VISUALIZATION AND COMPREHENSION:
Corroborating children's reading ability

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ABSTRACT

This study aimed at finding out the influence of visualization on students' reading comprehension ability. Quantitative approach was employed in carrying out this research. The data were collected through test as it was the main instrument of this study. The data analysis was carried out using manual statistics calculation to find out the mean score before and after the treatment. From the result, it was obtained that the most effect that visualization has is on the inferring; second, it is on details; then it is followed by main idea. The smallest influence is made on vocabulary. Thus, it can be concluded that visualization while reading can help students a lot in terms of inferring, details, and main idea.

Keywords: *reading comprehension; visualization; inference; details; vocabulary*

INTRODUCTION

English is viewed as a critical subject in academic life since it is utilized to exchange information during learning process, to help in the advances of science and innovation, and to build up worldwide relationship. On the other hand, English

is considered as a troublesome subject for many Indonesian students since it is totally not similar with Indonesian language—either its arrangement of structure, articulation, or vocabulary. In line with this, Alex (2010) states that English is unique in relation to Indonesian, basically with regards to tenses and word arrangements.

Amongst all English skills, reading is considered the most fundamental ability among other language aptitudes (Duke and Pearson, 2002). Nation (2004) additionally expresses that reading is a functioning procedure concerning the fact that in learning English as a second language reading is a functioning intellectual procedure of cooperating with printed materials and monitoring perception to develop meaning. It implies that in reading, a reader ought to be dynamic to get an unmistakable message from the content, not exclusively to read it with no comprehension. Elosua, et al., (2012) embedded that reading is an intellectual process that attempts to recreate importance from the author of the text. It suggests that as the students read a text, they know the significance word by word as well as the author's thought in the content.

Individuals may keep in mind the end goal of reading which is to get data or advance their insight to scrutinize an author's thought or composing style. Hedgcock & Ferris (2009) state that reading is a mind boggling procedure of reasoning in allotting importance from printed material which includes the majority of the reader's academic demonstration; for example, performance and comprehension that are brought in students' mind can lead to the content comprehension as a whole. It can be seen that reading is not just taking a gander at words as realistic images, yet in addition searching for the importance from word to word or line to line to comprehend what we read. Then again, reading is a procedure to comprehend the content substance and to get data from it (Johnson & Johnson, 2008).

On the contrary, in the attempt to achieve this goal, there are various factors that lead reading comprehension to a difficult situation for students. First, loss of vocabulary is a tremendous impediment in acquiring a foreign language. Schmitt (2009) confirms that one of the keys in studying a foreign language is mastery of its vocabulary. Tienmensma (2009) says that kids who master more vocabulary will understand the texts easier. Therefore, it is undisputable that the basic knowledge to

master a language is its vocabulary. Later, the scholars' motivation or mind-set towards reading comprehension is drastically low. Gambrell (2011) shows that students who are surprisingly motivated to study will pay heed to read and preserve to read through the years. As a result, the teachers need to offer and stimulate the scholars with excellent substances, suitable techniques, and an effective learning ecosystem.

Several studies have been carried out on the use of visualization in reading to assist students to have better comprehension. The first is the one done by Drolet (2010) in South Korea. The result confirmed that the implementation of visualization (particularly English visualizations) in the magnificence become a success to help bridge the distance in literacy. Merc (2013) conducted another related study in a university in Australia. In this study, the respondents were 167 college students. The study found that the respondents with higher proficiency could recall more information provided in the visualization readings better. Moreover, Davis (2011) mentions that the new readers—particularly children—discover ways to examine the comprehension by certain processing strategies and it becomes easier by the help of pictures or visualization.

Based on the elaboration above, this study tried to shed lights on how visualization influences children's comprehension. What comes as the gap in this study is that the application of reading through visualization should be seen as a promising opportunity in inclining students' reading ability—specifically speaking, for children readers. The result of this study can be used as an empirical proof that visualization really helps children in advancing their vocabulary. And from the theoretical stance, the result is useful as additional literature in the employment of visualization in corroborating children's reading performance.

LITERATURE REVIEW

The Importance of Visualization in Reading

There have been numerous approaches presented to help students in learning English. The assorted variety of visual guides assumes an imperative part in picking up reading. Yang (2003) expresses that visual perpetual quality is novel to visualization: with visualization, students can undoubtedly go at their own pace and

not lose the stream of the unique circumstance. For this situation, students do not just spotlight on the entry which are brimming with writings yet in addition have a remarkable device which are loaded with pictures encouraging the students to get additionally understanding to one's reading writings. Likewise, visualizations are one of the profitable guides to assist students with being effective in reading comprehension. Cary (2004) says that visualizations with their conversational exchange and contemporary settings, can exhibit for students credible language at all phases of obtaining. It is suggested that visualizations which have numerous composed discoursed are adequate real materials for understanding the language. For this situation, students can learn numerous parts of language, for example, syntactic, vocabulary and example perspectives.

There are a few perspectives that are closely related with each other. They are main ideas, detail, vocabulary and inferring in reading comprehension. These viewpoints cannot be isolated from reading comprehension and they are asked in English examination. The main idea of a reading text is the focal idea or the core message. The term alludes to the ideas or points or thoughts being communicated through the reading passage(s). Mikulecky and Jeffries (1996) contended that main idea is the author's idea regarding the point which is framed by both the subject and the thought. Recognizing main idea and supporting ideas is an essential piece of reading cognizance. A reading tests regularly evaluate regardless of whether students can locate the primary ideas of the composed texts and distinguish the information in reading content. Detail is one of the parts from reading viewpoints.

Visualizations can play an intense and compelling part in the English language classroom. It has positive effect on students' learning propensities. Gambrell (2011) takes note of that students who are exceedingly has positive state of mind on reading will read and keep on reading additional time. Through visualizations, students can increase considerably more information. Having pictures and learning other writing in a roundabout way improved students to take in the assorted variety of culture in the writings. Visualizations do not just offer readers to get the substance yet in addition get engaged through the visual guides. Morrison, Bryan, and Chilcoat (2002) state that language securing has demonstrated that the

utilization of pop culture materials for students, particularly the utilization of visualization in second language classrooms is incredibly gainful to students.

Some of the time, pictures in visualizations can mirror the significance of one reading content. It is an extra guide which is extremely valuable for remote language students. It manages and persuades the students to comprehend the entire substance of the reading. Indeed, visuals, particularly funnies are generally used to energize and build up students' advantage and abilities in reading. In view of this interchange, funnies are effectively available to non-local speakers of English, at any age gathering or more slender level (Davis, 2011).

Besides, students' accomplishment in a broad area of topics, can encourage reading by utilizing visualizations are identified with level of somebody's disposition and inspiration. Truth be told, Yang (2003) says that one of the best points of interest of utilizing funnies to instruct is the capacity of funnies to inspire students. Then again, demeanor and inspiration are somewhat confounding to be characterized. Inspiration and state of mind coordinate each other. Actually, students who have inspirational mentality toward reading, have an expanding inspiration in themselves. Inspiration is the thing that influences individuals to do to or not to accomplish something. Then again, Pearson and Cervetti (2013) characterize that state of mind is a mental inclination that is communicated by assessing a specific element with some level of support or disgrace. It implies that the demeanor alludes to the critical level of the fact that somebody likes or dislikes a specific thing.

Thus, Versaci (2001) finds that funnies will probably urge students to effectively partake in dialog than the type of customary writing. Cary (2004) feels that visualizations give more significant insights for some, readers, including starting readers, as a result of their diminished content prepared by numerous photos. Numerous students grasp visualization since the visualization is seen as being more reasonable than the content. Moreover, one of the ways that ESL/EFL instructors can expand the measure of time of their students reading propensity is by utilizing visualizations which can be particularly helpful outside language classroom. In addition, Derrick (2008) bolsters that not exclusively would visualization be able to books give language students contextualized fathomable information, they can

likewise connect with the student and lead him or her to investigate more visualizations, magazine, daily paper, and other reading materials. Likewise, instructors are utilizing visualizations for an assortment of purposes, including as a scaffold to full proficiency for English Language Students and battling readers.

Merc (2013) notices the utilization of certain visuals is helpful in reading classroom. Accordingly, visualizations are an extra device in second and remote language classroom. For second language students, learning English outwardly, for example, visualizations, help to bring clear comprehension toward the materials given. Visual guides altogether affect the students' achievement in the current classroom. It is as proposed by Smith (2006) that there are a few components in visualizations: inscription, board, drain, air pocket, and inflatable.

Sub-skills in reading

In reading, there are a few perspectives closely related to each other. They are main ideas, detail, vocabulary and inferring in reading comprehension. These viewpoints cannot be isolated from reading comprehension and they are asked in English examination. The main idea of a reading text is the focal idea or the core message. The term alludes to the ideas or points or thoughts being communicated through the reading passage(s). Mikulecky and Jeffries (1996) contended that main idea is the author's idea regarding the point which is framed by both the subject and the thought. Recognizing main idea and supporting ideas is an essential piece of reading performance. Mikulecky and Jeffries (1996) considered detail as the most urgent issue in reading comprehension. The readers require detail to fathom the content as a whole. A standout point amongst the most constant finding in research on reading is that the degree of students' vocabulary knowledge relates firmly to their reading comprehension and generally relates to their academic achievement (Ness, 2009). Further, it expects readers to note content throughout the pieces of information, to access the background knowledge, surmise what the significance is regarding the pertinent context(s).

In promoting comprehension, especially for children, it is vital to deliberate issues such as visualization; which is specifically referred as image or picture in this study. Looking at the images helps students to understand the meaning and

promotes comprehension in the inquiry-based classroom. This may be normal with rising bilinguals in the beginning stage of the target language acquisition, especially with youthful students who were recently figuring out how to interpret composed texts. With more profound examination, it turned out to be certain that students did not look at pictures. The pictures accepted diverse parts for different purposes while developing significance with multimodal educational writings. There are four functions of pictures in reading comprising pictures as access to significance and substance; pictures ignite dialogues; picture as an impetus to look for access to written texts; and picture as a multimodal supplement to written texts (Moses, 2015).

In the second and foreign language, the utilization of genuine material is emphatically prescribed. The material advancement ought to be produced in view of students' interests and needs. Despite the fact that the foundation of every student cannot be tended to multilingual students either by assets or conditions. Wright and Sherman (1994) propose that visualizations are utilized to energize and build up students' advantage and abilities in reading.

Cunningham and Stanovich (2003) say that examination has demonstrated that early accomplishment at reading is plainly one of the keys that opens a lifetime of reading propensities. It implies that students who read ceaselessly are more fruitful than students who don't. Also, developing students' reading propensities in their everyday life is exceptionally critical. In this way, expanding students' reading propensity should be possible relying upon educators' techniques in showing reading as one of the English abilities.

There are three classifications proposed by Nunan (2004) which are habitually utilized while fathoming reading writings or materials. They are as clarified below. At first, it is known as the top-up model. This model for the most part serves the lower-level reading process where students begin with essential learning about reading understanding. Students take in reading from the essential subtle elements until the primary point in reading cognizance. In particular, students figure out how to perceive the sound and expression of the materials, make sense of and distinguish the syntactic tenets, lastly, manufacture the significance in endeavor to accomplish perception over the content.

Next, it is the supposed top-down models. Despite what might be expected, the exercises from this model are empowering and reviewing the students' experience learning, for example, making forecasts and looking through the content purposes. By applying top-down system in showing reading, the instructor should center on the significance exercises instead of on word acknowledgment.

The last is interactive model. This model is helped out through consolidating both base up and top-down models. In this model, students are arranged and educated from the principal essential of some different viewpoints to the particular or general perspectives in reading appreciation. Later to that, they are guided to take in the importance of the writings after they use the words and syntactic principles of the sections.

METHOD

This study was conducted using quantitative approach using a test. There were 35 children aged between 8-10 years old with similar intelligence background, and they were divided into two groups consisting of 17 children and 18 children respectively. The first group were given a passage without pictures on it, while another group was given a passage but written in sequential visualization strip. Both groups were given 60 minutes to answer 20 questions based on the text. Later in the data analysis, the score were compared to see the mean score difference between both groups using weight formula as suggested by Sugiyono (2007). Later, the data obtained were analyzed using tabulation to find out the mean score of both group in all reading micro-skills such as main idea (5 questions), details (5 questions), vocabulary (5 questions), and inferences (5 questions).

DISCUSSION

The aim of two groups being compared is to see the impact of answering questions with and without visualization. Group A has a passage without pictures on it, whereas Group B was provided a passage with sequential visualization strip. The twenty reading questions for children were designed for the purpose of study and an adaptation of weight formula for reading mean score (Sugiyono, 2007) was used. Further, we tried to describe the mean score difference for each reading sub-skills

between both groups. The twenty questions of reading test assess four reading sub-skills, as follows; Main Idea skill, Details skill, Vocabulary skill and Inferring skill.

To be concise, the results of the data analysis are displayed in the following table.

Table 1. Results on Reading Ability

Reading sub-skill	Group A Average Score	Group B Average Score
Main idea	77.5	76
Details	65	83.5
Vocabulary	75	63.5
Inferring	60.5	85

The table illustrates the proportion of reading ability in four categories of reading sub-skill. There are four reading sub-skills assessed in both groups—group A and group B, as follows: Main Idea, Details, Vocabulary and Inferring. Overall, the average score of Group A in reading sub-skills are found to be the highest (77.5) in Main Idea skill, when the inferring in reading sub-skills was the lowest (60.5). Whereas, the highest average score of Group B is 85 in Main Idea of Reading Sub-skills and the lowest average score is 63.5 in vocabulary in reading. In the terms of all reading sub-skills, inferring skills is the highest average score at 85 obtained by Group B. The details in reading sub-skills of group B was also high (83.5) compared to group A which obtained the average score (65). On the other hand, the lowest average score of reading sub-skills is inferring skill which could be seen in Group A at 60.5.

Concerning to the importance of visualization in picturing main idea, visualization helps create a bound between the readers and the text being read. From such connection, it is easier for the reader to see the big picture as a whole (Furi, 2015). Furthermore, the mental image drawn during the visualization process is very important in providing the sense of the passage. On the other hand, the skill to infer came to the lowest score compared to other scores. Making inferences

appears to be rather complex than other reading sub-skills. It is because in this sub-skills, working memory is involved holistically in the process. It starts searching from the short-term memory when the information first obtained until the last time it was utilized. So, the information could be long back gone through the text. Then, it starts replaying the information whether it matches with the whole context or not (Kispal, 2008). In short, this process is not an easy procedure for young learners who are reading an English passage; per se English reading is not carried out on the regular basis by these children.

The following figure provides the responses from the group which was given the text accompanied with pictures:
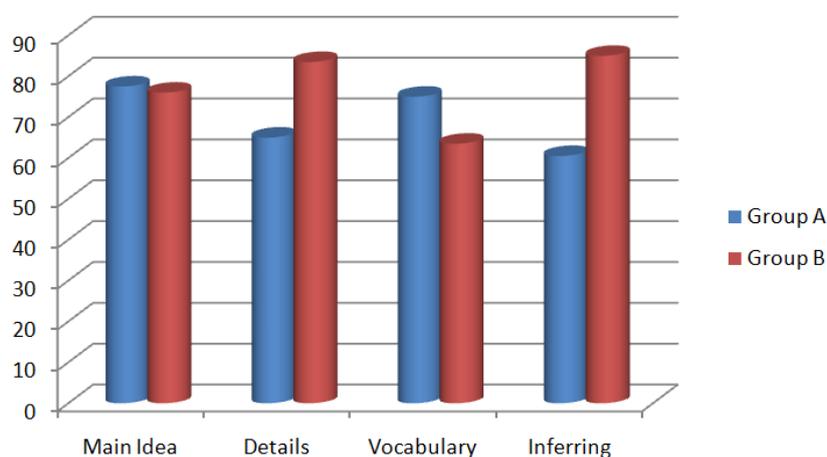

Figure 1. Responses on Reading Sub Skills

The chart illustrates the number of average score obtained on four reading sub skills (Main Idea, Details, Vocabulary and Inferring) in Group A and Group B. Both of Groups are measured in average score. Overall, Group B got more average score in Reading sub skills than Group A in the chart given. Both Group A and Group B had most of their average score on Main Idea skill while the least number of average score was obtained on inferring in Group A compared to Vocabulary skill in Group B.

In addition, the most significant difference in average score between the two groups was on inferring skill. In terms of Main Idea skill, students in Group A achieved 77.5 on this as opposed to the Group B at 76. Similarly, Group A was

higher on vocabulary skill than Group B 75 and 63.5 respectively. In Group B, the average score on inferring (85) was over twenty four point that of Group A, which was only 60.5. Moreover, Group B also obtained the detail skill at 83.5 compared to Group A (65).

The learning process of reading materials with their visualization can attract the students to help them to comprehend the meaning of reading materials and develop the students' comprehension in the inquiry-based classroom. In order to promote the students to have deeper comprehension, teacher can set up them for visualization.

Research asserts that visualization can promote students' comprehension in reading through picture and image. But there are still unanswered questions about the reading sub-skills related to visualization. Therefore, the purpose of this study is to evaluate how visualization influences children's comprehension in reading. We tried to examine the children's comprehension through reading test and divided into two groups—Group A and Group B.

To further specify the data, the first Group—Group A, explaining the highest proportion of four reading sub-skills is main idea skill (77.5). In Main Idea skill, it involves in the focal idea discussed in reading passage. Almost 17 children can understand the main idea through the passage without visualization because the usual reading tests assess the main idea from the passage for the test taker. As a result, they have background knowledge how to get the information regarding the main idea from the passage. Anderson (2001) states that readers must know the main idea of paragraph in order to understand the information that they are reading. Main idea helps the readers remember the important information of the text. Moreover, many of comprehension questions ask readers to locate the main idea of a passage or paragraph. Finding and understanding the main idea of a text is an essential reading skill. Many of the reading tests often ask the students to be able to identify the main idea and identify the information of a text. Developing this skill from the beginning of reading instruction will help the students to master the reading skill.

On the contrary, 17 children from Group A had difficulties in inferring skill (60.5) on the average. They also had trouble to search the hidden meanings from the passage that were stated implicitly. When readers find the answer for the inferring questions, they have to use the strategies to get the implicit information. In fact, Coiro (2011) concluded that inferring process can help the reader to obtain the information which is not stated in particular. When the reader cannot find the answer of inferring questions within the passage, the conclusion must be drawn based on the information given from the passage (Gear, 2008). Moreover, reader can enhance and complete their ideas into the passage. Reader can read back carefully and think about the implied meaning. In inferring, the language of any text, spoken or written, is not completely explicit. This requires actively interacting with the words in a sentence and among sentences (Cohen, Celeste, and Marra, 2004). You must look for clues and try to guess what the passage is about. This is called making an inference. The readers will be able to infer meaning from what was read to help comprehend text. Inferring also expands the understanding by helping reader discover what is implied, but not explicitly stated by the author. In reality, children of Group A still confused on the inferring questions because of the lack of vocabularies and do not understand how to answer for the unstated answers. Therefore, children of Group A obtained the lowest average score in inferring skill among four reading sub-skills.

For Group B, children got the highest average score in inferring skill (85) through the visualization process. They can do inferring and conclusion from the passage provided by sequential visualization strip. The visualization strategy can increase the children's reading comprehension because the children create the mental image of the passage (Towell, Powell & Brown, 2018; Wilhelm, 2013). As a result, inferring strategy is important part for children to get the hidden meanings from the passage.

On the other hand, 18 students from Group B got the low achievement (63.5) in vocabulary context compared with 17 students Group A getting score 75 in average because not all vocabularies can be described in visualization, for example, the abstract vocabularies—knowledge, belief, calm; and the gender vocabularies—

lion, lioness, fox, vixen. Moreover, reader needs to know the role of context in the acquisition of vocabulary knowledge. Beck, McKeown and Kucan (2013) assisted that the instructional context can help the reader to comprehend the difficult word, probably meaning of the word. As a result, the difficult words can be comprehended from the context and teacher can apply the instruction that related to learning vocabulary from the context in reading.

CONCLUSIONS

In conclusion, it can be stated that among four sub-skills that were analyzed for its relation to the visualization, 'inferring' has the highest effect, followed by 'details', ''main idea, and 'vocabulary'. Visualization can help students enhance their reading comprehension especially when they need certain confirmation toward the contents that seem less understandable in the passage. From the test result, it can clearly be seen that the group of students who were treated using pictures during their reading class achieve higher score compared to the group who were not. Consequently, it is suggested that the English teachers, especially those working with young learners, should employ more visualization in their class. The visualization could be presented in any forms as long as it is helpful and interesting for the students.

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