

## The Effect Of Puzzle Game For Early Literacy Achievement of Underachiever Students

Ketut Susiani<sup>1\*)</sup>, Ketut Herya Dharma Utami<sup>2</sup>

<sup>1</sup>Elementary School Teacher Education Department, Universitas Pendidikan Ganesha, Singaraja, Indonesia, <sup>2</sup>English Education Department, Universitas Pendidikan Ganesha, Singaraja, Indonesia

\*Corresponding author, e-mail:ketut.susiani@undiksha.ac.id

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**Abstract:** Early literacy skills are the capacity to name letters and write them down, spell simple words, recognize letters and signs around them, identify books from titles, and perform book-related activities. Early literacy consists of nine components, namely language, rules/provisions/habits, knowledge of letters, awareness of language elements, the suitability of phonemes, pretend reading, pretend writing, notation, and cognitive skills. However, mentally retarded children only emphasize the recognition of vowels as the basis of initial literacy. This study aims at determine the effect of game media *puzzle* to improve initial literacy skills through vowel recognition for mild second-grade mentally retarded students. This study uses a case study. The sampling technique that will be used by researchers is to use quantitative and qualitative analysis techniques. Quantitative analysis with simple statistics is used in the survey results to see students' understanding of learning vowels. Qualitative analysis techniques are used in the results of interview data, focus group discussions, observation and documentation. The number of samples used was 3 students from 6 class II students. The research instrument was in the form of observations and interviews. The results of the observation indicate that the average value before being given treatment is 6.0 and the value after being given media treatment is 8.7. Thus it can be predicted the application of game media *puzzle* effective to improve initial literacy skills through vowel recognition for mild second-grade mentally retarded students.

**Keywords:** mental retardation; vocal letters; games puzzle; literacy; special need students

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## Introduction

Education has a very important role for the development and realization of the individual, especially for the development of the nation and state. The progress of a country is closely related to the quality of education. The essence of education is basically to humanize humans, in the form of developing the potential of students to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state. Basically, everyone has different talents and abilities, so that the government through schools is obliged to provide access to all children with their various specialties (Krishnaratne, & White, 2013; Power, 2014).

One of the problems that teachers may not have handled properly is the problem of children who are underachievers (Synder, et al., 2019). This term may be unfamiliar to most of society, including for teachers who have to deal with children with very varied characters. An underachiever is a student who demonstrates superior ability for academic achievement but is unable to perform satisfactorily based on the results of academic assignments and daily performance tests (Karaduman, 2013).

In the education system in Indonesia, children with underachiever conditions can attend special schools, known as Special Need Schools. At this school, children receive more exclusive educational services, in one class there are only a maximum of 10 children with Supervisors / tutors for special teachers and fellow students who are underachiever though with various levels. There are several levels of students with underachievers (Barata, et al., 2015), that is, mild underachievers is a mental retardation who can be trained because they have an IQ of 50-5 to 70. Based on the Binet test, her IQ is 68-52, while with the Wechsler Intelligence Scale For Children (WISC) test, her IQ ability is 69-55. Children with mild mental retardation can still be optimized in taking care of themselves and can learn simple academics. Learning needs for mentally retarded children in carrying out their learning are reading and recognizing some objects or animals around their place of residence.

Literacy skills are a fundamental aspect of education. Reading is also an important activity in life because every aspect of life involves reading. Reading is to understand the information presented visually and interpret and apply the information. Before carrying out reading activities, you must have initial literacy skills. Early literacy skills are knowledge, attitudes and skills that determine the development of better literacy behaviors (Mullis, et al., 2012).

The development of early literacy skills can be indicated by recognizing symbols or letter names by children. Knowledge of letters not only recognizes the letters AZ but can be emphasized again on how to pronounce vowels, recognize, and be able to write the form of these vowels, so that knowledge of vowels becomes the basis for implementing early literacy for mild mentally retarded children (Au, 2011). Vowels are speech sounds that occur because of the air that comes out of the lungs smoothly without any obstacles. These vowels are also called vowels or sound letters. The letters that include vowels are: [a], [i], [u], [e] and [o].

In preschool children, early literacy skills are the capacity to name letters and write them down, spell simple words, recognize letters and signs around them, identify books from titles and perform book-related activities. However, in underachiever children this ability is difficult to develop in children (Damber, 2012). Based on the results of research conducted by Juwadi (2013) in his journal entitled "Application of Puzzle Game Media to Improve Mathematics Learning Outcomes in Class I Mild mentally retarded children at SLB / C TPA JEMBER" that the puzzle media game is very good for mentally retarded children because it can provide children's freedom to be creative while remembering the symbols and pictures in the puzzle.

Based on the results of interviews with underachiever children special guidance teachers, it was found that mild mentally retarded children in grade II get bored quickly in learning, lack concentration, often wander around and require repetition of material and considerable time Students show a lack of

concern for the material that should be understood, difficult to decide in the face of lessons difficult to understand, easily feel bored so they are reluctant to take part in learning, find it difficult to focus on the lesson especially if the material is not interesting and the explanation is rambling, lacking pay attention to the teacher's explanation, play with his chair while the teacher explains, and are less motivated, behave indifferently, feel tired quickly, do not concentrate on following lessons, are sleepy when attending lessons, and have difficulty remembering the lessons given by the teacher. These students do not know the vowels properly and correctly, they are still confused about the shape of vowels and animals that start with vowels. We often give the mentally retarded children at school games, but they are less effective because the media used is limited so that many children feel bored. Based on the results of observations, when the child was asked about vowels, only one person could answer the vowels and only mentioned one vowel, namely "a" and the others were silent. However, when the teacher pronounces vowels, students can pronounce it but not correctly. Their gaze wandered, as if they were remembering something, but failed. They need better learning methods accompanied by the help of media that can attract their focus and engagement in learning.

The letter puzzle media is a simple media that is played by assembling pairs, which are played on a tray or frame (a place to play puzzle pieces in the form of letters) placed on the table (Linehan, 2014). Through learning with puzzle media, students can be actively involved in the learning process. Students carry out play activities while learning, with these activities students will remember the material being studied more and impact improving learning outcomes. Using reduced puzzle media helps in learning because it is economically affordable, they can also play it while learning. The word puzzle comes from English which means puzzles or pairs of puzzles, puzzle media is a simple medium that is played by assembling pairs. Puzzle media as a playing medium that can be played on a tray or frame (a place to play puzzle pieces) placed on the table.

There are several forms of puzzles, one of which is a floor puzzle made of sponge (rubber / foam), so it is good for children to play with compared to having to play on tiles. The puzzle has a very attractive design and there are many brilliant color choices available. It can also stimulate creativity and train children's thinking skills. This study wanted to find out whether the use of puzzle media in early literacy lessons could improve the students' ability to recognize letters.

## Method

This experimental research used a one group pretest posttest design. This experimental study only involved one group that was given treatment, and the impact was measured. Quantitative and qualitative analysis techniques are used to interpret the data got. We used quantitative analysis with simple statistics in the survey results to see students' understanding of vowel learning.

The subjects in this study were six students with mild mental retardation in SLB Negeri 2 Buleleng (all male), they were students who had intellectual abilities below average (mild mental retardation). For this group of students, it applies literacy learning activities with the help of letter puzzle media. They show examples of puzzle media used in Figure 1.



Figure 1. Letter Puzzle Media.

We carried research data collection out through observation when students were studying in class with the permission of the class II homeroom teacher to join the class during class hours. This observation activity determines student learning behavior. The results of the observation were continued by interviewing to get more accurate data, the researchers also made instruments before and after the treatment was given by observing the initial conditions thoroughly starting from learning styles, learning habits, intellectual abilities, and learning outcomes to understanding vowels. We use qualitative analysis techniques for the results of interview data, focus group discussions, observation and documentation.

## Results and Discussion

From the results of the initial instrument, 6 students who did not understand vowels with intellectual abilities were below average (mild mental retardation), namely the initials WI, AG, AD, DA, KV, and RD. These students have a poor ability to recognize, show and pronounce vowels. They also show behavior that is not concentrated in following lessons, feels overwhelmed when asked to name vowels, is easily distracted by things that invite them to play, and has difficulty remembering the lessons that have been given. The students' initial abilities before participating in learning are shown in table 1.

Tabel 1. Baseline of early literacy achievement

No	Code	Indicators of Achievement									Total
		Saying vowels			Show Vowels			Pronounce vowels			
		1	2	3	1	2	3	1	2	3	
1	WI		v			v			v		6
2	AG		v			v			v		6
3	AD		v			v			v		6
4	DA	v				v		v			4
5	KV	v				v			v		5
6	RD		v			v			v		6
Average											5,5

Table 1 above shows that the 6 students involved in this study all showed sub-optimal abilities in the three indicators of initial literacy abilities. Even DA can only show a few vowels. Meanwhile, their abilities after participating in learning to use puzzle media are shown in table 2. Table 2 shows that after participating in literacy learning to use puzzle media, students' abilities increased. Even AG, AD, and RD achieve optimal capabilities on all indicators. The results above show that there is an increase in the average initial score and the last score, is from 5.5 to 8.3. We show the increase in the ability of these students in initial literacy skills between before participating in learning and after participating in learning in Figure 2.

Tabel 2. Post test of early literacy achievement

No	Code	Indicators of Achievement									Code
		Saying vowels						Saying vowels			
		1	2	3	1	2	3	1	2	3	
1	WI			v			v		v		8
2	AG			v			v			v	9
3	AD			v			v			v	9
4	DA		v				v		v		7
5	KV			v			v		v		8
6	RD			v			v			v	9
Rata-rata											8,3

Based on these results, we can conclude it that the use of puzzle game media in early literacy learning has a positive effect on students' initial literacy skills with light underachiever. The results can support research results that have found the effectiveness puzzle games in learning activities, such as research results by Utami (2014) and also by Ratnawati, et al. (2013) which shows the effectiveness crossword puzzle media to improve vocabulary mastery. Few studies have examined the use of this puzzle media in underachiever children, but several studies have reported that underachiever children need concrete media that is fun and attracts attention in learning (Hishinuma, 1996; Holmes, & Tait-McCutcheon, 2009). So that the results are very important to be studied further by involving a wider subject and variable aspects of other aspects.

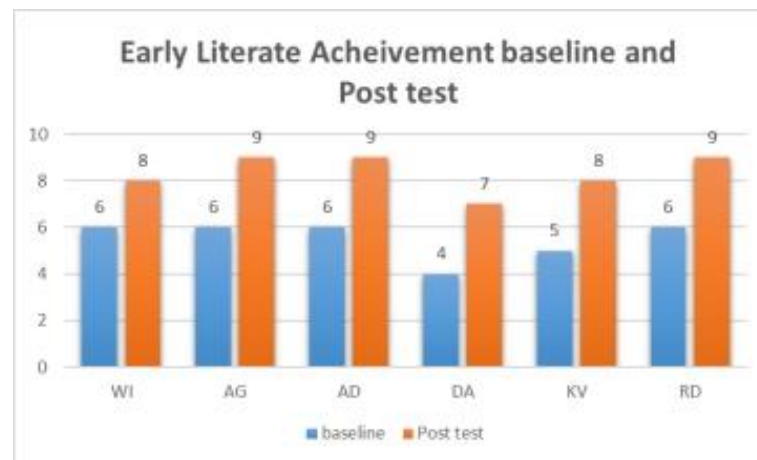


Figure 2. Baseline and posttest students achievement on early literacy

## Conclusion

The results show that the use of puzzle game media has a positive effect on increasing early literacy skills in the aspect of vowel recognition for children with mild mental retardation. The results become a reference for special teachers who handle underachiever students in early literacy learning. The results are also important for future researchers as a reference in conducting further research related to the development of early literacy skills through introducing vowels for students with special needs.

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Article Information (Supplementary)

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Word Count: