



## Using Mnemonics to Improve Intellectually Disabled Students' Behavior

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### Introduction

Teaching English for students with special needs, especially those who have an intellectual disability is a challenge for teachers. This condition relates not only because they are English as a foreign language or second language students but also because intellectually disabled students have specific characteristics that may become obstacles during the teaching-learning process. Intellectually disabled students tend to have a lack of motivation, low memory ability, are passive, easily distracted, and have problems in language development (Shree & Shukla, 2016).

This challenge is also faced by the English teacher at the State Special School (SLB N) Purwosari Kudus, Central Java Province, Indonesia. She explained that one of the problems when teaching English to students with intellectual disabilities is the attitudes and behavior of the students. According to her, most of the students have less motivation, are passive and unmotivated in joining the English class. Passivity and reticence on the part of students in second or foreign language classrooms are interpreted as a barrier for language learning practice (Chang, 2013). The students also do not try to get involved during the teaching-learning-process. When the teacher asks the students to come forward to do exercises on the whiteboard, usually none of the students come. Some students also tend to move around the class disturbing their friends. It is in line with what has been stated by Bradley et al. (2006) that students with disabilities usually have bad attitudes toward learning and they need to be handled with care. Moreover, they are more likely to develop negative attitudes toward learning and behavior misconduct in the classroom (McCaskey, 2015). One of the reasons why the students are reluctant to do exercises on the whiteboard and exhibit other negative behavior might be because the students do not understand what they should do. Besides, it might also be because of the teacher's teaching technique. The teacher used conventional techniques when teaching English vocabulary to the students. For example, the teacher just writes the vocabulary on the whiteboard, explains the vocabulary, and asks the students to do exercises.

Another problem that appeared in the English class at the State Special School (SLB N) Purwosari Kudus is related to memory matter. More specifically, the students have difficulties in remembering what



they have learned. As mentioned by Shree and Shukla (2016) the learning and memory capabilities of people with intellectual disabilities are significantly below average in comparison to peers without disabilities. Moreover, people with intellectual disabilities develop learning sets at a slower pace than peers without disabilities, and they are deficient in relating information to new situations (Beirne-Smith et al., 2006).

Because of the students' negative attitudes and behavior in studying English and their difficulties in remembering what they have learned, an appropriate strategy to improve attention and to increase meaningful learning especially in learning vocabulary should be implemented. Employing effective vocabulary instruction is fundamental to ensure learners to retain new vocabulary knowledge (Kamalian et al., 2017). According to Schmitt and McCarthy (as cited in Wang, 2009), a number of types of strategies for learning vocabulary have been identified, one of them is using certain mnemonics. Mnemonics are defined as systematic procedures for intensification of memory (Jurowsk et al., 2015). Moreover, the idea of mnemonics is an application in developing better ways to take in (encode) information so that it is much easier to remember (retrieve) it.

Many studies on the use of mnemonic strategies have been conducted by researchers either for teaching science, social subjects, or in language learning. Mnemonic strategies have also been proven to be extremely effective in helping people to remember things (Mastropieri & Scruggs, 1998). Moreover, it has also been shown from past studies that mnemonic devices have a positive effect on the application of learning English vocabulary not only for regular students but also for students with a disability. A study conducted by Benge and Robbin (2009) found that the keyword method can be considered as a further vocabulary instruction to develop secondary students' vocabulary because of the effectiveness of the method. Saricoban and Basibek (2012) who compared the role of mnemonic strategy and context method on vocabulary retention found that the group instructed by mnemonic strategy was more successful than the group instructed through the context technique. Another study was done by Phillips (2016). In her research, she found that visual strategies (word pairing and semantic mapping strategies) helped regular participants to learn vocabulary. Finally, Mnemonic vocabulary instruction is claimed to increase students' engagement and motivation toward vocabulary learning (Fazih et al., 2018).

Mnemonic instruction has also been proven to be a research-based method for teaching students with different kinds of disabilities (Lubin & Polloway, 2016). Dakhiel and Al Rub (2017) studied the use of picture letter mnemonic strategy for learning similar English language letters among 90 students with learning disabilities in Saudi Arabia. The results of their study revealed that there was a significant difference attributed to both the modified and abstract letters method. However, there was no statistically significant difference due to gender or interaction between the teaching method and gender. Mnemonic devices were also found to increase the vocabulary acquisition and retention of high school students with learning disabilities (Whitescarver, 2018). Moreover, the students also showed a satisfactory rating in the ease and enjoyment of using mnemonics.

Although many researchers have conducted research related to the use of mnemonics either for regular students or students with disabilities; however, research that investigates the intellectually disabled students' behavior in English class during the implementation of picture mnemonic has been rarely done. Besides, those previous studies mostly focused on the improvement of English achievement in the use of mnemonics. None of those previous studies paid attention to students' attitudes and behavior toward language learning. Therefore, we are interested in conducting a study entitled "Using Mnemonics to Improve Intellectually Disabled Students' Behavior".

## Literature Review

Mnemonic means "aiding the memory" (Higbee, 1979). It is derived from the Greek word *Mnemosyne*, referring to the ancient Greek goddess of memory. A mnemonic is also defined as any procedure designed to improve one's memory (Scruggs et al., 2010). Similarly, Bakken (2017) pointed out that

mnemonic strategies are systematic procedures for enhancing memory and making information more meaningful. Furthermore, he explained that mnemonic instruction is a way to help students with intellectual disabilities remember new information more effectively, efficiently, and easily.

## **Mnemonic Classification**

Different scholars classified mnemonic strategies differently. According to Baddeley (1999), mnemonics are classified into visual and verbal strategies. Meanwhile, Thompson (1987) divided mnemonic strategies into five classes: linguistics, spatial, visual, physical response, and verbal methods. However, in this present study, the writers only focus on picture mnemonics as one of the types of visual mnemonic classification which makes use of pictures or visualizations to create an association with the target concept (e.g., symbolic, pictographic). Thompson (1987) states that when using picture mnemonics, the target words are associated (paired) with pictures instead of the words with their definition or translation. Pairing pictures with words in L2 results in better recall than pairing them with their L1 equivalents. Moreover, Giarns and Redman (1986) believed that objects and pictures can facilitate recall.

## **Benefits of Mnemonic Strategies**

Mnemonic strategies were effective in teaching with special needs in a number of research studies (Scruggs & Mastropieri, 2000). Mnemonic strategies also promote learning for several reasons. Wang and Kelly (2013) state that those strategies differ in their complexity, but they have certain features in common. First, they require the learner to create a link between what she/he already knows and the new item. Moreover, they mention that this is the basic principle of all learning and it is the depth of processing and the number of links that can be established with what one already knows that ensure the new information is securely lodged in long-term memory. Similarly, Nemati (2010) explains that according to a depth of processing theory, how well information is remembered is not a function of how long a person is exposed to that information but instead depends on the nature of the cognitive processes that are employed to process that information. Secondly, Wang and Kelly (2013) explain that there is evidence that when there is dual-modality input, for example, there is a focus on the visual written form of a word plus its aural form, retention of both forms lasts longer.

## **Research Methodology**

### **Design of the Research**

This research used a descriptive qualitative method that described the behavior of students with an intellectual disability before and after the implementation of picture mnemonics in English class. This research was conducted at the State Special School (SLB N) Purwosari which is located at Jl. Ganesha II No. 32 Purwosari, Kudus, Central Java Province, Indonesia. The reason for choosing SLBN Purwosari is because the school is provided for students with disabilities from elementary school until senior high school students. The total number of students is 184, 96 boys, and 88 girls. The State Special School (SLB N) Purwosari Kudus classifies its students based on their disabilities; they are (A class/visual impairment, B class/hearing impairment, C class/intellectual disability, D class/orthopedically handicapped, E class/Social impairment, F class/autism and G class/multiple disabilities).

The participants of this study were thirteen eighth grade secondary intellectually disabled students aged 15 to 18 years old studying English at the State Secondary Special School (SLB N) C Purwosari Kudus.

## Data Collection

The data collection technique used in this research was an observation. The writers used the observation guideline (checklist) as the instrument to get the data about the behavior of the students. The behavior of the students observed focused on four aspects: students' motivation and enthusiasm, students' attention, students' involvement, and students' activeness in English class before and after the implementation of picture mnemonic. The topic that was taught during the observation was vocabulary related to fruits. In the implementation of picture mnemonics, several steps were done by the teacher such as presenting the vocabulary (fruit names), associating the vocabulary with pictures instead of pairing them with their definition or translation, and retrieving the vocabulary that had been discussed. In this case, the teacher used pictures of fruits 15 cm x 23 cm in size.

## Data Analysis

The collected data were analyzed through the following steps. First, the writers identified the behavior of each student which occurred during the teaching-learning process before and after the implementation of picture mnemonics as follows:

TABLE 1

*The Example of Observation Result of Intellectually Disabled Students' Behavior Before and After the Implementation of Picture Mnemonics in English Class*

No.	Name	<i>The behavior of the students</i>			
		A	B	C	D
1.	Student 1	V	V	-	-
2.	Student 2	V	V	V	V
3.	Student 3	V	V	V	V

*Note: A. Motivation and Enthusiasm, B. Paying attention, C. Involvement, D. Activeness in doing exercises*

The number of each behavior that occurred during the observation was then calculated. After that, determining the percentage of the number of each behavior was done by the writers. Next, the writers interpreted the percentage score with the interval criteria. Finally, the writers concluded the results. The interval criteria are as follows:

TABLE 2

*Interval Criteria of the Intellectually Disabled Students' Behavior*

<i>Score</i>	<i>Criteria</i>
36% - 51.99%	Bad
52% - 67.99%	Fair
68% - 83.99%	Good
84% - 100%	Very Good

## Findings and Discussion

Based on the results of data analysis, the intellectually disabled students' behavior in studying English before and after the implementation of picture mnemonics can be seen in the Table 3.

TABLE 3

The Intellectually Disabled Students' Behavior in Studying English Before and After the Implementation of Picture Mnemonics

No.	Students' Behavior	Before the implementation of Picture Mnemonics	Criteria	After the Implementation of Picture Mnemonics	Criteria
1.	Students' motivation and enthusiasm	38%	Bad	92%	Very Good
2.	Students' attention	53%	Fair	92%	Very good
3.	Students' involvement	62%	Fair	85%	Very Good
4.	Students' activeness	38%	Bad	77%	Good
	Average Score	47.75%	Bad	86.5%	Very good

Table 3 shows that before the implementation of picture mnemonic the average score of students' behavior was 47.75% which was categorized as bad. Moreover, it also displays in detail that the students' behavior in terms of students' motivation and enthusiasm, students' attention, students' involvement, and students' activeness were: 38% (bad), 53% (fair), 62 (fair), and 38% (bad).

After the implementation of the picture mnemonic, the average score of students' behavior was 86.5% which was categorized as very good. There was also an improvement in each aspect of the students' behavior. The students' behavior in terms of students' motivation and enthusiasm, students' attention, students' involvement, and students' activeness were: 92% (very good), 92% (very good), 85% (very good), and 77% (good).

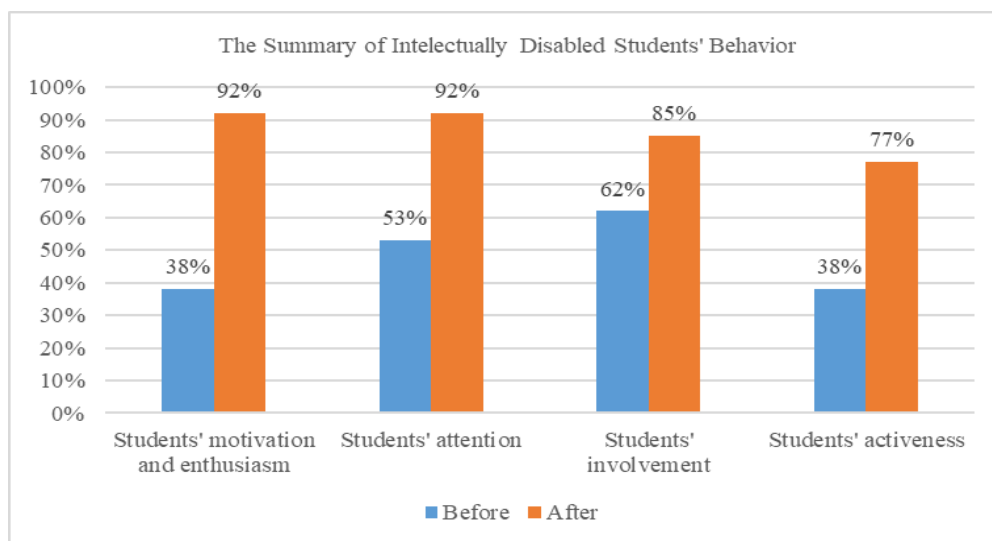


Figure 1. The intellectually disabled students' behavior in studying English before and after the implementation of picture mnemonic.

### The Intellectually Disabled Students' Behaviour in Studying English Before the Implementation of Picture Mnemonics

As stated previously, before the implementation of picture mnemonics, the students' behavior in terms of their motivation and enthusiasm was categorized as bad with a score of 38%. There were only 5 students motivated and enthusiastic about joining the English class. The other students seemed to be lazy, not interested as demonstrated by them putting their heads on the tables or chatting with their friends.

In connection with the students' attention aspect, it was categorized as fair. More than half of the students did not pay attention while the teacher was delivering the material. It seemed that they felt bored in the class. Two students were moving around the class and disturbing their friends. They did not want to

sit down in their chairs. It was also found that the students were passive and did not want to get involved in the teaching-learning process. It can be seen when the teacher asked the students to come forward to do exercises, none of the students were willing to do. Students' passivity in studying English at the State Special School (SLB N) Purwosari Kudus maybe because before implementing picture mnemonic, the English teacher did not use any media. In the class, after the teacher greeted the students, she directly wrote the vocabulary on the whiteboard and asked the students to write them in their books. After that, she read the words and asked the students to repeat. Then, she asked the students to do exercises. When the teacher asked the students one by one to do exercises on the whiteboard, only five students were active and willing to come forward to do those exercises. The rest of the students remained passive.

Therefore, before the implementation of picture mnemonics, during the teaching-learning process, most of the students tended to show negative behavior such as being passive, unmotivated (lack of motivation or interest), and unenthusiastic. More than half of the students also did not pay attention to the teacher's explanation and did not try to get involved in the learning process. The results of this research are in line with what has been found by Bradley, Pauley, and Pauley (2006) who found that students with disabilities usually have bad attitudes toward learning. Moreover, they are more likely to develop negative attitudes toward learning and behavior misconduct in the classroom (McCaskey, 2015). Some students with intellectual disabilities also exhibit an apparent lack of interest in learning or problem-solving tasks (Glidden & Switzky, 2006 in Heward, 2013).

### **The Intellectually Disabled Students' Behavior in Studying English After the Implementation of Picture Mnemonics**

The findings of this research showed that after the implementation of picture mnemonics, there was an improvement in each aspect of the students' behavior. Both the students' motivation and enthusiasm levels and students' attention span got 92% and they were categorized as very good. Most of the students were also involved during the teaching-learning process. It can be seen from the score of the students' involvement which was 85% or very good. Finally, the improvement was also seen in the students' activeness in doing exercises on the whiteboard. In fact, there were ten students coming forward to do exercises on the whiteboard.

The improvement of the students' behavior score may be due to several reasons. One of them was because the use of picture mnemonics made the intellectually disabled students interested and motivated to learn. The pictures which were 15 cm x 23 cm in size and colorful also attracted the students' attention and made them feel enjoyment in joining the class. When giving exercises to the students, the teacher also used pictures to associate with the target vocabulary. The teacher put some target vocabulary on the whiteboard and asked the students to associate that vocabulary with the pictures that had been prepared. By using this strategy, most of the students (10) were active in those exercises. It may be because students with a disability tend to be attracted by pictures in the teaching-learning process.

Based on the explanation above, after the implementation of picture mnemonics in English class, most of the students showed positive behavior. Most were motivated and enthusiastic, attentive to the teacher's explanation, and trying to be involved and active in doing exercises asked by the teacher. These findings support what has been found by Kayaalti (2018) that the mnemonic technique also motivates future learning as much as creating a joyful classroom environment and attracting the motivation and interest of the students (Amiryousefi & Ketabi 2011).

### **Conclusion**

The conclusion which the researchers can draw is after the implementation of picture mnemonics the students' behavior is better than their behavior before the implementation of picture mnemonics. It can be seen from the improvement of the score of students' behavior after the implementation of the picture

mnemonics. It can also be concluded that before the implementation of picture mnemonics, most of the students tended to show negative behavior such as being passive, unmotivated, and unenthusiastic. More than half of the students also did not pay attention to the teacher's explanation and did not try to get involved in the learning process. Meanwhile, after the implementation of picture mnemonics, many students showed positive behavior. Most of them were motivated and enthusiastic, attentive to the teacher's explanation, and were involved and active in doing exercises set by the teacher. Considering that the picture mnemonics strategy has many benefits for students with intellectual disability and can increase the students' motivation, attention, involvement, and activeness, it is suggested that this strategy should be used by the teacher when teaching English, especially related to vocabulary.

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