle was conducted by optimizing the actions in Cycle I so that the reading ability of first grade deaf students can increase. The actions taken in the Cycle II were the remedial efforts to

correct the actions in Cycle I. This remedial effort was to improve the weakness and strengthen the student's ability which had been achieved in Cycle I. During the implementation of Cycle II, there were several changes occurred such as changes on instrument, but this changes did not change each aspect's goal. The changes were given so that students would not be bored. Although there were changes applied, the instruments were still created based on the syllables, words, and sentences appeared in Theme 4.

Teachers became more assertive towards students especially to those who had not shown proper concentration by reminding, and rearranging surrounding objects that potentially disturb students. Besides, teachers were expected to perform better in producing sound during this Cycle II in order to optimize the remaining hearing ability. The implementation of actions in Cycle II was the same with those in Cycle I and there were 4 meetings scheduled. These meetings are Meeting 1: Pre Test Action, Meeting 2, Meeting 3, and Meeting 4: Post Test Action. The duration for each meeting was still the same: 1 x 20 minutes for each student and the meeting started at 09.00 to 09.20 WIB and 09.20 to 09.40 WIB. The action in this Cycle II was reading test by giving instrument in Cycle II. Students were requested to read text shown by teacher and teacher gave score afterward. The Meeting 1 was conducted on 19 March 2018 for subjects And and Nk, and on 20 March 2018 for subject Jn and Im.

Meeting 2 took place on 20 and 21 March 2018 and Meeting 3 was held on 2 and 3 April 2018. These two meetings were started with initial activity similar to what given in Meeting 2 in Cycle I. On 22 March 2018 until 02 April 2018, the meetings were delayed for one week to celebrate Easter Day. The core session in Cycle 2 included activity contained of visual aspects by showing various syllables, patterned words, simple sentences and sentences with question and command mark. The implementation of visual, auditory, kinesthetic, and tactile aspect were similar as in the Cycle 1 since Cycle 2 was a remedial process. Meeting 4 that was implemented on 04 April and 5 April 2018 provided reading test based on the instrument in Cycle II. Students were asked to read given writing material and teacher gave value based on student's accomplishment.

a) Description of Observation Result in Student's Behavior and Gestures when Reading

The observation on subject's behavior and gestures when reading in Cycle II took place during post action stage because the behavior and gestures shown in Pre-Action in Cycle II were not different to those observed in post action in Cycle I. The results of post action obtained in Cycle II are described as follows:

a. Subject And

The post action activity was carried out on 04 April 2018 and the observation showed: When reading and imitating teacher, subject did not show the frowning or biting lips anymore. When facing obstacle, he would stay silent waiting for assistance and did not show any rejection as he kept reading as best as possible. Anxiety did not present, production of sound was more stabilized and well-heard. This subject obtained 5 answers categorized as "never"

which means the overall instruments on behaviors and gestures when reading were not presence.

b. Subject Nk

The post action activity was carried out on 04 April 2018 and the observation on behaviors and gestures on this activity in Cycle II showed: the overall behavior and gestures had shown improvement. However, when facing obstacles while reading, subject tended to sit uncomfortably, move feet restlessly, and being passive while waiting for teacher to help. Subject Nk achieved 1 answer categorized as "sometimes", and 4 answers categorized as "never"

c. Subject Im

The post action activity was carried out on 05 April 2018 and the observation showed that it was found out that subject's gesture of putting index finger on the forehead had become habit when facing problems and teacher often reminded the subject about the habit. Nevertheless, the previous identified anxiety symptoms like frowning, increasing tone, biting lips, and rejecting teacher's request did not present during this session. From this description, subject earned all answers categorized as "never".

d. Subject Jn

Subject Jn endured the post action session in Cycle II on 05 April 2018. The observation resulted in several finding that apart from the fact that subject still showed difficulty in reading, his frowning, tone increasing, lips biting, and rejection did not appear anymore. Subject Jn presented all answers categorized as "never".

By focusing closely on the observation result of post action in Cycle II, researcher concluded that through practices, teacher can give frequent reminder whenever subject's concentration is distracted. Teacher can also give time for subjects to clam themselves down whenever anxiety attacks since giving opportunity to relax themselves brings about positive impacts towards subject's behavior and gestures. The reading activity will be more conducive and generate adequate improvement on subject's reading ability.

b) Description of Reading Skill Test Result

a. Subject And

On Cycle II, subject And's reading ability showed improvement like the ability to read patterned word "KV" and "VK" fluently and to produce clear voice. Subject also needed less assistance. On patterned words "VKV", "KV-KV", "KV-KVK", subject was able to read fluently, but he still faced difficulty when reading /k/, /g/, /c/, /j/ and /r/ consonants. The reading on patterned words "KVK-KVK", "KV-KV-KV" showed less assistance from teacher and the sound produced was clearer. However, the subject also still needed help in pronouncing the patterned words "KV-KVKK". When reading simple sentence, affirmative sentence and interrogative sentence, the sound produced was clearly heard and subject could read fluently. Subject could presented rising intonation when reading affirmative sentence and falling when reading interrogative sentence. The score raises during the Pre-Action session as much as 68 so that the final score was 92 (observation result enclosed).

b. Subject Nk

All instruments on indicators of reading patterned syllables and words shown in Cycle II were successfully done and subject was able to read fluently so the need of assistance declined. The sound produced was clearer. On the indicator of reading simple sentence, imperative sentence, and interrogative sentence, the better result was achieved. Subject was able to produce clear sound and made different intonation when reading interrogative sentence and imperative sentence although there were unnecessary pauses during the session. However, the overall activities showed better result. Subject achieved rising on his score. On previous Pre-Action the score gained 78, whereas on the post action the score gained was 94.

c. Subject Im

Subject showed the ability to read patterned words fluently, independently and in clearer voice. On the aspect of reading patterned words, the improvement was visible as the instrument was read in cleared sound that before. The assistance given was decreased although repetition was still needed. Subject was also able to perform clear reading on simple sentence, interrogative sentence, and imperative sentence independently, however subject was sometimes too careful in reading so that the sound disappeared. The intonation when reading imperative sentence was rising, whereas when reading interrogative sentence was falling in the end of the sentence. Subject still made unnecessary pauses during the reading. The earlier score achieved by subject on Pre-Action session was 77 and he achieved higher score in post action session which was 94.

d. Subject Jn

There was improvement on reading patterned syllables, but subject still needed to add sign language by using fingers when pronouncing syllables and words contained of velar and glottal consonant. The overall action showed that the sound produced was clear, subject was able to ready independently although he still faced difficulty in reading patterned words that contained of double consonants. Furthermore, simple sentence, interrogative sentence, and imperative sentence were pronounced better than before. The sound produced became clearer and teacher's assistance was decreased. Subject also showed better result in making strong and weak intonation when reading imperative and interrogative sentences. The score in Pre-Action was 68 and subject made improvement in post action session by gaining 92.

c) Description of Observation Result in Students in Multisensory Approach Application

In the Pre-Action activity in Cycle II, subject And achieved 6 answers categorized as "always" and 5 answers categorized as "sometimes", whereas subject Nk and IM gained 7 answers categorized as "always" and 4 answers categorized as "sometimes". Furthermore, subject Jn achieved 8 answers categorized as "always" and 3 answers categorized as "sometimes. In the post action activity, the four subjects achieved 11 answers categorized as "always", it means that all aspects such as visual, auditory, kinesthetic, and tactile had been well performed when reading.

d) Description of Observation Result in Teachers in Multisensory Approach Application on Cycle II Reading Activity

After making reflection on Cycle I, teacher's comprehension on the application of multisensory approach in reading activity shows sufficient improvement. The improvement is proved through the well-accomplishment on all indicators of overall aspects. Teachers also understand the needs to conduct more practices on articulation or speech training for them so that subjects can read teacher's lips easier.

e) Result of Action Reflection in Cycle II

Based on the evaluation conducted in Cycle II, four subjects showed improvement compared to the result of post action test in Cycle I. The improvement has fulfilled the mastery criteria of 80%. The data about reading skill of each subject is illustrated in the following Table IV below:

TABLE IV. RESULT DATA OF PRE-ACTION AND POST ACTION IN CYCLE II READING SKILL IMPROVEMENT

No	Subject	Pre-Action Test	Post Action Test	Criteria
1.	And	68	92	Complete
2.	Nk	78	96	Complete
3.	Jn	68	92	Complete
4.	Im	77	94	Complete

From the criteria of score achievement in Cycle II, the data obtained is explained as follows in Table V below:

TABLE V. PERCENTAGE AND SCORE ACHIEVEMENT IN POST ACTION IN CYCLE II READING SKILL IMPROVEMENT

No	Subject	Score	Percentage	Criteria
1.	And	92	92%	Satisfactory
2.	Nk	96	96%	Satisfactory
3.	Jn	92	92%	Satisfactory
4.	Im	94	94%	Satisfactory

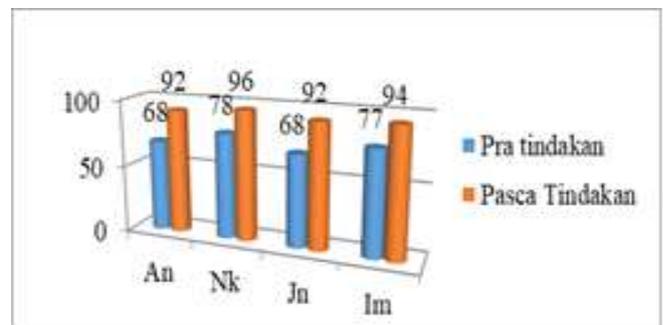


Fig 2. Chart of Pre-Action and Post Action Result in Cycle II Reading Skill Improvement on Hearing-Impaired Students of First Grade in SLB-B Karya Bakti through Multisensory Approach

The Figure 2 above demonstrates the enhancement on value acquisition in Cycle II to show that summary of reading skill improvement from Cycle I to Cycle II. The following table is an illustration of value acquisition in Pre-Action and post action in Cycle I and post action in Cycle II:

TABLE VI. RESULT DATA OF PRE-ACTION - POST ACTION IN CYCLE I AND POST ACTION IN CYCLE II READING SKILL IMPROVEMENT

No	Subject	Pre-Action	Post Action	Post Action
----	---------	------------	-------------	-------------

		Cycle I	Cycle I	Cycle II
1.	And	48	64	92
2.	Nk	53	60	96
3.	Jn	53	68	92
4.	Im	37	64	94

Based on the Table VI above, the scores achieved by subjects are clearly described. Subject And achieves score of 48 to 64 in Pre-Action in Cycle I and it increases to 92. Subject Nk shows score of 53 to 60 in Cycle I and it increases to 96 in Cycle II. Subject Jn scored the same value as and in post action in Cycle II, previously subject Jn gained score of 53 in Pre-Action in Cycle I and it increases to 68 in post action. Lastly, subject Im gained score of 64 in post action in Cycle I and he successfully increases the score to 94 in post action in Cycle II. For more vivid illustration, the reading skill improvement in Cycle II is shown in the following Figure 3:

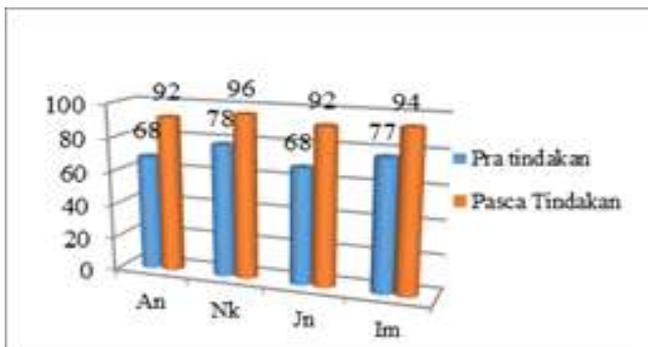


Fig 3. Result Data Chart of Skill Improvement in Pre-Action and Post Action in Cycle II

The hypothetical test is carried out in the accordance with achievement of the action that stated the action is considered successful when the result meets the criteria of success of 80%. The result of evaluation in Cycle II also shows that the score percentage obtained by subject qnd is 92%, Nk is 96%, Im is 94%, and Jn is 92%. These data represent the achievement of successful criteria. Therefore, the hypothetical action that stated the reading skill of deaf students of first grade in SLB-B Karya Bakti Wonosobo can be improved through multisensory approach has been proven.

B. Discussion

Referring to the score of reading skill of the four subjects, researcher argued that subject and increases the score in Cycle II from 68 to 92, subject Nk shows increasing score from 78 to 96, subject Im shows increasing score from 77 to 94, and the last subject, Jn, gained increasing points of 24. To learn further about the achievement obtained by subjects in Cycle I and Cycle II, the table below is used to illustrate the score transformation.

TABLE VII. DATA OF IMPROVEMENT PERCENTAGE IN POST ACTION CYCLE I AND POST ACTION CYCLE II READING SKILL IMPROVEMENT ON HEARING-IMPAIRED STUDENTS OF FIRST GRADE IN SLB-B KARYA BAKTI THROUGH MULTISENSORY APPROACH

No	Name	Cycle I			Cycle II			Improve ment
		Sc ore	Va lue	Crite ria	Sc ore	Valu e	Criteria	
1.	Andre w	64	64	Inco mple te	92	92	Compl ete	43,75%
2.	Niko	60	60	Inco mple te	96	96	Compl ete	60%
3.	Janul	68	68	Inco mple te	92	92	Compl ete	35,29%
4.	Imdad	64	64	Inco mple te	94	94	Compl ete	46,87%

Figure 4 below also presents deeper illustration regarding the data listed in the table above:

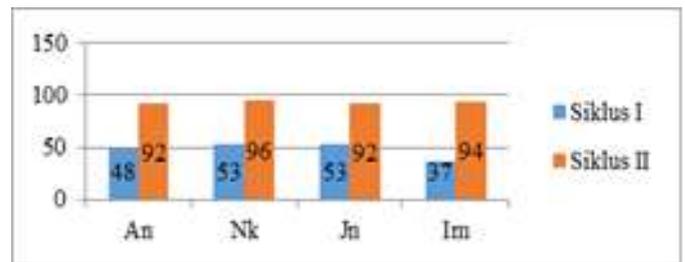


Fig 4. Chart of Reading Skill Enhancement on Post Action Activity in Cycle I and Cycle II

Both Table VII and Figure 5 above illustrate the conclusion of the research that all subjects had shown significant improvement. In reference to the composed mastery criteria, the four subjects had eventually met the expected criteria. Therefore, the action is terminated.

V. CONCLUSION

The implementation of observation and reading skill evaluation, there some major points can be concluded:

- At the initial action in Cycle I, multisensory approach had not been fully understood by students and also had not been fully implemented by teachers.
- At the initial action, difficulties and mistakes exposed by students had not been repaired optimally by teacher.
- Students often forgot the material had been learned earlier, and this becomes teacher’s task to always remind them.
- Irrelevant objects found on teacher’s table were then put aside.
- Student’s behavior and gestures became more conducive once the concentration to learn gets better and teacher actively helped students to stimulate their memory.
- The instructional media are available and complete in the classroom.
- Teacher’s and student’s understanding on the implementation of multisensory approach during reading activity was increasing in Cycle II.

Furthermore, positive influences are generated from the application of multisensory approach in reading activity

endured by four subjects in the class. These positive points include:

- The activity that makes use of visual aspect allows students to be able to mimic teacher's speech when reading, students are also able to control the sound production by checking it through sound meter and they are also able to discover the mistakes in their pronunciation so that it can help them to concentrate more on teacher's instruction. The ability to concentrate shown by student can surely beneficial to do reading activity. Moreover, visual activity helps teacher to make optimum preparation like more organized instructional media that supports reading activity, the students are also more prepared to join the activity because teachers have delivered the instructional learning.
- Through auditory activity, student's awareness to produce sound enhances and it aims to optimize student's remaining hearing ability to be optimally used. In addition, teacher's voice is more controlled and louder and it helps students achieve teacher's supervision during the auditory activity.
- Kinesthetic activity allows student's speech organ to move correctly when mimicking the example given. By touching the organs that produce sound or vibration, student's awareness to produce sound can be more improved. For teachers, kinesthetic activity trains them to make more visible movement on the speech organ so that student's comprehension can be improved as well.

Tactile activity helps students to trace vibration by feeling and touching resonating areas like cheek, neck, chest, or head when reading as exemplified by teachers. Moreover, students can also understand the difference between plosive consonant and continuant consonant through the air produced.

Based on the result of the research, it could be then concluded that:

- The process to improve reading skill can be done by teacher in the classroom by applying multisensory approach. This improving process can be carried out during the instructional process by strengthening the sensory modality owned by subjects. Optimization and activation of overall sensory components provide functional stimulation to the purpose of the instructional reading.
- The functional sensory essential for deaf children in reading activity is the visual sensory which is stimulated through reading words or sentences, reading lips, and observing sound meter. The auditory sensory is stimulated with activity such as listening to teacher's speech by optimally making use the remaining hearing power, pronouncing or spelling words or sentences detected by sound meter. In addition, kinesthetic sensory is stimulated through organ movement when reading whereas tactile sensory is stimulated through sensing or detecting vibration when reading and understanding difference between plosive consonant and continuant consonant.

Multisensory approach helps to enhance subject's reading skill by implementing visual, auditory, kinesthetic,

and tactile construction. This point is supported through the improvement on reading skill in Pre-Action that showed average score of 47.75% and it increased to 64% after post action in Cycle I. even though the achieved score was not met the minimum mastery criteria, the overall activities conducted in Cycle I was considered well-accomplished. In Cycle II, the average score gained by subjects in Pre-Action session showed percentage of 72.75% and it increased from 20.75% to 93.5%.

REFERENCES

- [1] Mayberry, R. I., Del Giudice, A. A., & Lieberman, A. M. (2011). Reading achievement in relation to phonological coding and awareness in deaf readers: A meta-analysis. *The Journal of Deaf Studies and Deaf Education*, 16(2), 164-188.
- [2] Wei, S., Gutek, A., Lilburn, M., & Yu, Z. (2013). Abundance of pathogens in the gut and litter of broiler chickens as affected by bacitracin and litter management. *Veterinary microbiology*, 166(3-4), 595-601.
- [3] Rahmanian, N., Jafari, S. M., & Wani, T. A. (2015). Bioactive profile, dehydration, extraction and application of the bioactive components of olive leaves. *Trends in Food Science & Technology*, 42(2), 150-172.
- [4] DePorter, B., Hernacki, M., & Abdurrahman, A. (1999). Quantum learning: membiasakan belajar nyaman dan menyenangkan. Penerbit Kaifa.
- [5] Sudjana, N., & Ibrahim, R. (1989). Penelitian dan penilaian pendidikan. Sinar Baru, Bandung.
- [6] Mumpuniarti, M., Sukinah, S., & Pujaningsih, P. (2017). Keterlibatan orangtua dalam needs asesment pengembangan komunikasi anak cerebral palsy. *JPPM (Jurnal Pendidikan dan Pemberdayaan Masyarakat)*, 4(1), 71-79.
- [7] Suparno, A.S. (2000). Membangun kompetensi belajar. Direktorat Jenderal Pendidikan Tinggi.
- [8] Wiriaatmadja, R. (2006). Strategi Penelitian Tindakan Kelas.
- [9] Tanudiredja, K. A. P. (2010). Center for International Forestry Research (CIFOR) Financial Statements for the Years ended 31 December 2009 and 2008 and Independent Auditor's Report.
- [10] Hernawati, T. (2007). Pengembangan Kemampuan Berbahasa dan Berbicara Anak Tunarungu. *Jurnal JASSI_anakku*, 7(1), 101-110.
- [11] Beck, I., & Juel, C. (1992). Theroleofdecodingin learningtoread. InS. Samuels & A. Farstrup. What research has to say about reading instruction.
- [12] Mutia, T. K., & Desiningrum, D. R. (2015). Pengaruh Metode Multisensori Dalam Meningkatkan Kemampuan Menghafal Kata Pada Anak Tunarungu Taman Kanak-kanak: Studi Eksperimental Di Tk Slb Negeri Semarang. *Empati*, 4(1), 188-194.
- [13] Setyawati, F. F. (2017). Efektivitas Metode Multisensori Untuk Meningkatkan Kemampuan Membaca Permulaan Pada Anak Tunagrahita Ringan Kelas II SLB Negeri Semarang (Doctoral dissertation, Universitas Negeri Semarang).
- [14] Suharmini, T. (2009). Psikologi Anak Berkebutuhan Khusus. *Yogyakarta: Kanwa Publisher*.
- [15] Hernawati, T., & Somad, P. (1995). Ortopedagogik Anak Tunarungu.
- [16] Nuyts, G. D., Elseviers, M. M., & De Broe, M. E. (1989). Health impact of renal disease due to nephrotoxicity. *Toxicology letters*, 46(1-3), 31-44.
- [17] Chaer, A., & Agustina. (2010). *Sosiolinguistik Perkenalan Awal*. Jakarta: Rineka Cipta.
- [18] Santrock, J. W., & Santrock, J. W. (2007). Psikologi Pendidikan edisi kedua.
- [19] Hurlock, E. B. (1978). *Child growth and development*. Tata McGraw-Hill Education.

- [20] Fairburn, C. G., Cooper D Phil, Dip Psych, Z., Doll D Phil, H. A., O'Connor, M. E., Bohn D Phil, Dip Psych, K., Hawker, D. M., ... & Palmer, R. L. (2009). Transdiagnostic cognitive-behavioral therapy for patients with eating disorders: a two-site trial with 60-week follow-up. *American Journal of Psychiatry*, 166(3), 311-319.
- [21] Titisan, M. (2011). Metode maternal reflektif dalam komunikasi terapeutik (studi kasus komunikasi terapeutik pada anak tunarungu di SLB-B). *FISIPOL (Ilmu Komunikasi)*, 7(6).
- [22] Kauffman, J. M., Hallahan, D. P., Pullen, P. C., & Badar, J. (2018). *Special education: What it is and why we need it*. Routledge.
- [23] Suparno, P. (2004). Teori Inteligensi Ganda dan Aplikasinya di Sekolah. Yogyakarta: Kanisius.
- [24] Pandawa, N., & Hairudin, M. S. (2009). Pembelajaran membaca. *Jakarta: Departemen Pendidikan Nasional*.
- [25] Huda, M. (2014). Model-model pembelajaran: isu-isu metodis dan paradigmatis. *Yogyakarta: Alfabeta*.
- [26] Fernald, L. C., Gertler, P. J., & Hidrobo, M. (2012). Conditional cash transfer programs: Effects on growth, health and development in young children.
- [27] Syahbana, A., & Purnama, B. E. (2013). Sukadi. 2012. *Pembangunan Sistem Informasi Administrasi Pembayaran Siswa Madrasah Aliyah Ma'arif Pacitan*, 5(3).