



The Indonesian Conference on
Disability Studies and Inclusive
Education

The 2nd ICODE Proceedings

—
3-4 December 2019

ISBN: 978-623-94189-0-8
ISSN: 2722-9556

THE USE OF FLASHCARDS TO IMPROVE COMMUNICATIONS ON USING PREPOSITIONS IN AUTISTIC CHILD

Lilik Sriyanti, Uli Fatwati

liliksriyanti@gmail.com, ulifatwati@gmail.com
IAIN Salatiga

Abstract

The purpose of this research is to test the use of flashcards as a learning media to improve autistic child's communication ability on using prepositions. The experimental approach was implemented as the research method accompanied by a single subject design (A-B-A-B model). Such a research design was applied to scrutinize the difference in communication skills in the baseline phase from the intervention phase. Further, data was collected by performing observation and performance tests. The locus of research itself was conducted at Talenta Kids Autism School, Salatiga. The results of the study showed the successful use of flashcards as a medium that was able to increase communication skills significantly toward the use of prepositions in an autistic child.

Keywords: Flashcards; communication skills; prepositions; autistic child

Abstrak

Tujuan penelitian ini adalah pengujian penggunaan media *flash card* sebagai sarana pembelajaran untuk meningkatkan kemampuan komunikasi menggunakan kata preposisi pada anak autisme. Metode penelitian yang dilakukan menggunakan pendekatan eksperimen dengan *single subject design* (model A-B-A-B). Rancangan penelitian ini digunakan untuk melihat perbedaan kemampuan komunikasi pada fase *baseline* dengan fase intervensi. Pengumpulan data dilakukan menggunakan observasi dan tes *performance*. Lokasi penelitian dilakukan di Sekolah Autisme Talenta Kids Salatiga. Hasil penelitian menunjukkan keberhasilan penggunaan media *flash card* sebagai perangkat yang mampu meningkatkan kemampuan secara signifikan terhadap komunikasi penggunaan kata preposisi di pada anak autisme.

Kata kunci: Media flashcard; kemampuan komunikasi; preposisi; anak autisme

A. Introduction

Autism is a disorder of complex neurodevelopmental processes characterized by stereotypical and repetitive behavior (Careaga, et al., 2017 p. 434). This causes a range of problems in terms of communication, language, cognitive, social and adaptive function, that in turn make them like "strange" humans who seem to live in their own world (Azwardi, 2005, p.7). Another characteristic of autistic children is having difficulty communicating with others (Tsiloni et.al., 2015, p. 1). Although they are different from normal children, autistic children have the same rights as regular children, therefore education is very important in efforts to develop the potential of autistic children.

Further, autistic children have difficulty in performing abstract thinking. In correlation to that, learning media is required to change abstract concepts into more concrete ones. Media acts as an effective intermediary in the delivery of information in which it works as a means of communication between teachers and students. It helps children understand the messages conveyed by the teacher because children are aided in concretizing information that is abstract (Mumpuni, 2018, p. 43).

According to Azwardi (2007, p.165), instructional media is needed by teachers who teach autistic children, because it will help smooth the learning process and help form concepts and understanding concretely for children with autism. In general, children with autism have a concrete mindset, so that learning facilities must also be concrete. Learning media acts as an effort to strengthen stimulation so that children are able to respond appropriately which ultimately improves the process and learning outcomes of autistic children. Glazzard states that images, as one of the learning media, can help the way of thinking of autistic people even with those of adults (Glazzard, et al. 2016, p.119).

One of the media that can help autistic children learn is flashcards. Due to their simple and attractive power, the use of flashcards, in general, will facilitate the process of receiving information. Asyad (2017, p.115) argues that flashcards are simple media that use small cards containing pictures, texts, or symbols that remind or guide children to something related to the pictures. The advantages of flashcards are practical, easy to remember, and enjoyable (Iswari, 2017, p. 122). In addition, they facilitate the process of receiving knowledge because they provide original images that are practical, interesting, and easily remembered (Satriana in Maslakah and Setyaningrum, 2017, p. 10). Meanwhile, Glovar (in Maslakah and Setyaningrum, 2017, p. 10) states that flashcards have been proposed as an easy way to teach children new special skills. This media can also be used in a game so that communication feels fun, i.e. children will be willing to imitate their caregivers and they will learn words quickly. Communication is first taught through imitation, without this foundation, communication lessons in children with autism will be far more difficult (Stanley I, Greenspan and Wieder, 2009, p. 145).

There are many spectrums of autism, one of which is Asperger syndrome; which is the focus of this study. It is a disorder of complex pervasive development, characterized by a permanent deterioration in the function of socialization, social interaction, communication, sensation, cognition, accompanied by repetitive behavior and limited interest (Behrman, in Anurogo, 2015, p. 106). People with Asperger syndrome cannot perform two-way communication nor communicate nonverbally with body language. Children with this disfunction often repeat the same words with bad articulation and without intonation so that they sound strange (Fadhli, 2010, p.29). These children are likely to have difficulty in understanding concepts, including concepts related to place, object position and others. The abstract concept, on the other hand, can be simplified and made more concrete with the help of the media. One of the visual media that can simplify abstract concepts to be more concrete is flashcards. The rationale behind the use of this media for autistic children is based on Freed and Person's arguments (in Ulumudin, 2019, p. 76) which mention that autistic children see words and hear language in the form of images in their mind. Therefore, visual media is needed as a means of communication.

The importance of using media as a means of communication for autistic children is evidenced by the results of the research of Benazir, Yunus, & Kasiyati (2013) which concluded that there was an increase in the ability to communicate in an autistic child after being

treated through the media of serial picture cards. Likewise, Puspitaningtyas & Pratiwi's research (2018) entitled "Mastery of Vocabulary in Autistic Child Using Visual Media (Pictures)", concluded that the use of visual media (pictures) could increase the vocabulary of the autistic child.

In communication, humans' mind not only makes sense the objects and events that they experience, but also interpret their origins and predicts them (Mead in Nuryani, Purwanti Hadisiwi, and Kismiyati El Karimah, 2016, p. 156). The interpretation would be more appropriate if assisted by visual media. Communication skills in this study are focused on the use of prepositions 'above' and 'below', as one part of the concept of the position of an object. Communication itself is defined as the process of transferring ideas, opinions from one person to another through symbols that are understood together (Boham, 2013, p.3). Pictures of tables, balls, cats, and shoes were used as a means to teach the concepts 'above' and 'below' via flashcards. This study examines whether flashcards are effective for improving the communication skills of a child with autism when using prepositions.

In connection to this study, similar research has been conducted: (1) Implementation of Flashcards in Improving the Mastery of Arabic Vocabulary, conducted by Miftakhul Falah Islami (2018), (2) Improvement of Basic Reading through Flashcards in Elementary School's Lower Grade Students, by Kumullah, Yulianto, and Ida (2019), and (3) Application of Flashcards to Improve Children's Language Development by Pradana and Gerhni (2019). The main thing that distinguishes this study from previous research is the use of flashcards as a learning tool for the child with autism. In previous research, the studies used qualitative descriptive and classroom action research, while this one is single-subject-type experimental research, with A-B-A-B design. One of the prominences of this study is that it performs repeated measurements to get expected results.

B. Methodology

Quantitative research in nature, this study was experimental research that applied the single-subject approach. The research design used was A-B-A-B. The study was conducted on an autistic child with Asperger syndrome studying at Talenta Kids Autism School in Salatiga.

The research design is shown in the following chart.

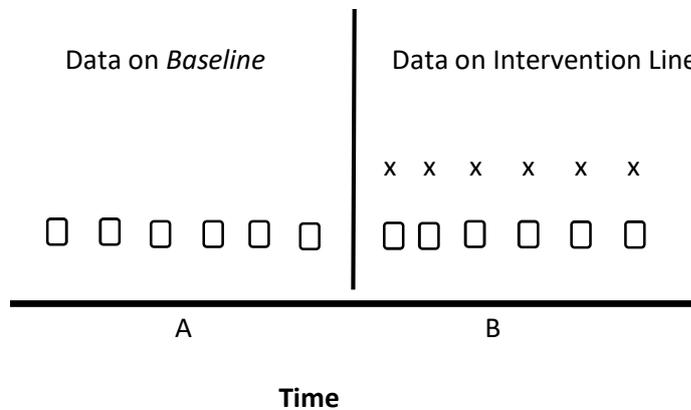


Chart 1
Experimental Design with single-subject A-B-A-B

Information:

A (*Baseline 1*):

An initial condition when the subject has not been intervened, namely communication skills before using flashcards

B (Intervention):

Condition of the subject's ability in communication skills during treatment. At this stage, subjects were treated using flashcards for 15 minutes at each meeting.

The schedule of research activities can be seen in the following table.

Table 1
Research Timeline and Activities

Time	Activities
Week I	The phase of <i>baseline 1</i> before intervention (3 times)
Week II, III, IV	Implementation of interventions (6 times)

Data collection techniques in this study were observation, interview, test, and documentation.

Further, data analysis in this experimental study with a single subject was analyzed using descriptive statistics, which are presented through graphs and tables so that changes in each phase can be seen, i.e. those in the *baseline* and intervention phase. The measurement criteria of the results are as follows.

- 4 = Respond with correct and clear answers
- 3 = Respond with correct answers, but articulation is still wrong
- 2 = Respond, however, the wrong answer
- 1 = no response

Guidelines for scoring success rates are carried out using the following formula.

$$O = A/B \times 100\%$$

O: Percentage of communication skills

A: Communication skills score obtained

B: Maximum number of possible scores of communications.

C. Result

1. Developing Flashcards

Flashcards were created through several stages. The first was composing the design and the content of flashcards, which was adjusted with the requirements of media creation i.e. supporting learning objectives, being able to explain concepts and facts, flexible, practical, and durable (Arsyad, 2017, p. 74). The next step was to test the content validity conducted by a media expert and a practitioner of special education for children with special needs and to test the validity of practicality carried out by an autistic-children teacher and a speech therapist. The final step was to test the use of flashcards for an autistic child. Based on these steps, the development of flashcards has undergone four revisions to get them ready to be applied.

2. Application of Flashcards for Autistic Child

The application of flashcards as a media in learning for an autistic child requires special preparation that was designed concerning the characteristics of children and the principles of learning for children with autism. Considering characteristics of autistic children i.e. they do not care about stimuli that come from other people (Azwandi, 2005, p.14), can be sensitive to external stimuli (Sriyanti 2014, p. 114), hence, a conducive space is required for learning activity. The learning space is designed by reducing too many stimuli (pictures) that may disrupt the concentration of children. The classroom used in this study consisted of only 1 table and 2 chairs for the teacher and the student, equipped with a cupboard where easy-to-use media is stored.

The next step was to ensure that the child was ready to take part in learning, could sit on the chair independently after which the application of learning using flashcards could be started. Their application themselves followed the principles of learning for autistic children, namely: 1) warmth based on sincere affection, to maintain long and consistent eye contact,

2) firm (non-negotiable for children), 3) non-violence and without anger/annoyance, 4) prompt (help, direction) firmly but gently, 5) appreciation for children with effective rewards, as motivation so that children are always excited (Handoyo, 2009, p.3).

In addition to these principles, the important thing that is applied in learning for autistic children is the type of teaching method. The main method used in learning for the child with autism was the ABA (Applied Behavior Analysis) method, which is a learning method for children with autism that requires adherence and eye contact as the main requirements, one on one (one teacher per child), following the cycle of Discrete Trial Training, which starts with instructions and ends with rewards (Putri, 2008, p.42). During learning activities, the teacher not only used flashcards as the media but also prepared other media as a reward when the child achieved learning success. During the application of flashcards, measurements were made carefully based on a predetermined scale, as Keenan (2015, p.170) explains that measurements in the ABA method focus on several aspects namely frequency, duration, and consistency of the response.

3. Communication Skills of the Autistic Child in the *Baseline* and Intervention Phases

The results of this study describe the effectiveness of the use of flashcards to improve communication skills in using prepositions on a child with autism at Talenta Kids Autism School, Salatiga. The findings from the *baseline* phase to the intervention phase are also presented. The *baseline* phase or pre-experimental condition is the condition of communication ability measured by the teacher. Measurements in the *baseline* phase were carried out by the teacher for three times, where the results are presented in Table 2. The intervention phase is the condition of communication ability measured by the teacher, researchers, and therapist.

Derived from the research implementation, the data in the table below obtained from the measurement of communication skills before and after the experiment using flashcards.

Table 2
The Results of Communication Skill Test
on Using Prepositions in Autistic Child

No	Aspect	Media of Picture	A (Baseline)			B Intervention (Treatment)					
1.	Can answer the question "what is this?" (In the picture)		1	2	2	2	3	2	3	4	4
2.	Can answer the question "where is the ball?" (In the picture)		1	1	1	2	2	3	3	3	4
3.	Can answer the question "what is this?" (In the picture)		1	2	2	3	4	3	3	4	4
4.	Can answer the question "where is the ball?" (In the picture)		1	1	2	2	3	3	3	3	4
5.	Can answer the question "what is this?" (In the picture)		1	2	2	2	3	2	3	4	4
6.	Can answer the question "where is the cat?" (In the picture)		1	1	1	2	2	3	3	3	4
7.	Can answer the question "what is this?" (In the picture)		1	1	1	2	3	2	4	3	4
8.	Can answer the question "where is the cat?" (In the picture)		1	1	1	2	3	2	3	3	3
9.	Can answer the question "what is this?" (In the picture)		1	2	1	2	2	3	4	3	4
10.	Can answer the question "where are the shoes" (in the picture)		1	1	1	2	2	3	3	3	3
	TOTAL		10	14	14	21	27	26	31	33	38

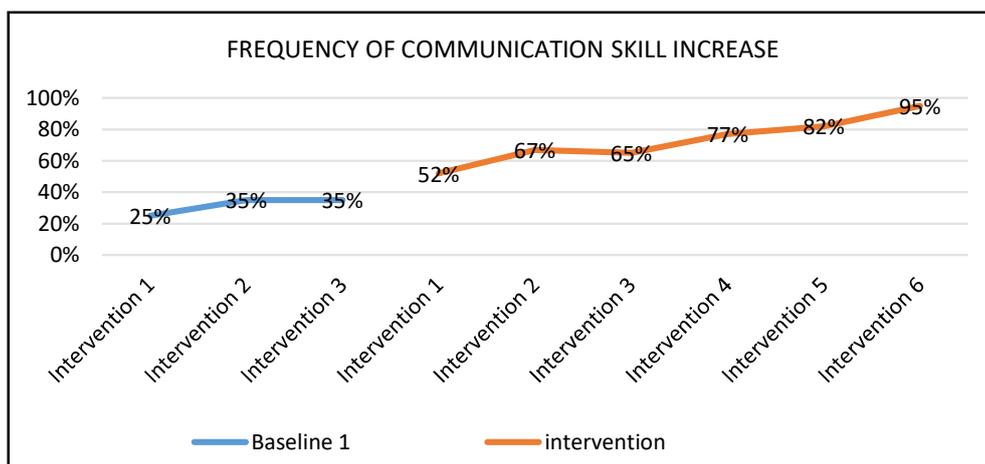
Based on the overall measurement results that have been presented above, the following table and graph are used to find out and clarify the developments that occurred from all the findings of this study, both in the *baseline* and intervention phases.

Table 3
Data Accumulation of Communication Skills of Applying Prepositions on the *Baseline* Phase in *Baseline* and Intervention

Target behavior	Percentage of Achievement								
Communication skills	<i>Baseline</i> (A) %			Intervention (B) %					
	25%	35%	35%	52%	67%	65%	77%	82%	95%

The above table is an accumulation of the percentage of the autistic child’s communication skills using prepositions in the *baseline* (A) phase: each phase showed success rates of 25%, 35%, and 35% at the end of the *baseline* phase. The intervention phase (B) after using flashcards as the learning media increased success rates, in which each phase showed a percentage of 52%, 67%, 65%, 77%, 82%, and 95% at the end of the intervention phase.

The frequency of communication skill increases in using prepositions in the child with autism in the *baseline* and intervention phases is shown in the following graph.



Graph 1
Frequency of Communication Skill Increase on Using Prepositions in the *Baseline* and Intervention Phase

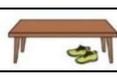
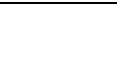
Based on the graph, it is seen that there was an increase in communication skills continuously from one phase to the next after using flashcards as the learning media. Except

in the third intervention phase, there was a decrease because the subject's condition was not fit.

4. The validity of Measurement Results

Validity is an effort to examine the accuracy of research results by applying certain procedures (Ni'matuzahroh and Prasetyaningrum, 2018: 117). The validity of the measurement results on the communication skills of the autistic child after using flashcards was done by another teacher and a speech therapist at different times and situations. This step was taken because the success of learning in children with autism is determined by formula 3x3, which is done by different people in different sessions (Sukinah, 2005, p. 134).

Table 4
Data on Measurement Results of Autistic Child's Communication Skills on Applying Prepositions through Flashcards by Another Teacher

No	Aspect	Media of picture	Stage I	Stage II	Stage III
1.	Can answer the question "what is this?" (In the picture)		4	4	4
2.	Can answer the question "where is the ball?" (In the picture)		4	4	4
3.	Can answer the question "what is this?" (In the picture)		4	4	4
4.	Can answer the question "where is the ball?" (In the picture)		2	3	3
5.	Can answer the question "what is this?" (In the picture)		4	4	4
6.	Can answer the question "where is the cat?" (In the picture)		4	4	4
7.	Can answer the question "what is this?" (In the picture)		4	4	4
8.	Can answer the question "where is the cat?" (In the picture)		4	3	4
9.	Can answer the question "what is this?" (In the picture)		4	4	4
10.	Can answer the question "where are the shoes" (in the picture)		3	3	3
	TOTAL		37	37	38

a. Data on Measurement Results by Another Teacher

The first validity is data on the results of the measurement of communication skills in learning using prepositions in the autistic child through flashcards, which was conducted by another teacher.

The table 4 is the results of measurements by another teacher to assess communication skills with the following criteria.

4 = Respond with correct and clear answers

3 = Respond with correct answers, but articulation is still wrong

2 = Respond, however, the wrong answer

1 = no response

After calculating the number of communication skills in applying prepositions of the child with autism at the validity stage conducted by another teacher, the number was changed in the form of a percentage. The following guidelines for scoring success rates at the validity stage by another teacher are presented below.

Guidelines for Scoring Success Rates

$$O = \frac{A}{B} \times 100\%$$

O: Percentage of communication skills

A: Communication skill score obtained

B: Maximum number of possible scores of communication skills

The following results are the percentage of autistic child's communication skills in learning Bahasa Indonesia subject with the material of prepositions through flashcards in the validity phase by another teacher.

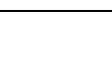
Table 5
Percentage of Communication Skills on Using
Prepositions in Autistic Child through Flash Card by Another Teacher

Measurement by Another Teacher			
Stage	Score	Scoring of Success Rates	Percentage Result
I	37	$Result = \frac{37}{40} \times 100\%$	92%
II	37	$Result = \frac{37}{40} \times 100\%$	92%
III	38	$Result = \frac{38}{40} \times 100\%$	95%

b. Data on Measurement Results by Speech Therapist

The second or final validity is the results of communication skills in applying prepositions of the child with autism through flashcards carried out by a speech therapist

Table 6
Communication Skills on Using Prepositions in Autistic Child through Flashcards by Speech Therapist

No	Aspect	Media of picture	Stage I	Stage II	Stage III
1.	Can answer the question "what is this?" (In the picture)		4	4	4
2.	Can answer the question "where is the ball?" (In the picture)		3	4	4
3.	Can answer the question "what is this?" (In the picture)		4	4	4
4.	Can answer the question "where is the ball?" (In the picture)		3	3	3
5.	Can answer the question "what is this?" (In the picture)		4	4	4
6.	Can answer the question "where is the cat?" (In the picture)		4	4	4
7.	Can answer the question "what is this?" (In the picture)		4	4	4
8.	Can answer the question "where is the cat?" (In the picture)		3	3	3
9.	Can answer the question "what is this?" (In the picture)		4	4	4
10.	Can answer the question "where are the shoes" (in the picture)		3	3	4
	TOTAL		36	37	38

The data above is the result of measurements by speech therapists to assess the ability of the subject, with the following criteria.

- 4 = Respond with correct and clear answers
- 3 = Respond with correct answers, but articulation is still wrong
- 2 = Respond, however, the wrong answer
- 1 = no response

After calculating the number of communication skills at the validity stage by the speech therapist, the number was changed in the form of a percentage. The guidelines for scoring success rates at the validity stage by speech therapist are as follows:

Guidelines for Scoring Success Rates

$$O = \frac{A}{B} \times 100\%$$

O: Percentage of communication skills

A: Communication skill score obtained

B: Maximum number of possible scores of communication skills

The following results are the percentage of communication skills performed by the speech therapist.

Table 7
Percentage of Communication Skills on Using Prepositions in Autistic Child through Flashcards by Speech Therapist

Measurement by Speech Therapist			
Stage	Score	Scoring of Success Rates	Percentage Result
I	36	$Result = \frac{36}{40} \times 100\%$	90%
II	37	$Result = \frac{37}{40} \times 100\%$	92%
III	38	$Result = \frac{38}{40} \times 100\%$	95%

c. Accumulation of Testers' Data

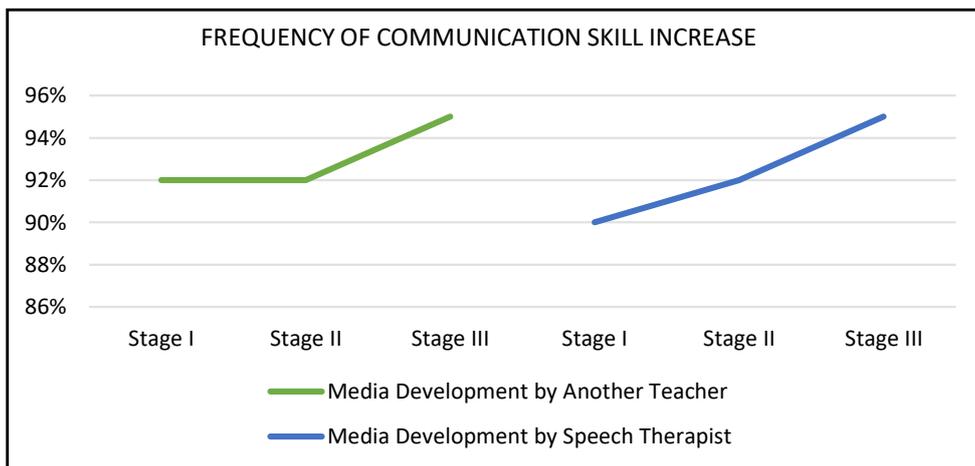
Based on the overall measurement results that have been presented above, the communication skill test, then, was conducted by several testers, namely the researchers, teacher and speech therapist to find out and clarify the development that occurred from all

the results of this study. The accumulated results of the posttest are presented in the following table and graph.

Table 8
Accumulation of Communication Skills of Autistic Child Conducted by Teachers and Speech Therapist

Target Behavior	Percentage of Achievement					
Communication Skills	Teacher %			Speech Therapist %		
	92%	92%	95%	90%	92%	95%

Table 8 describes the accumulation of the subject achievement’s percentage in communication skills conducted by the teacher and speech therapist. Meanwhile, the following is a graph of the frequency of increasing communication skills in an autistic child through flashcards by the teacher and speech therapist.



Graph 2
Frequency of Communication Skills on Using Prepositions in Autistic Child through Flashcards by Teacher and Speech Therapist

5. Final Research Data

The research data is a comparison of the final data from the treatment by researchers, another teacher, and a speech therapist which is presented as follows.

Tabel 9
Final Data of Communication Skills on Using Prepositions in Autistic Child through Flashcards by Researchers, Another Teacher, and Speech Therapist

No	Aspect	Media of picture	Researchers	Another Teacher	Speech Therapist
1.	Can answer the question "what is this?" (In the picture)		4	4	4
2.	Can answer the question "where is the ball?" (In the picture)		4	4	4
3.	Can answer the question "what is this?" (In the picture)		4	4	4
4.	Can answer the question "where is the ball?" (In the picture)		4	3	3
5.	Can answer the question "what is this?" (In the picture)		4	4	4
6.	Can answer the question "where is the cat?" (In the picture)		4	4	4
7.	Can answer the question "what is this?" (In the picture)		4	4	4
8.	Can answer the question "where is the cat?" (In the picture)		3	4	3
9.	Can answer the question "what is this?" (In the picture)		4	4	4
10.	Can answer the question "where are the shoes" (in the picture)		3	3	4
	TOTAL		38	38	38

This sheet was filled in by researchers, another teacher, and speech therapist to assess students' knowledge, with the following criteria:

4 = Respond with correct and clear answers

3 = Respond with correct answers, but articulation is still wrong

2 = Respond, however, the wrong answer

1 = no response

After calculating the number of autistic child's communication skills from learning activity in Bahasa Indonesia subject with the material of preposition at the intervention stage, another teacher, and speech therapist, then the number was changed in the form of a percentage. The following is scoring guidelines for scoring success rates on the final results by researchers, another teacher and speech therapist:

Guidelines for Scoring Success Rates

$$O = \frac{A}{B} \times 100\%$$

O: Percentage of communication skills

A: Communication skills score obtained

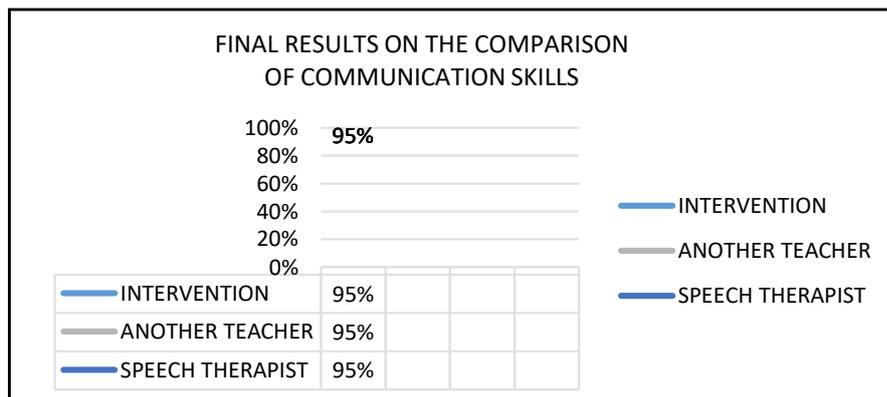
B: Maximum number of possible scores of communication skills

Using the above formula, the data is presented which reflects on the final results' assessment by researchers, another teacher, and speech therapist on the autistic child's communication skills in using prepositions.

Table 10
Percentage of Communication Skills on Using Prepositions in Autistic Child through Flashcards by Researchers, Another Teacher, and Speech Therapist

Final Results by Researchers, Another Teacher, and Speech Therapist			
Stage	Score	Scoring of Success Rates	Percentage result
I	38	$Result = \frac{38}{40} \times 100\%$	95%
II	38	$Result = \frac{38}{40} \times 100\%$	95%
III	38	$Result = \frac{38}{40} \times 100\%$	95%

Further, the following is the graph that describes the frequency of increasing communication skills in the application of prepositions in the child with autism through flashcards by researchers, another teacher, and speech therapist.



Graph 3
Final Results of Communication Skill Comparison

Communication Skills on Using Prepositions in Autistic Child through Flash Card by Researchers, Another Teacher, and Speech Therapist. As mentioned before, the results of communication skills that were assessed by researchers, another teacher and speech therapist were 95%, 95%, and 95% respectively. Hence, referring to the above achievement

category, it can be said that the achievement reached by the autistic child in terms of his communication skills in using prepositions with the help of flashcards as the learning media in Bahasa Indonesia subject was very good.

D. Discussion

Autism can be referred to as a condition where an individual is interested only in his own world. His behavior arises solely because of an inner urge. People with autism do not seem to care about the stimuli that come from other people (Azwardi, 2005: 14).

Flashcards are a learning media that are rectangular and flat in shape, in the form of images that are adjusted to the learning objectives or themes to be achieved. They are usually in the size of 8 x 12 (Arsyad, 2017: 115).

The subject of this study was a grade-1 autistic child with the initial FMN, a 6-year-old male student at Talenta Kids Autism School. Characteristics of the subject with autism disorder is the low ability to speak. Actually, the development of FMN's pronunciation and communication was already too late from the start, but his parents still thought that his gross motoric skills developed first (like walking ability and such) which later would be followed by the improvement of other skills required for producing words. However, such a prediction was wrong. It turned out that FMN was indeed too late in talking when compared with other normal children. Then, other signs indicating autism also appears in FMN, such as preferring to play alone, having no eye contact when invited to communicate, being too engrossed in objects, enjoying repetitive routines, and being emotionally unstable by suddenly crying and laughing to himself.

In the initial stage, when the child was in the *baseline* phase and was not given any intervention yet, the researchers tried to provide direct instruction using the object to be studied by the child, but he did not respond to it and in the next object the child cried. At this phase, his communication skills were in the percentage of 25%. Then, the instruction was repeated by the researchers and the child gave a response by answering with vocabulary that had no meaning. There were some answers that the child could respond correctly, but the pronunciation was still wrong. At this stage, his communication skills moved to 35%. After that, the researchers provided third-repeated instruction. As a result, the child's ability turned to be stable and he was willing to respond with several answers even though they

were still dominant with responses and pronunciation that were not right. At this stage, he got 35% of his communication skills measurement.

In the intervention stage, further, through which flashcards were used as learning media, the child began to be interested in the images of the cards even though he did not understand and could not respond correctly in that his communication ability was at the level of 52%. In the second phase of the intervention stage, he could respond very well and reached 67% in his communication skills. However, in the next treatment, his ability decreased by a percentage of 65%. This could be caused by the child's psychological condition that was not yet stable. It might also be influenced by the child's ability which was inconsistent yet in answering questions correctly. In the next two levels of intervention, the child could respond to the task and obtained a percentage of 77% and 82% respectively. Researchers ensured the child's communication skills by giving the last instruction before the validity stage was conducted, with a percentage level reaching 95%.

In the validity phase, which was carried out through direct consultation with experts or practitioners, a teacher of the school and a speech therapist were invited to participate in order to strengthen the results of research on the autistic child's communication skills in the subject of Bahasa Indonesia with the material of prepositions. At the beginning of the validity phase by the school's teacher, the researchers considered the work experience of the teacher at the Talenta Kids Autism School. The teacher involved in this study has been teaching in the institution for 11 years, who has the longest working-period among those of existing teachers and has a good teaching competence. At this phase, the percentage of communication skills obtained by the child with autism was 92% at stage I, 92% at stage II, and 95% at stage III.

The next step was the validity stage carried out by the speech therapist. Related to professional experience, besides being a therapist at the school, she also handles private or individual therapy. The results of measurement of the autistic child's communication skills were 90% at stage I, 92% at stage II, and 95% at stage III.

To sum up, the results of this study showed that there was a positive influence of flashcards as learning media to improve communication skills in applying prepositions in the child with autism

E. Conclusion

Based on the results of the research and data analysis conducted, it can be concluded that there was an effect of using flashcards to improve the communication skills of an autistic child at Talenta Kids Autism School Salatiga. A continuous increase in the child's communication skills occurred after flashcards were used as instructional media. The flashcards which were used for teaching themselves needed to consider the requirements in developing media, and should go through several stages of validity testing both in terms of their content and practicality.

E. Acknowledgment

This article is the result of joint research between lecturers and students who are teaching at autism school. Therefore, we would like to thank those who have helped with the completion of this research.

F. References

- Anuraga, Dito dan Taruna Ikrar. (2015). *Syndrom Asperger*. CDK-225, 42 (2), 106-112. Retrieved November 18, 2019 from https://www.researchgate.net/publication/313383189_Syndrome_Asperger
- Asyad, Azhar. (2017). *Media Pembelajaran*. Jakarta: PT Raja Grafindo Persada.
- Azwandi, Yosfan. (2007). *Media Pembelajaran Anak Berkebutuhan Khusus*. Jakarta: Depdiknas.
- . (2005). *Mengenal dan Membantu Penyandang Autis*. Jakarta: Departemen Pendidikan Nasional.
- Benazir, Markis Yunus, dan Kasiyati. (2013). Meningkatkan Kemampuan Komunikasi Melalui Media Kartu Gambar Berseri Bagi Anak Autis. *E-JUPEKhu (Jurnal Ilmiah Pendidikan Khusus)*, 2(2), 270-279.
- Boham, Sicillya E. (2013). Pola Komunikasi Orang tua dengan Anak Autis. *Journal*, 11 (4).
- Careaga Careaga, Milo, Sally Rogers, Robin L. Hansen, David G. Amaral, Judy Van de ater, and Paul Ashwood. (2017). Immune endophenotypes in children with Autism Spectrum Disorder. *Biol Psychiatry*, 81(5), 434-441.
- Fadhli, Aulia. (2010). *Buku Pintar Kesehatan Anak*. Yogyakarta: Pustaka Anggrek.
- Gips, M. R., & Srinivasan, P. (2012). Modeling Autism: a Systems Biology Approach. *Journal of Clinical Bioinformatics*, 2 (1), 1-15.
- Glazzard, Jonathan, Jane Stokoe, Alison Hughes, Annette Netherwood, dan Lesley Neve. 2016. *Asah Asih Asuh: Anak Berkebutuhan Khusus di Sekolah Dasar*. Yogyakarta: PT Kanisius.
- Handoyo. (2009). *Autisme pada Anak*. Jakarta: PT Bhuana Ilmu Populer.

- Iswari, Fitria. (2017). Pengembangan Media Pembelajaran Bahasa Inggris Berupa Flash card Bergambar Pada Tingkat Sekolah Dasar. *Desain Komunikasi Visual*, 2(9) 119-128.
- Islami, Miftakhul Falah. (2018) Implementasi Media Flash Card dalam Meningkatkan Penguasaan Kosakata Bahasa Arab, *Tajdidukasi*, VIII (1), 113-125
- Keenan, Mickey, & Karola Dillenburger & Hanns Rüdiger Röttgers & Katerina Dounavi & Sigríður Lóa Jónsdóttir & Paolo Moderato & Jacqueline J. A. M. Schenk & Javier Virués-Ortega & Lise Roll-Pettersson & Neil Martin. (2015). Autism and ABA: The Gulf Between North America and Europe. *Review Journal of Autism and Developmental Disorder*, 2 (2), 167-183.
- Kumullah, Rahmah, Ahmad Yulianto & Ida (2019) Peningkatan Membaca Permulaan Melalui Media Flash Card pada Siswa Kelas Rendah Sekolah Dasar, *Jurnal Pendidikan*, 7 (2), 36-43
- Maslakah, Nisaul, dan Zulia Setyaningrum. (2017). Pengaruh Pendidikan Media Flashcard Terhadap Pengetahuan Anak Tentang Pedoman Umum Gizi Seimbang di SD Muhammadiyah 21 Baluwarti Surakarta. *Jurnal Kesehatan* 10(1) 9-16.
- Mumpuni, Atikah. (2018). *Intergrasi Nilai Karakter dalam buku pelajaran*. Yogyakarta: Deepublish.
- Ni'matuzahroh, dan Susanti Prasetyaningrum. (2018). *Observasi: Teori dan Aplikasi dalam Psikologi*. Malang: UMM Press.
- Nuryani, Purwanti Hadisiwi, dan Kismiyati El Karimah. (2016). Pola Komunikasi Guru Pada Siswa Anak Berkebutuhan Khusus di Sekolah Menengah Kejuruan Inklusi. *Jurnal Kajian Komunikasi* 4(2) 154-171.
- Pradana, Pascalian Hadi P, Febrina Gerhani (2019) Penerapan Media Pembelajaran Flash Card untuk Meningkatkan Perkembangan Bahasa Anak, *Journal of Education and Instruction*, 2 (1) 25-31
- Puspitaningtyas, Amalia Risqi, dan Vidya Pratiwi. (2018). Penguasaan Kosa Kata Pada Anak Autis Menggunakan Media Visual (Gambar). *Conference on Innovation and Application of Science and Technology*, Universitas Widyagama Malang, 229-236.
- Putri Hrp, Herlina Jasa. (2008). Metode Pembelajaran dan Pengembangan Verbal bagi Anak Autis. *Jurnal Bahasa Unimed* . 1-7.
- Sriyanti, Lilik. (2014). *Psikologi Anak (Menenal Autis dan Hiperaktif)*. Salatiga: STAIN Salatiga Press.
- Stanley I, Greenspan, dan Serena Wieder. (2009). *Engaging Autism: Using the Floortime Approach to Help Children Relate, Communicate, and Think*. Hachette Books.
- Sukinah. (2005). Penatalaksanaan Perilaku Anak Autisme dengan Metode Applied Behavioral Analysis. *Jurnal Pendidikan Khusus*, vol 1 no 2. hal.134
- Tsilioni, I., Taliou, A., Francis, K., & Theoharides, T.C. Children with Autism Spectrum Disorders, who Improved with A Luteolin Containing Dietary Formulation, Show Reduced Serum Levels of TNF and IL-6. *Translational Psychiatry*, 5, 1-5.
- Ulumudin, Ihya (2019), Penggunaan Media Gambar untuk Mengembangkan Penguasaan Kosa Kata pada Anak Autis Dini, *Jurnal Ilmiah VISI PGTK PAUD dan Dikmas*, 14 (10), 75-84.