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## Application of Scrabble Game in Improving Learning of Simple Sentence Structure on the Student with Hearing Impairment

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### ABSTRACTS

The purpose of this study was to analyze the application of scramble games on the learning ability to compile simple sentence structures in students with hearing impairment. Scramble Game is the learning method that was chosen to convey the material for constructing simple sentences in this study. The research method used in this study was an experimental method with a Single Subject Research (SSR) design which was conducted in three stages, namely: 1) learning in initial condition (before intervention), 2) learning in the intervention condition, and 3) learning after the intervention. The research subject is a second-grade student with hearing impairment at a special junior high school in Cirebon Regency. The Scramble Game method is prepared by making picture cards containing simple words to be arranged into coherent sentences. The results of the study show that after being given learning with the scramble game with picture word cards, the student with hearing impairment experienced increases in their ability to compose simple sentence structures. This study provides alternative learning strategies, especially for teachers who teach the student with hearing impairment.

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## 1. INTRODUCTION

Children with hearing impairment are children who experience disturbances in their hearing organs resulting in hearing disabilities, ranging from mild to very severe levels which are classified into deaf and hard of hearing (Al-Rowaily et al., 2012). Meanwhile, Jackson (2011) reveals that deaf children are children who experience a deficiency or loss of hearing ability caused by damage or malfunction of part or all of the hearing apparatus so that he experiences obstacles in his language development.

Language is a medium that allows a person to communicate with each other. Through language, humans can socialize with their environment and interact with other people. By communicating, everyone can express his opinion, feelings, ideas, or thoughts both verbally (verbally) and nonverbally (signs) (Adiputra, 2021). The communication system used in general is oral and written, but in children with hearing impairment, it is certainly different from the communication system used by other children in general. Furthermore, Moeller et al. (2007) argues, as a result of partial or complete loss of hearing function, the hearing will be difficult or not functioning properly, and cause communication barriers both orally and in writing because children with hearing impairment have limitations in word selection, it is difficult to interpret figurative meanings and abstract words. For example, the use of language sentence structures that children with hearing impairment often use is simple sentences that sometimes do not even use correct sentence structures subject-predicate, subject-predicate-object-adverb.

In the learning process, language skills are one of the most important factors that can support students' ability to understand the meaning of the learning delivered by the teacher. To be proficient in the language, it is necessary to make efforts to learn good grammar, both in writing and orally in accordance with applicable grammar rules (Adiputra, 2021). Regarding this learning, it is usually found in Indonesian language subjects. In learning Indonesian, it is explained that a sentence that is good and correct is when the sentence that is expressed is easy and does not produce a double meaning for the listener or reader (Maisaroh, 2021). In a sentence, there are sentence elements including the subject (S), predicate (P), object (O), and adverb (A).

Therefore, a learning strategy is needed to support an effective and efficient learning process regarding the focus of grammar for students with hearing impairment. The learning strategy for students with hearing impairment is the same as the learning strategy used in learning for normal students, but in practice, it must be visual, meaning that it utilizes the student's sense of sight more (Sari & Putro, 2021). Many methods can be applied to improve Indonesian language learning, especially in improving the ability to compile sentences, including the snowball throwing method (Marsanto, 2021), the android-based application method (Gangaiamaran & Pasupathi, 2017), and the mnemonic method (Zaenuri & Maemonah, 2021).

Based on the previous explanation, the student with hearing impairment should be of special concern to the teacher. Because, like other children, the student with a hearing impairment needs the education to develop their potential optimally. To meet these needs, educational services are needed that are tailored to their characteristics, abilities, and disabilities. Therefore, the purpose of this study was to analyze the results of the application of the Scramble Game in improving the ability to compose simple sentence structures in eighth-grade students with hearing impairment in special junior high schools. Here, we use the Scramble Game media in teaching sentence structure because Scramble Game is a game

in the form of rearranging the structure of language that has previously been confused. This Scramble game has a simple way of playing but is assumed to give a pleasant impression to students (Fitriyah, 2021). Because this Scramble Game relies on students' visuals and kinesthetics, students are expected to be more active in their learning.

## 2. METHODS

### 2.1. Research design

The method used in this research was experimental, using a Single Subject Research (SSR) design. SSR refers to a research strategy developed to document changes in the behavior of individual subjects. The subjects in this study were single subjects at the second grade in special junior high schools in Cirebon Regency, West Java, Indonesia. The time of the research was carried out in the first semester of the 2018/2019 academic year, precisely in July - August 2018.

The design of SSR used in this study was the A-B-A' design, which was a design that has three stages, where (A) is learning in initial condition (before intervention), (B) is learning in the intervention condition, and (A') is learning after the intervention. This study was conducted every day and counted as sessions and studied the magnitude of the effect of a given treatment on individuals, by comparing the two baseline conditions before and after the intervention. The reason for using the ABA' design is because by giving the baseline twice, namely the basic ability before getting treatment (Baseline-1) and the ability after getting treatment (Baseline-2), it can provide confidence in the results obtained more accurately, whether there is a change for the better or not the subject.

### 2.2. Instrument

The technique of collecting data during the study was through tests. The test consists of three stages, namely i) a written test to determine the initial condition of students' abilities before being given intervention or treatment (Baseline 1 (A-1)); ii) written test on intervention condition as evaluation material (B); and iii) a written test to see whether the intervention affected improving sentence structure learning (Baseline 2 (A-2)). Each written question at each stage consists of 30 questions. The distribution map of questions and indicators of achievement that must be achieved from the written test are presented in **Table 1**.

### 2.3. Criteria for the assessment of items

Assessment was used to obtain scores at the baseline-1, intervention, and baseline-2 stages, the assessment was as follows: i) the score is 1 if the student arranges words into sentences correctly, and the score is 0 if the student is wrong or does not fill in the questions on the question of composing simple sentences with the S – P structure; ii) The score is 3 if students compose sentences correctly, the score is 2 if students compose sentences with 1 wrong word, the score is 1 if students compose sentences with 2 wrong words in the assessment for questions number 11-20 in compiling simple sentences with the structure of S-P-O; iii) the score is 4 if students arrange words into sentences correctly, the score is 3 if students compose sentences with 1 wrong word, the score is 2 if students compose sentences with 2 wrong words or fill in answers with only 2 correct words, and the score is 1 if students compose sentences with 3 wrong words 3 or only 1 correct word arranged in the assessment for questions number 21-30 in compiling simple sentences with the structure of S-P-O-A.

**Table 1.** Distribution map of question and indicator of achievement on the subject of compiling simple sentence structure.

Ability Aspect	Ability Sub Aspect	Indicator	Instrument Number
Sentence Structure	Ability to compile simple sentences.	1. Ability to compile simple sentences with the Subject (S) - Predicate (P) pattern.	1-10
		2. Ability to compile simple sentences with the Subject (S) – Predicate (P) -Object (O) pattern.	11-20
		3. Ability to compile simple sentences with the pattern Subject (S) – Predicate (P) – Object (O) – Adverb (A).	21-30

#### 2.4. Data collection technique

Data processing and analysis are activities carried out after the data has been collected before concluding. After the data was obtained, each baseline-1, intervention, and baseline-2 data were made descriptive statistics. In research with a single subject, the data are presented using descriptive statistics that are displayed in the form of graphs. To calculate the value of students' ability to compose simple sentences, it can be calculated using formula 1.

$$\text{Final Score} = \frac{\Sigma \text{score obtained}}{\Sigma \text{maximum score}} \times 100\% \quad (1)$$

#### 2.5. Condition analysis

Condition analysis is an analysis of changes in data in a condition such as baseline conditions or intervention conditions. The components analyzed include the following:

a. Length of Condition

The length of the condition is the amount of data in the condition. The number of data in conditions describes the number of sessions performed in each condition. The length of the condition or the amount of data in the condition there is no definite provision. Data in baseline conditions were collected until the data showed a clear direction.

b. Directional Tendency

The direction trend is described by a straight line that crosses all the data in a condition where the amount of data is carried out using the freehand method, namely making a line directly in a condition so that it divides and is equally located above and below the line.

c. Stability Level

Stability level shows the level of homogeneity of the data in one condition. The level of stability can be determined by calculating the amount of data that is in the range of 50% above and below the mean. If 50% or more of the data is within the range of 50% above and below the mean, then the data can be said to be stable.

d. Data Trace

Data trace is a change from one data to another in a condition with three possibilities, namely ascending, descending, and horizontally.

e. Range

The range is the distance between the first and last data. The range provides the same information as in the analysis of level stability.

### 3. RESULTS AND DISCUSSION

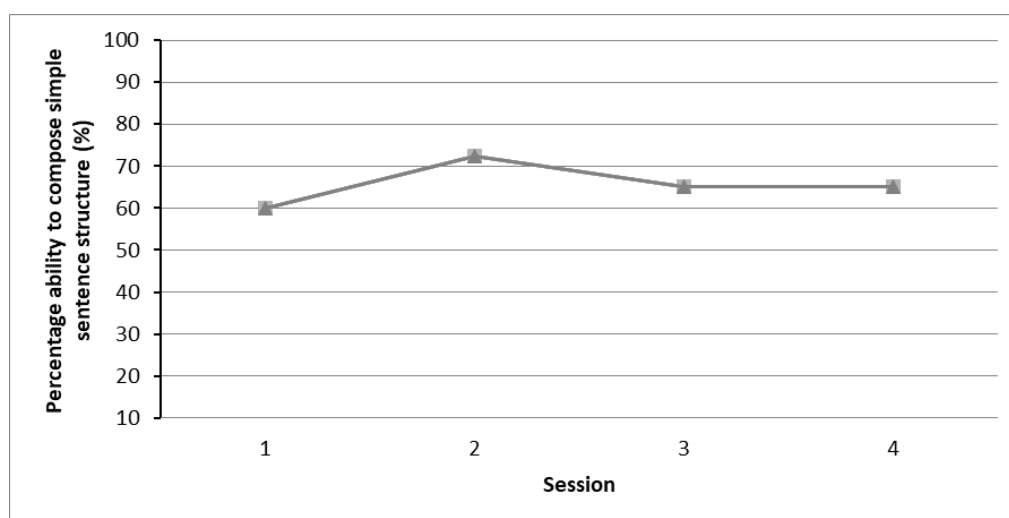
#### 3.1. Baseline-1 (A-1) results

Baseline-1 is the initial stage of the test to analyze the ability of students with hearing impairment on the subject of learning simple sentences, where data collection in this phase is carried out in four sessions, and in this phase, the subject has not received the intervention. Furthermore, the data is obtained in the form of a final score which shows the percentage of students' ability scores (%) which are calculated based on **formula 1**. Students in the baseline-1 phase (A-1) are given ten-question items related to students' expressive abilities. **Table 2** shows the results of the simple sentence structure test from the student with hearing impairment before the intervention. **Figure 1** shows the visualization of the data in **Table 2**.

Baseline-1 data (A-1) in **Table 2** were obtained from the results of research on the ability to compile simple sentences for four sessions where each session spent approximately 30 minutes. Figure 1 shows the scores obtained in sessions one to four. In this phase, the highest final score obtained is 58 at a percentage of 72.5%. The results obtained in this phase if the average (mean level) is around 65.5% including a stable data trend.

**Table 2.** Student condition on baseline-1 (A-1) on the indicator of ability to compose simple sentence structure (SPOA).

No.	Target Behavior	Session	Maximum Score	Score	Percentage (%)
1	Ability to Compile Simple Sentence Structure	1	80	48	60.0
2		2	80	58	72.5
3		3	80	52	65.0
4		4	80	52	65.0
<b>Average</b>					<b>65.5</b>



**Figure 1.** Student condition on baseline-1 (A-1) on the indicator of ability to compose simple sentence structure (SPOA).

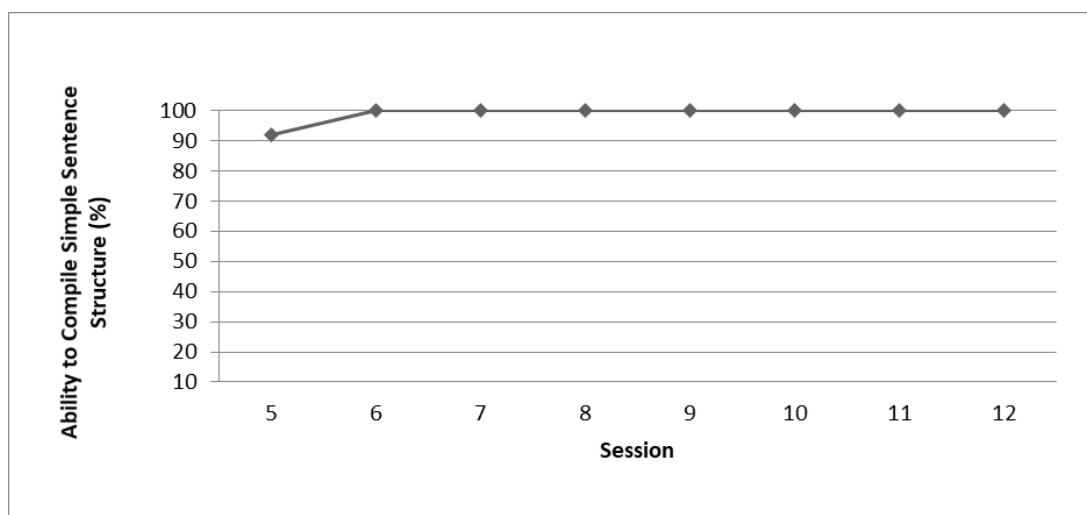
### 3.2. Intervention (B) Results

After measuring baseline-1 (A-1), the next step is to intervene by treating the subject using the Scramble Game learning method which consists of a picture card that shows a word. This intervention was conducted in eight sessions. Furthermore, the data that has been obtained in the form of the final score of the student's ability is the percentage (%) based on formula 1. **Table 3** shows the results in the intervention conditions. **Figure 2** shows the visualization of the data in **Table 3**.

Data on intervention (B) from **Table 2** and **Figure 2** were obtained based on the results of using the Scramble Game method on picture word cards on the ability to compose simple sentences on the subject, the average result at the intervention stage (B) was 99.06% or an increase of 33.56 %. The graph above can be seen that the highest final score of the subject is 100% and the lowest final score is 92.5%. In this phase, it can be seen that there is an increase and there is continuous stability in the ability to compose simple sentences.

**Table 3.** Student condition on intervention phase (B) on the indicator of ability to compose simple sentence structure (SPOA).

No.	Target Behavior	Session	Maximum Score	Final Score	Percentage (%)
1	Ability to Compile Simple Sentence Structure	5	80	74	92.5
2		6	80	80	100
3		7	80	80	100
4		8	80	80	100
5		9	80	80	100
6		10	80	80	100
7		11	80	80	100
8		12	80	80	100
		<b>Average</b>			<b>99.06</b>



**Figure 2.** Student condition on intervention phase (B) on the indicator of ability to compose simple sentence structure (SPOA).

### 3.3. Baseline-2 (A-2) results

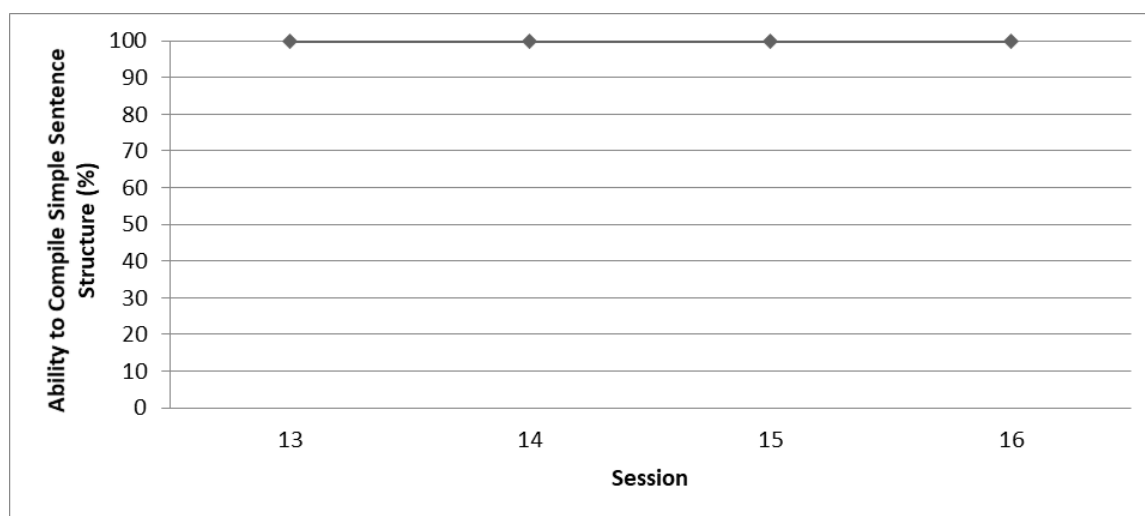
The last stage in data collection is measuring the ability to compose simple sentences after being given treatment or intervention. The baseline-2 (A-2) phase was carried out to see the functional relationship between the independent variable and the dependent variable. Data collection in the baseline-2 (A-2) phase was carried out in four sessions and can be seen in **Table 4**. **Figure 3** shows the visualization of the data in **Table 3**.

Based on **Table 4** and **Figure 3**, which is the acquisition of data in the baseline-2 (A-2) phase, it shows that the consistency from session 13 to session 16 is 100%. The results from baseline-2 (A-2) showed an increase in the ability to compose simple sentence structures compared to the baseline-1 (A-1) phase in the subject.

**Table 5** shows the overall ability development data in the learning objectives of the preparation of simple sentence structures in students with hearing impairment. **Figure 4** is a visualization of the recapitulation data of the ability to compose simple sentence structures between baseline-1 (A-1), intervention (B), and baseline-2 (A-2) on the development of the ability to compose simple sentences and structures in students with hearing impairment. Based on **Figure 4**, the graph recapitulation of the development of the ability to compose simple sentence structures on the subject shows an increase from baseline-1 (A-1) to intervention (B), and from baseline-1 (A-1) to baseline-2 (A-2).

**Table 4.** Student condition on baseline-2 (A-2) on the indicator of ability to compose simple sentence structure (SPOA).

No.	Target Behavior	Session	Maximum Score	Final Score	Percentage (%)
1	Ability to Compile Simple Sentence Structure	13	80	80	100
2		14	80	80	100
3		15	80	80	100
4		16	80	80	100
<b>Average</b>					<b>100</b>



**Figure 3.** Student condition on baseline-2 (A-2) on the indicator of ability to compose simple sentence structure (SPOA).







Based on the research results that have been described previously, condition analysis is needed. Condition analysis is an analysis of changes in data in a good condition at baseline-1 (A-1), intervention (B), and baseline-2 (A-2). The components that include it are the length of the condition, the trend of direction, the tendency of stability, the level of change, the data-trace, and the range. **Table 5** summarizes the condition analysis data.

Condition length is the amount of data in one condition (number of sessions performed in one condition). In this study, there are three phases, namely baseline-1 phase (A-1), intervention phase (B), and baseline-2 phase (A-2). Based on **Table 5**, it can be seen that at baseline-1 (A-1) the study was conducted four times continuously. After researching the baseline-1 phase and the data in the baseline-1 phase is stable, the research phase is continued in the intervention phase (B) for eight meetings. The last stage is data collection in the baseline-2 phase four times. A directional trend is performed to show the change in data from session to session. Determination of the direction of the trend in this study using the split-middle method. The directional trend shown in each condition has some type such as ascending, descending, and horizontally. The directional trend in each condition baseline-1 (A-1), intervention (B), and baseline-2 (A-2) can be seen in **Figure 4**. Based on **Figure 4**, it is known that in the baseline-1 (A-1), intervention (B), baseline-2 (A-2) phases the trend is ascending type that can be illustrated in **Figure 4**. **Figure 4** depicts the data at baseline-1 (A-1) decreasing in its direction from session one to session four where in the first session a score of 60% was obtained and in session four it was 65%. In the intervention condition (B) the trend is upward from the first session to the last session. It was seen that the condition of the subject improved from the baseline-1 phase (A-1). In the early intervention phase (B), the subject got a score of 92.5%. At the end of the intervention session (B), the subject got a score of 100%. Meanwhile, in the last phase of baseline-2 (A-2), there was a horizontal trend seen from the subject getting an initial and final score or session 16 of 100%. Calculating the tendency of students' ability stability in conditions of baseline-1 (A-1), intervention (B), and baseline-2 (A-2) using the 15% stability criterion. According to Sunanto (2014: 80) explaining that the percentage of stability of 80%-90% is said to be stable, while below that it is said to be unstable (variable). Based on **Table 5**, stability tendency for baseline-1 (A-1), intervention (B), and baseline-2 (A-2) are 100% that means the tendency of ability stability in each stage is stable. Data trace analysis aims to determine the trend of trace data, namely to show changes from one data to another (ascending, descending, and horizontally) in a condition. This is the same as before in determining the direction that has been done before. **Table 5** is the trend of the data in this study. Determining the level of stability is the same as calculating the trend of stability, and to determine the range is done by entering the lowest data and highest data in each phase, **Table 5** shows stability level and range. Based on **Table 5**, the level of change in the baseline-1 (A-1), intervention (B), baseline-2 (A-2) phase increases this is in accordance with the intervention objectives.

Based on the results of the analysis and seeing the line changes in the design of A-B-A' stages, that the Scrabble Game is an effective method in learning to compile simple sentence structures for the student with hearing impairment (Khaira et al., 2021). Students with hearing impairment need to get language learning as effective as possible due to obstacles and not yet optimal expressive abilities. In addition, the student with hearing impairment has difficulty expressing language in daily activities and learning activities that require good receptive and expressive abilities (Dostal & Wolbers, 2014).



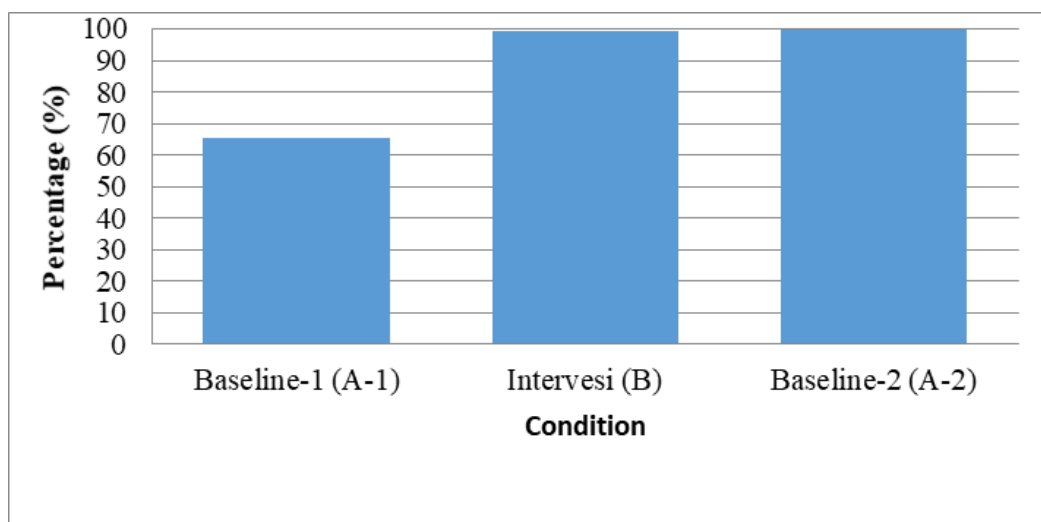
**Table 5.** Summary of data condition analysis

Condition Behavior	Baseline-1 (A-1)	Intervention (B)	Baseline-2 (A-2)
Length of the condition	4	8	4
Directional trend	 (+)	 (+)	 (=)
Stability Tendency	100% (Stable)	100% (Stable)	100% (Stable)
Data Trace Estimation	 (+)	 (+)	 (=)
Level Stability and Range	60%-72.5% (stable)	92.5%-100% (Stable)	100%-100% (Stable)
Level of Change	72.5% - 60% (+12.5%)	100% - 92.5% (+7.5%)	100%-100% (+0%)

Students with hearing impairment still often compose simple sentences in reverse, thus they need to be handled as early as possible. One of them is supported by the application of Scrabble Games with picture word card games to help improve children's ability to compose simple good and correct sentence structures. There are several factors behind the success of this research, one of which is the learning media that is adapted to the needs and conditions of the child and the motivation of the child when participating in the learning process (Öztürk & Kalyoncu, 2018). As is the case with pictorial word cards that contain activities in the environment that are often encountered and encountered by children as visual aids for deaf children to be able to acquire language properly and intact.

Based on the data processing and data analysis that has been described previously, it shows that the application of the learning method with the scrabble game in improving the ability to compile simple sentence structures in students with hearing impairment gives positive results in increasing students' expressive abilities in the preparation of simple sentence structures. This is due to several supporting factors including the readiness of children when learning, learning media, and the feelings experienced by children when learning, and the support from their environment (Sugiata, 2019). There is an increase in each session because of the experience the child gained during the previous learning session. **Figure 5** shows the results of the study that there has been an increase in the mean level after learning is carried out using the scrabble game method.

Based on **Figure 5**, there was an increase in students' abilities where the average level in the baseline-1 condition (A-1) was 65.6%, increased in the intervention condition (B) with a mean level of 99.1%, and increased again in the baseline-2 condition (A-2) with the indicated average level of 100%. The increase in mean shows an increase in the intervention condition (B) significantly, namely with an increase in the average level of 33.5% from the baseline-1 condition (A-1) where the average level is 65.6% to 99.1%. The increase in the mean level is 0.9% from the intervention condition (B) where the mean level is 99.1% to 100% in the baseline-2 condition (A-2). There is no overlapping of data in the research data under conditions of baseline-1 (A-1), intervention (B), and baseline-2 (A-2) by 0%. Therefore, it means that the effect of the intervention can be trusted.



**Figure 5.** Mean level results from baseline-1 (A-1), intervention (B), and baseline-2 (A-2) conditions.

The use of the Scrabble Game method with pictorial word cards design is very helpful in improving the ability to compile simple sentence structures in students with hearing impairment. [Khaira et al., \(2021\)](#) explain that Scramble Game is one of the learning methods that can increase students' concentration and speed of thinking. This method requires students to combine the right brain and left brain. In this method, they are not only asked to answer questions but also to guess quickly the answers to questions that are already available but are still in random conditions. For this reason, the scramble game method is very helpful in the learning process for a student with hearing impairment in receiving learning thus they do not get bored easily and provide an increase in the ability to compile simple sentence structures of subject-predicate (SP), subject-predicate-object (SPO), and subject-predicate-object-adverb (SPOA) for students with hearing impairment.

Scramble Game includes visual media and can facilitate understanding in learning because it provokes enthusiasm and student activity. In line with the opinion that visual-based media plays a very important role in the learning process. Visual media can facilitate the understanding of memory. Visuals can also foster student interest and can provide a relationship between the content of the lesson material and the real world ([Voinov, 2010](#)). Therefore, in this study, the ability to compose simple sentence structures with the Scrabble Game can improve the ability to compose simple sentences for students with hearing impairment.

#### 4. CONCLUSION

Based on the results of the research and overall discussion, it is known that the application of the scrabble game in improving the ability to compose simple sentence structures in students with hearing impairment has proven to have a positive impact. Through the scrabble game method, the students with the hearing impairment became more aware of learning how to compose simple sentence structures with SP, SPO, and SPOK. Therefore, this scrabble game method can be used as a reference in improving the ability of the desired target behavior.

## 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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