Creative Comprehension on Literacy: Technology and Visual

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Abstract: This study aims to examine the influence of literacy technology and visual literacy on students' creative understanding in receiving extensive reading material. Mix method (sequential explanatory design) was used in this study. Quantitative data is the result of a one-shot case study in the form of a reading test with treatment mind mapping towards students' creative comprehension. While qualitative data, case studies, use observation instruments. Data processing is done by the Mann Whitney test and observation with the initial description category, process, and end of learning. The Mann Whitney test results concluded that there were mean or mean differences between the experimental group and the control group. Sig. 0.002 ¡0.05, then according to the basis of decision making it was concluded that H_0 was rejected. Rejection of H_0 implies that there are significant differences in student creative understanding in receiving extensive reading material using technology literacy and visual literacy.

1 INTRODUCTION

Literacy is an important part of language learning. Reading and writing skills are preferred aspects of literacy, but literacy is not just two skills. Abilities are related to cognitive, experience, cultural values, and others. Lowe (1998) stated that literacy can be media, networks, computers, traditional alphabet, library, culture, and vision. Beers (2009) concluded that literacy is divided into five basic, libraries, visual, media, and technology. So it can be concluded literacy a combination of various aspects lead to activities of thinking someone.

Critical understanding is an indispensable skill. Ruland (2003) states that process readers measured a universal intellectual standard including clarity, accuracy, precision, accuracy, precision, relevance, relevance, depth. Critical thinking activities can be implemented various by critically examining aspects of the text, context, and integrity of readers. Creative is also very important. According to Taxonomy Barrett divided into literal, reorganization, inferential, evaluation, and appreciation. It explains the highest level of creative thinking. Creative thinking activity requires a critical thinking process. So it can be concluded that creative thinking comes from success in thinking with critical understanding. But critical thinking may not necessarily reach understanding at the creative level (Akın et al., 2015; Yousefi and Mohammadi, 2016; Kamalova and Koletvinova, 2016).

Currently, the gap occurs a silting thought about something against the younger generation. This happens because of a lack of interest. Facts show academically the majority have a high cumulative index. It is contrary to the results of previous research that the level of student understanding will illustrate his academic achievement. Besides, a reader must have the ability to understand lexical, literal, interpretative, applied, effective, critical, and creative.

A reliable ability academic-non-academic matters so that it can be beneficial for itself, family, and the nation-state. Habit and ability are very important because reading is a bridge to know all knowledge. But there still who not accustomed reading and do not have an ability that should have been at a critical and creative level. Where critical in question is that students can formulate critically, critically understand, apply critically, critically analyze, critically synthesize, and critically evaluate. While creative in question is the student can understand the literal reading and then interpret and give reactions in the form of an assessment of what the author said, followed by developing his thoughts to form ideas, insights, approaches, and new patterns of thought.

This research is very important to be implemented because the young generation must have a reliable reading ability to know all the science in academic and non-academic. Especially change the mindset

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of students so motivated to read and generate critical thoughts, and students' creative thoughts. Based on this research is very necessary to analyze aspects of the problem in critical and creative students' understanding. So the young generation though pattern will lead to critical thinking. The study will analyze (a) is there a statistical difference in students' scores for creative comprehension levels between groups? (b) How are the students' creative comprehensions on technology literacy? (c) How are the students' creative comprehensions on visual literacy?

2 LITERATURE REVIEW

2.1 Creative Comprehension

Creative reading is the level of reading comprehension at the highest level. Readers at this level should think critically and should use their imagination. In reading creatively, readers use the results of reading to develop their intellectual and emotional abilities. That ability will be able to enrich the knowledge, experience, and increase the sharpness of the power of reasoning so that the reader can generate new ideas. The process of reading this creative according to (Syafi'ie, 1999) starts from the literal reading and then interpret and give reactions in the form of an assessment of what the author said, followed by developing his own thoughts to form ideas, insights, approaches, and patterns - new thought patterns.

2.2 Technology Literacy

Technology Literacy is the ability to use technology to get information that needed. Variation in using technology literacies are reading the website, using a search engine, use map, access video, researching on the internet, email, chatting, SMS, microblogging use social sites, visiting cyberspace, blogging and using a wiki, use message boards, newsgroups, and VOIP (Skype).

2.3 Visual Literacy

Visual Literacy is a combination of development from various perspectives and abilities. In perspective, visual literacy consists of theoretical, visual language, and presentation. While on the principle of ability, visual literacy is the basis of the development of oral language; student interaction with objects, pictures, body language; the basis of student interaction with diversity of objects, images, body language; and the involvement of students in learning by creating objects, images and gestures (Biemiller, 2003; Pardo, 2004). In grouping visual literacy is divided into visual thinking, visual learning, and visual communication (Pressley, 2001; Scharer et al., 2005). Furthermore, visual literacy has a component in the form of visual perception, visual language, visual learning, visual thinking, and visual communication (Snow et al., 2002; Williams, 2005).

2.3.1 Visual Mapping

Visual mapping is one of the objects and images that meet visual literacy criteria. There are six types of visual mapping, namely mind mapping, concept mapping, arguments maps (development of places or counter arguments and conclusions surrounding disputes), thinking maps (the process of thinking of students), general thinking system (looking for relationships between variables), system dynamic (developing simulation models).

3 RESEARCH METHOD

This research used a mixed method Concurrent Triangulation Design. One shot case study is used in quantitative data to show the measurement strength and scientific value of research design and qualitative used case design. The participants were 80 students of the second semester in English Language Education, Faculty of Education, Universitas Islam Riau in an extensive reading course T.A 2017/2018. Variable X, technology literacy and visual literacy through observation to find out the teaching and learning process in the class. Variable Y used the reading test to measure students' creative comprehension.

4 FINDINGS

4.1 Quantitative Data

Table 1 shows the results of the Shapiro-Wilk and Lilliefors Tests. The value of p-value (Sig) lilliefors 0.002 in the control group where ¡0.05 then based on the lilliefors test, the data for each group were not normally distributed. The P value of the Shapiro-Wilk test in the experimental group was 0,000 <0,05 and in the control group 0,000 ¡0,05, both groups were not normally distributed based on the Shapiro-Wilk test, so the non-parametric test (Mann Whitney Test) was used.

Table 1: Normality Test of Shapiro-Wilk and Lilliefors

Test of Normality							
		Kolmogorov-Smirnov			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Value	Experiment	.248	40	.000	.538	40	.000
	Control	.180	40	.002	.730	40	.000
a. Lilliefors Significance Correction							

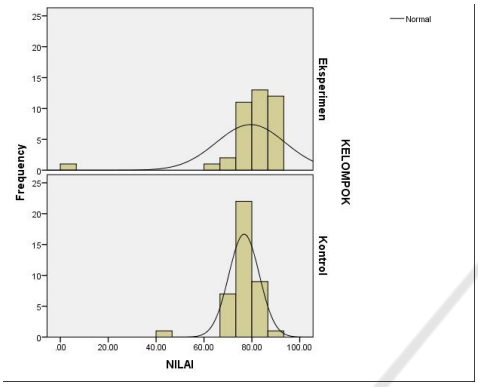

Figure 1: Data Dissemination.

Figure 1 shows that the slope and width are not the same. This shows that the form and distribution of data are not the same. Then look at the second highest peak of the histogram, it turns out it's not the same as the two, which means there are media differences. Then the first assumption of the Mann Whitney test is not fulfilled, ie there is no similarity in the form and distribution of data. The next assumption that will be tested is the homogeneity of variance.

Table 2: Mann Whitney Normality Test

Test of Normality							
		Kolmogorov-Smirnov			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Value	Experiment	.248	40	.000	.538	40	.000
	Control	.180	40	.002	.730	40	.000
a. Lilliefors Significance Correction							

Table 2 is the result of the normality test using Liliefors and Shapiro Wilk. The second Sig (p-value) value is above ¡0.05, which means that the data is not normally distributed. This is true because if the data are normally distributed, it will use an independent t-test from the Mann Whitney U Test.

Table 3 shows the results of the homogeneity test using Leven's test method. Levene test is more recommended because the test can be used to test the

Table 3: Mann Whitney Homogeneity Test

Test of Homogeneity of Variance					
		Lavene Statistic	df1	df2	Sig.
Value	Based on Mean	2.996	1	78	.087
	Based on Median	2.365	1	78	.128
	Based on Median and with adjusted df	2.365	1	51.374	.130
	Based on trimmed mean	2.410	1	78	.125

homogeneity of variance in data that is not normally distributed. While other tests, namely the Fisher F test are preferred if the data are normally distributed. The Levene's Test test value is shown in the Value-based On Mean, i.e. with Sig (p-value) 0.087, 0.05 which means the variance of the two groups is the same or is called homogeneous. Then the second assumption that is homogeneity has been fulfilled. Then testing the Mann Whitney U Test hypothesis.

Table 4: Mann Whitney Test

Ranks				
	Groups	N	Mean Rank	Sum of Ranks
Value	Experiment	40	48.55	1942.00
	Control	40	32.45	1298.00
		80		

Table 4 shows the Mean Rank or average ranking of each group, that is, in the experimental group the average rating is 48.55 higher than the mean of the control group, which is 32.45.

Table 5: P-Value of the Mann Whitney Test

Test Statistics	
	Value
Mann-Whitney U	478.000
Wilcoxon W	1298.000
Z	-3.099
Asymp. Sig. (2-tailed)	.002
a. Grouping Variable: Groups	

Table 5 shows a U value of 478 and a W value of 1298. If converted to k, the value of Z is -3.099. Sig or P-Value is 0.002 <0.05. If the value of the p-value ¡ critical limit is 0.05 then there are significant differences between the two groups or which means H1 is accepted.

4.2 Qualitative Data

Initial Learning Conditions

The first meeting of the Researcher described the extensive reading course in accordance with the learning contract and RPS that had been prepared by the study program team. In the second meeting, researchers asked students to look for narrative textbooks using literacy technology in the form of Fables, Legend, Fairytales, Myth, Folktale, Romance, Personal Experience, Horror, Science Fiction, Adventures, Historical, Slice of Live, Mysteries. The characteristics of the student's reading book must have more than 300 pages per book. The atmosphere of learning in the classroom is noisy and panic because they have to look for the book and deposit the title of the book along with the total number of pages to be read. Every student is not allowed to have the same list of titles. If students choose more than one textbook, then the student will get more values on the reading log record that has been provided. The intended reading log is a format that students use to record reading activities faithfully the day which includes the day, date, time, title of the book, page, and content. Students must be able to complete the reading with the speed of each page of the book in less than 1 minute. So if a student chooses a book with 500 pages and reads at a speed of 1 minute/page, then they have to finish it in 500 minutes meaning 8.33 hours. If the initial stage of the student can only read comprehensively with 3 minutes per page for 500 pages/book, it will take 1500 minutes with an estimated time of 25 hours to read. This must be overcome to achieve the target and expected results, which is 1 page $\leq$ 1 minute (60 seconds). Students' self-confidence in the reading process will become a problem when practicing. So that researchers must motivate students by proving the practice of speed reading in the classroom together.

Condition of the Learning Process

In the second meeting of the learning process, each student showed the reading material agreed upon at the first meeting. The researcher called one by one the names of the students and checked the material they had been looking for before. The reading material may be more than one book in the form of the e-book (technology literacy). After checking the reading material, the researcher taught the students how to reach the target of reading 1 page $\leq$ 1 minute (60 seconds). The researcher carried out the verification step according to the procedure. In 3x repetitions, students can master 1 page reading $\leq$ 1 minute (60 seconds). To measure their understanding, the researcher asked directly in accordance with the reading text that has been practiced with a limited time to be answered one by one. The situation in the classroom was suddenly quiet when the researcher and students practiced speed reading until asking questions. Until finally the Researchers proved that they could read 1 page $\leq$ 1 minute (60 seconds) by calculating the questions they had answered one by one. After it was proven that they could read 1 page $\leq$ 1 minute (60 seconds), the class suddenly became sad because new students realized that they had reliable competence. The practice of reading speed continues to be applied to 30 seconds per page. The classroom atmosphere was more melting than before. Next, they wrote down the reading schedule in the reading log and prepare themselves to recall orally and non-oral about the reading they have read and answered all the questions asked by the Researcher and other students for the third, fourth and fifth meetings. At the third, fourth and fifth meeting, one by one the students presented the results of their reading comprehension in the form of visual literacy and mind mapping. The researcher called the names of students one by one at random for presentations in front of the class. Before starting the presentation, the class selects the timekeeper to remind the presentation time limit. Each session, the researchers called seven presenters with a mechanism for the presentation time of around 5-7 minutes per student. There were several provisions when presenting, including presenters must pay attention to visual literacy, mind mapping, presentation time, and content.

The Final Condition of Learning

At the end of the learning process, the fifth meeting, the researchers found that the students' presentation of the reading was very satisfying. This was evidenced by the readiness of students to answer questions from researchers and audiences directly and spontaneously (without reading the textbook/summary). In this case, the selection and use of words and sentences when the presentation was still lacking. So that from the results of the observation it could be concluded that the understanding of the students has met creative comprehension. The researcher also found that the successes of these students were based on the motivation of the situation which seemed to force students to read. So that it affects the habits of students to read every day with the speed of reading that was once practiced in class.

5 CONCLUSIONS

The basis of decision making in the Mann Whitney Test in this study is if the value of Asymp. Sig. (2-tailed) <0.05, there is a significant difference. If the value of Asymp Sig. (2-tailed)> 0.05, there is no significant difference. With the hypothesis proposed (H0) in the form of no differences in creative understanding of students in receiving extensive reading material T.A 2017/2018 by using literacy technology, visual literacy, and mind mapping. So it can be concluded that based on data from and distribution, the two groups are not the same, then the results of the Mann Whitney test concluded that there were differences in a mean or mean between the two experimental groups and the control group. Furthermore, from Table 4.6 it is known Asymp. Sig. amounting to 0.002, because of the value of Asymp Sig. 0.002 ¡0.05, then according to the basis of decision making in the Mann Whitney Test it can be concluded that H0 is rejected. Rejection of H0 implies that there are significant differences in student creative comprehension in receiving extensive reading material for T.A 2017/2018 using literacy technology, visual literacy, and mind mapping. So, literacy technology and visual literacy are important to build the students" creative comprehension in reading.

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