

**The Influence of Using Multimedia in Learning the Concrete Nouns to Increase the Happiness Scale toward Deaf Students in SLB B DENA UPAKARA**

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**Abstract**

One of the competences which runs into a delayed development experienced by deaf children is the language skills. It is obvious that the ability to master the vocabulary is one of the aspects of language skills. Accordingly, it has become a fundamental issue for deaf children. Lack of this aspect results in the dimension of communication within themselves and with other people, for example the emergence of negative labeling, the state of egocentricity, stubbornness, and failure to foster communication with other people. This makes deaf children feel unhappy, uncomfortable, or often experience displeasure.

The result shows that the use of images and multimedia can speed up and improve the mastery of vocabulary dealing with concrete nouns for deaf students. It is due to the fact that almost all deaf children rely on the sense of vision to recognize objects around them. Besides, the learning media is essential for deaf students to learn more independently. They can learn by using multimedia, depending on their readiness and ability without being afraid of the time limit. The presentation of objects which cannot be presented directly in the classroom due to the distance and largeness can be overcome by using multimedia. Hence, it evokes attractiveness and draws attention to them.

The direct observation conducted in the classroom yields the finding that the use of multimedia greatly affects the state and feelings of deaf children. It was observed that they expressed a happy feeling with laughter when they were learning by using multimedia. In other words, the use of multimedia can increase the happiness scale of deaf children. Chiefly, the result of measurements based on the Subjective Happiness Scale (SHS) indicates that there is a strong influence on the use of multimedia toward the happiness of deaf children as they learn the concrete nouns.

**Keywords:** multimedia, subjective happiness scale, deaf children, concrete nouns

## INTRODUCTION

Language problems have become a fundamental issue for deaf children because they results in the dimension of communication within themselves and with other people. The inability of deaf children to communicate normally evokes the negative labeling on them. The negative labeling given by common people around makes them feel that they are outgroups. They often feel that there is no hope for the future, whereas actually it is feasible that they are able to develop their potential abilities. Unfortunately, the feeling of pessimism dashes their potential. Furthermore, the labels given are only considered on the aspect of deafness, without taking into account their intelligence as well as other demographic aspects (Martin, 2009). Deaf children also suffer from negative labels such as egocentric and stubborn. Besides, they often fail to foster communication with other people. (Effendi, 2000).

In general, there is no difference between deaf children and normal children in terms of IQ. However, the deafness results in the poor input of information into their cognition, thus their cognition becomes less developed. Accordingly, deaf children need an appropriate model of learning in order to develop their cognition properly (Hamilton, 2001; Hallahan & Kauffman, 1994; Vernon, 2005; Marschark, 2007). The negative labels of deaf children and the emergence of negative environmental attitudes are always associated to the language skills of deaf children as the determinant of the successful communication. The language skills of deaf children are very important to note because they contribute significantly on the learning achievement at school. It is obvious that the language competence determines the achievement of deaf students. Therefore, the earlier language learning is needed, so that the language delay of deaf children is not getting worse (Qi & Mitchell, 2010).

The findings of other studies show that the language skills of deaf children greatly affect the speed of cognitive, emotional, and social development. Sutton-Spence (2010) reveals that the majority of deaf children start to learn languages as they enroll in school. In addition to the parental factors, the language delay is affected by the late diagnosis of hearing-impaired children. Deaf children from hearing families (father and mother are not deaf) on the average experience a language delay because they have not been familiar with sign languages as the early stimulation. (Marschark, 2007).

Meadow (2005) investigated normal children and 4-year-old children with hearing impairment which had just detected. It was noted that normal children were able to make simple sentences while deaf children did not understand a single word; deaf children communicated using their instincts. The investigation proved that the late diagnosis of hearing-impaired children at their early age resulted in the length of the language delay. It raises the idea that the lengthy language delay will surely make deaf children face some difficulties in adjusting themselves at school, especially in the early stage of education that is at the playgroup level. Therefore, at the age in which the children are first introduced the language will greatly affect the amount of vocabulary they will master (Meadow, 2005). The earlier the language is

introduced, the more vocabulary is mastered since vocabulary is one aspect of the language skills.

Language skills are closely related to the academic achievement of the students. For children with hearing impairment, language delays also affect their ability to involve in learning activities at school. Therefore, providing vocabulary practice to them is needed as early as possible. (Lonigan & Whitehurst, 1998). Delays in language skills faced by deaf children include vocabulary, syntax, morphology, semantics, pragmatics and phonology (Shaw, 1994). These delays resulted in delays in reading skill, and when children enter the school age, it will affect their academic achievement (Moeller et al., 1986).

The incapacity to understand the vocabulary (receptive) is one of the most common problems faced by deaf children in understanding language (Fung, 2005). The type of vocabulary in the form of concrete nouns is more easily understood by the deaf children since it is more real. For that reason, the learning material which contains the vocabulary type of concrete nouns should be given in advance before the abstract ones. (Marcharks, 2001). Furthermore, deaf children also find it difficult to understand words which have more than one meaning, thus more explanation is needed.

Several factors that affect the language skills are intelligence, physical factors related to the aspect of organs, and environmental factors (Edja Sadjah, 2005). The cognitive development of deaf children is also affected by the language competence. Whorf & Saphir as cited in Schenkler (2004) state that thought or cognitive capabilities are determined by the language skills possessed. In general, the intelligence of deaf children is potentially the same as the normal children's, but functionally, the intelligence development of deaf children is strongly influenced by the level of language skills. Furthermore, language barriers will also inhibit the cognitive development of deaf children. This language inhibition is also influenced by the degree of the hearing loss. It is clear that the higher the degree of their hearing loss, the lower the children's skills of verbal language.

It is obvious that introducing vocabulary by giving examples, providing context of everyday use, and conducting discussions will also accelerate the process of children's understanding of vocabulary. Accordingly, the introduction to vocabulary that is packaged in a story would be more effective. Discussions can be developed in the form of questions according to the reading passages. The use of the material equipped with pictures is proven to be an effective way in improving vocabulary, especially for prelingual deaf children (Walker, Munro, and Rickards, 1998).

According to Piaget, elementary school children (6-12 years) are at the stage of concrete operations (Santrock, 2008). Bruner also says that learning should start from real experiences and be experienced directly by children, afterwards it moves to the level of using images, and finally to the use of abstract symbolic elements. The role of learning media which is attractive,

interactive and able to enhance the quality of learning is very important. The interactive multimedia is a means of learning which has many elements, namely texts, sounds, graphics, animations, videos, and sorts of interactive aspects. Multimedia is reliable to relate children's direct experiences to go on more abstract things. Since children are at the stage of concrete operations, the visualization provided by multimedia is still in accordance with the stages of cognitive development of children.



Figure 1. Edgar Dale's Cone of Experience

The result of the research conducted by Parmadi, et al in 2015 shows that generally images can be used for learning nouns of average category. Accordingly, five aspects of measurement are examined. These five aspects are the ability to identify images and texts (aspect-1), the amount of nouns successfully spoken in a precise and clear articulation (aspect-2), the test results of image identification indicated by the ability to write nouns properly (aspect -3), the number of nouns written in correspond to their utterances (aspect-4), and the test results in successfully applying nouns in sentences (aspect-5). The measurement results toward these five aspects of measurement show that in terms of the ability to identify images and texts, those reaching 41.67% are categorized as excellent, 50% as average, and the remaining percentage as poor. Dealing with ability to utter the nouns in a precise and clear articulation, excellent category is accounted for 58.33%, average category for 25%, poor category for the remaining percentage. Regarding to the ability to write nouns by identifying images, those reaching 8.33% and 66.67% are categorized as excellent and average respectively, while the rest is categorized as poor. In the regard of the ability to write nouns in accordance with the sign produced by lips movements, 75% is categorized as excellent, 16.67% as average, and the remaining as poor. In terms of the ability to apply nouns in sentences, those making 16.67% are categorized as excellent, 66.67% as average, and the remaining as poor. Referring to these results, it is essential to create an interactive media which is able to improve the vocabulary mastery of concrete nouns for optimal learning. Therefore, the interactive multimedia is the best option.

This research would like to investigate the influence of using of multimedia to increase the happiness scale of the deaf students in SLB B Dena Upakara. The happiness levels are measured by using Subjective Happiness Scale (SHS) (Lyubomirsky, S., & Lepper, H. S. (1999), (Mattei, D., & Schaefer, C. E. 2004) and the measurements are conducted as the students use images and multimedia in the classroom.

## RESEARCH METHODS

The equipment used in this research was a computer program containing multimedia applications for learning concrete nouns for deaf students. The subjects of this research were 12 deaf students in the age of 8-15 in preparation class 2 of *SLB B Dena Upakara Kabupaten Wonosobo*. The learning method developed was an experiential learning using multimedia to measure the students' vocabulary mastery of concrete nouns. The concrete nouns which were introduced and measured in this research were cabinets, chalks, erasers, benches, dictionaries, bins, dustpans, family photos, chairs, rulers, mats, cloth, boards, calendars, sink, faucets, stairs, microphones, tables, Christian cross, mirrors, clocks, shoe racks, and bowls. While measuring the vocabulary mastery of these concrete nouns, the observer assessed the students in the regard of SHS. An observer accompanied a student so that the observation data was accurate for every student.

The methods used in this research were:

1. Designing the interactive multimedia for vocabulary mastery for deaf children which was based on the concrete nouns introduced by the teacher. This multimedia was attempted to students, then validated to the classroom teacher.
2. Applying Experiential Learning Model which was in the form of a circular process and it consisted of four phases, namely:
  - (a) Concrete Experience Phase was a process in which it used students' experience or the experience which was provided for further learning.
  - (b) Reflective Observation Phase was a process in which it discussed students' experiences or shared their reactions and observations using multimedia.
  - (c) Abstract Conceptualization Phase was a process of discovering the meaning of pictures, sounds, animations, videos, and texts in the multimedia. This activity was carried out by the teacher. Students were able to gain new experiences and make a conclusion or a new concept. The concept included the ability to identify images on multimedia, the ability to write concrete nouns, the ability to write nouns by identifying images, the ability to pronounce the concrete nouns in accordance with the display in multimedia, and the ability to pronounce nouns with a precise and clear articulation.
  - (d) Active Experimentation Phase was a process of applying the nouns that had been managed in sentences. Students arranged jumbled words into a good sentence which was spoken by the teacher.

3. Measuring Subjective Happiness Scale (SHS) to students

No.	pernyataan							
1	Saya merasa, saya adalah anak	yang sangat tidak bahagia			yang sangat bahagia			
		1	2	3	4	5	6	7

No.	pernyataan							
2	Dibandingkan dengan teman-teman, saya	Kurang bahagia			Lebih bahagia			
		1	2	3	4	5	6	7

No.	pernyataan							
3	Mereka bisa bergembira, apapun yang terjadi. Mereka mensyukuri kejadian apapun. Pernyataan tersebut	Sangat tidak sesuai dengan kondisi saya			Sangat sesuai dengan diri saya			
		1	2	3	4	5	6	7

No.	pernyataan							
4	Sebagian anak, secara umum tidak terlalu bahagia. Meskipun mereka tidak sedang sedih, tapi mereka tidak pernah bisa bahagia dan tertawa. Pernyaan tersebut.	Sangat tidak sesuai dengan kondisi saya			Sangat sesuai dengan diri saya			
		1	2	3	4	5	6	7

RESULTS AND DISCUSSION

Examining from the average value and T-test for *Pernyataan 1*, it indicated that there was an increase of happiness (0,400), eventhough it was not really significant (0.104). It meant that the use of images and multimedia media did not necessarily make the happiness level rise significantly. Nevertheless, the significance level signified a prospective indication (feasible to increase). The low significance value was likely to happen due to few number of subjects. Thus, by increasing the number of subjects with the same interference, it would obtain significant results. In addition, the assessment indicators for happiness was way too distant, because there were many intervening variables which existed between the direct effects of interference and happiness, such as learning motivation, learning anxiety, or positive feelings toward learning.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	4.9000	10	.87560	.27689
	VAR00002	5.3000	10	.82327	.26034

**Paired Samples Correlations**

	N	Correlation	Sig.
Pair 1 VAR00001 & VAR00002	10	.663	.037

**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-.40000	.69921	.22111	-.90018	.10018	-1.809	9	.104

As observed through the average value and T-test for *Pernyataan 2*, it indicated that there was an increase of happiness (0,400), although it was not really significant (0.104).

**Paired Samples Statistics**

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 VAR00001	4.5000	10	.52705	.16667
VAR00002	4.9000	10	.73786	.23333

**Paired Samples Correlations**

	N	Correlation	Sig.
Pair 1 VAR00001 & VAR00002	10	.429	.217

**Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-.40000	.69921	.22111	-.90018	.10018	-1.809	9	.104

As seen from the average value and the T-test for *Pernyataan 3: bisa bergembira, apapun yang terjadi dan menyukai kejadian apapun*, it appeared that there was an increase of happiness for 0.500, yet it was not really significant (0.052).

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	5.2000	10	.78881	.24944
	VAR00002	5.7000	10	.48305	.15275

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	VAR00001 & VAR00002	10	.467	.174

**Paired Samples Test**

	Mean	Paired Differences				t	df	Sig. (2-tailed)
		Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-.50000	.70711	.22361	-1.00583	.00583	-2.236	9	.052

Examining from the average value and the T-test for *Pernyataan 4*, it showed that there was an increase of happiness which was accounted for 0.500, yet it was not a great significance (0.052).

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	3.2000	10	1.03280	.32660
	VAR00002	2.7000	10	.67495	.21344



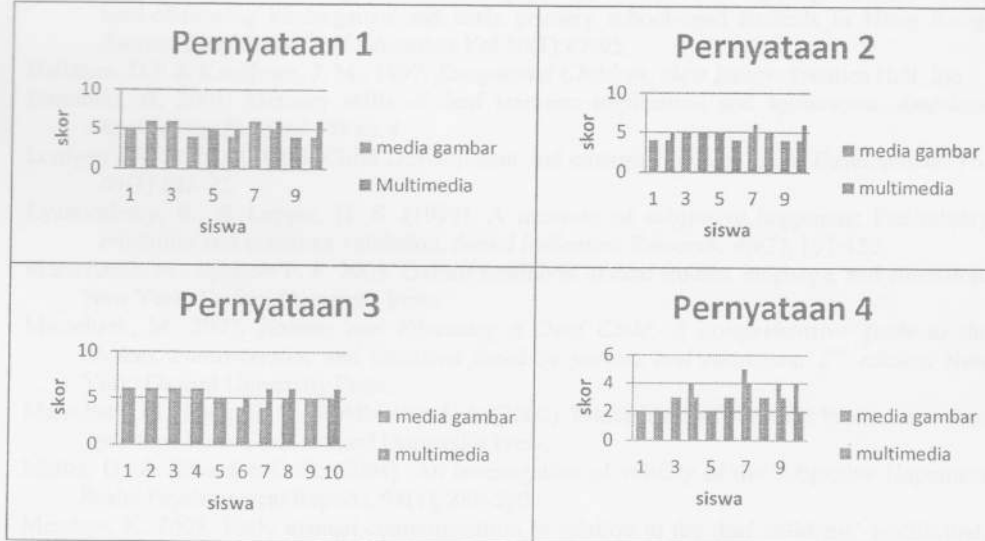
**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	VAR00001 & VAR00002	10	.733	.016

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	VAR00001 - VAR00002	.50000	.70711	.22361	-.00583	1.00583	2.236	9	.052

The following tables presented the results of measurement using Subjective Happiness Scale (SHS) toward 10 students of SLB B Dena Upakara.



In addition to the happiness level measured by SHS scale, the direct observation in the classroom also indicated that the use of images and multimedia media greatly affected the state or feelings of the students. It was observed that they expressed a happy feeling with laughter when they were learning by using images and multimedia. It was due to the fact that using images and multimedia was considered as a new experience so that it arose the level of students' interest. The use of multimedia was regarded as an attractive way of learning language since multimedia provided various elements, namely texts, sounds, graphics, animations, videos and interactive aspects. In addition, both images and multimedia provided opportunities for children to learn independently in a more pleasant way.

## CONCLUSION

According to the results, it is obvious that the use of multimedia can increase the level of happiness even though the raising is small and not really significant. In addition, the level of happiness by using multimedia in learning concrete nouns is better than those using images for the same learning material.

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