An Application of the Creative Problem Solving Model in Analyzing the Structure of Complex Explanatory Text on XI Grade SMKN 4 Bandung

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Abstract—**Reading is a process of which habituate nuncupative communication skill. Reading is a process of reading codes the author made for readers. One of those codes is occur in learning of analyzing complex explanatory text structure. Reading in analyzing complex explanatory text structure is a method that is used to communicating implicit meaning on written symbols. One of the models that used in this learning is creative problem-solving model. This model is a learning skill that based on resolution on creative basis. This study applies a creative problem solving model in learning to analyze the complex explanatory text structure in class XI students of SMKN 4 Bandung which aims to determine the ability of class XI students in analyzing explanatory texts based on their accuracy in determining the existence of a complex explanatory text structure and accuracy in analyzing content suitability based on complex explanatory text structures, as well as testing the effectiveness of creative problem solving models. As for the results obtained by the authors of this study, the acquisition of the value of 3.91 for the feasibility of the instruments used was valid, and the XI grade students of SMK 4 Bandung were able to analyze the complex explanatory text structure. It can be seen from learning enhancement with preponderant post-test than pre-test which is 75.56 ≥ 51.04, and creative problem-solving model was effectively used with the calculation of statistics and pre-test also post-test significance level < 0.05, and 95% interval of level of confidence between, lower = -32.271 and upper = 16.769 which based on the same assumption.**

Keyword—reading, complex explanatory text, creative problem-solving model

I. INTRODUCTION

An effective learning activity can be marked as is interest of the students in undergoing the learning process. Interest of the students have a very big influence on learning, because if the interest have emerged then the students will undergo the learning process with full interest, especially in growing the intention to read. On March 2016, based from "Most Littered Nation In The World" which was conducted by Central Connecticut State University, which written in Indonesian online newspaper kompas.com, stated Indonesia ranked 60 from 61 countries about reading interest. Indonesia is right below Thailand (59) and above Botswana (61) [1]. Whereas, in terms of infrastructure assessment to support reading Indonesia occur above European countries, that is placed on number 34 above Germany, Portugal, New Zealand and South Korea. Next, interest of reading in Indonesia, especially on progeny still very low. This was recorded on data released by United Nations Educational, Scientific, and Cultural Organization (UNESCO) and republished by Indonesian online newspaper kompas.com which stated the percentage of reading interest in Indonesia is only 0,01 percent. Which means there is only one who likes to read out of 10.000 young generation [2].

As for the study result conducted by the team of Program Of International Student Assessment (PISA), Badan *Penelitian dan Pengembangan DEPDIKNAS* in year 2003 published by CNN Indonesia Student on February 2018 state that reading skills of 15-years-old in Indonesia is very concerning. Approximately about 37,6 percent can only read without being able to capture the meaning and 24,8 percent can only associate text read with only one kind of knowledge information [3]. Reading interest of elementary students placed on 38 and junior high school students on 34 out of 39 nations. The low reading interest of students is caused by several factors that influence it [2]. It could be from internal or external factor that occurred on an individual, also intern factor regarding the surrounding environment and infrastructure. Duta Baca Nasional in year 2006 also stated that society could not be blamed because the low interest in reading. The condition of the library that is not supportive and limited number of book collections due to high selling prices and taxes for books is also the cause of the public's lack of interest in reading [3].

Reading is a process carried out and used by the reader to obtain a message that the author wishes to convey through the medium of words / written language. A process that demands that a group of words which is a unity will be seen in a glance at a glance and the meaning in individual words will be known [4]. In addition, MacKenzie discusses specifically the reading paradigm based on its relevance theory. That, relevance theory is only an interpretive representation of thought, so that there is a gap between the representation of semantic sentences and thoughts that are uttered by speech [5]. For him, natural semantic language is too weak to encode semantic representations in the form of incomplete logic, which can only be a representation of divided thought. Usually the reader begins their interpretation by involving pragmatic conclusions built on

his conceptual representation. Thus, readers will understand the contents of the reading they read with concepts that have been built into their minds as thinking processes and knowledge.

Reading will not escape their interest in reading. Reading interest is a very strong source of motivation for someone to remember, evaluate and analyze the reading he has read. The process of analyzing is included in part of the 2013 curriculum, namely one concerning analyzing complex explanatory text structures. Analyzing complex explanatory text structures into competencies that must be mastered by students in hopes of stimulating students to be active and creative in solving problems. Kosasih explained that complex explanatory text is a text that relates to the event or process of occurrence of something completely. The explanatory text comes from the author's question of "why" and "how" a phenomenon can occur [6].

Thus, to be able to attract students' interest in reading, especially reading complex explanatory texts, an effective and creative learning model is needed in solving problems found when analyzing the reading they read. One of the models which is consider effective for solving problems creatively is creative problem solving. Creative Problem Solving (CPS) is a variation of learning with problem solving through systematic techniques in organizing creative ideas to solve a problem [9]. In line with this opinion, Huda revealed than almost all problem-solving efforts always involved all six characteristics that are used as the main foundation and often abbreviated as OPFISA: objective finding, fact-finding, idea finding, solution finding, and acceptance finding [4]. In learning context, CPS also involving all of those 6 steps to be carried out by the students. Teacher in CPS is tasked to directing creative problem solving. He/she is tasked with providing learning materials or discussion topics which can stimulate students to think creatively in solving problems.

Students who tend to think creatively in solving problems are always accompanied with considerably suffice reading skills, but there are some people which reading silently. This kind of reading technique is divided into three parts : preview scanning, and skimming. The students are previewing their reading source by scanning every pages to observe, search, and record every particular keywords. Next, the students are practicing their questions and skimming skills from writing questions based on the book title, bold printed words, and illustrations to determine their answers as preview. Thus, the students will learn to make their goals in reading textbooks. Scanning and skimming are needed to monitor and evaluate the students capability in learning. This skill is needed to adjust their reading source with the initial purpose, type of text, and the advancement purpose. They have to realize that speed and level of reading focus can affect their understanding of the text [7]. This kind of reading can also recognized as silent reading. As the speed of their eyes movement increased in reading the level of understanding will be plummet, thus silent reading will have its own down effect. The main issue on this type of reading is the mistake of capturing the main idea of the author. This relates to vocabulary mastery and its meaning, connecting words with their true meanings, sentences with sentences, paragraphs with paragraphs, even discourse at whole.

This misinterpretation has also been pointed out by Williams in Pateda which mentions 4 causes of misinterpretation. namely: (1) students are unable to grasp the intent of the author, thus making students often mistaken in determining statements that indicate identification of phenomena contained in complex explanatory text, (2) linking inappropriate interpretations, which sometimes make the students wrong in binding statements that have casual/ chronological/ casual relationships, (3) do not cause predispositions (a particular tendency towards a certain condition or development) critical between the readers and the evaluation of the author's method in developing an impact (the element of consequences) of a certain situation occurs, (4) the student's critical attitude towards what is read less, making students difficult in finding steps before learning to analyze, things those who are still in trouble [8].

Based on the preliminary study, the author is interested in doing research at SMKN 4 Bandung, to be able to find out the level of ability of vocational high school students in analyzing complex explanatory text structure. Because usually for vocational high school students, Indonesian is more considered to be a dull and not very interactive subject. For them, subjects that are more emphasize practice by going directly to the field pose more challenges than reading narrative writing. Thus, a learning model is needed to attract students' interest in learning, especially in Indonesian subject. Therefore, the author is interested in conducting research a research entitled "An Application of The Creative Problem Solving Model in Analyzing Complex explanatory Text Structure on XI Grade SMKN 4 Bandung"

The rest of this paper is organized as follow: Section II describes proposed methodology. Section III presents the obtained results and following by discussion. Finally, Section IV concludes this work.

II. METHODOLOGY

The method used in this study is quasi-experimental type one group pre-test-post-test design (initial test - single group final test). From the results of the determination of random subjects conducted at SMKN 4 Bandung, students of class XI RPL 1 and XI TKJ 2 were obtained as research subjects. As for instrument used in the study analyzing the structure of complex explanatory text is to use test techniques, which includes observations, instruments of learning tools, test and documentation. Analysis techniques materials used are statistical techniques independent sampel t-test. Analysis test independent sample *t*-test is used to test hypotheses and looking for the average pre-test and post-test counts obtained from the application of the creative problem solving models and the conventional model applied in the school. All calculations used SPSS 22.

III. RESEARCH RESULT

This section presents the results obtained and following by discussion.

A. Result

Planning and preparation before learning needs to be done in order to meet the criteria for validity. For the assessment of material experts who at the learning planning assessment analyzed the structure of complex explanatory

text with this creative problem solving model, which was carried out by teachers in the field of Indonesian Language and literature studies at SMK 4 Bandung. This assessment is carried out as a form of feasibility and determinant of the success of the implementation of learning. Assessment shows the results obtained by the author in the planning and implementation of teaching with the overall value obtained is 127 of the 27 aspects which were rated as an average of 3.91 and included in the excellent category. The results are obtained by the following formula.

$$\text{Value} = \frac{\sum \text{acquisition score}}{\sum \text{score total}} \times \text{Value standard (4)} \quad (1)$$

If categorized, the scores obtained by the author are in a very good category (A) in the learning process analyzing complex explanatory text structures with creative problem solving models in class XI of SMKN 4 Bandung. In addition, as for the results of the pre-test and post-test analysis, the results of the assessment are adjusted according to the criteria that have been made. The determined criteria in this study is the accuracy aspects that determined the existence of complex explanatory text structures that have been read and the accuracy of analyzing the suitability of text context with complex explanatory text structures. That criterion is made as reference in conducting study on material analyzes complex explanatory texts using creative problem solving models. The author, has provide the pre-test and post-test analytical result using creative problem solving model on experiment class for XI grade RPL I with a calculation using SPSS 22 program can be seen as follows:

TABLE I. GROUP STATISTICS

	Evaluation Result	N	Mean	Std. Deviation	Std. Error Mean
Study results using creative problem-solving model	Pre-test	25	51,04	15,855	3,171
	Post-test	25	75,56	10,962	2,192

The results in the Table I of group statistic shows the results of the evaluation of the pre-test and post-test grade with the number of N=25, the average grade of pre-test is 51.04 and the average post-test count 75.56. Which the mean post-test calculation value greater than the pre-test value $75.56 \geq 51.04$. With each standard deviation and mean standard error displayed.

TABLE II. INDEPENDENT SAMPLES TEST

		Study results using creative problem solving model	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	,258	
	Sig.	,614	
t-test for Equality of	T	-6,360	-6,360
	Df	48	42,678
Means	Sig. (2-tailed)	,000	,000
	Mean Difference	-24,520	-24,520
	Std. Error Difference	3,855	3,855
95% Confidence Interval of the Difference	Lower	-32,271	-32,296
	Upper	-16,769	-16,744

Based on the Table II above, Levene's Display Test for Equality of Variances: this is the result of homogeneity of the variance through The Levene Test. As it known the t-test requires homogeneity requirement test, namely the proof that the second variance of the measurement data is not different from the variance. The homogeneity test results are: F = 0.258; sig = 0.614.

The stipulation is; if P (sig) > 0.05, the relevant data is considered homogenous; vice versa, if P (sig) < 0.05, the relevant data is considered not homogenous. The calculation result display showed that F = 0.258 and sig = 0.614 because P (sig) > 0.05, that means those two variance are homogenous or indifferent.

The display of calculation results also showed t-value calculated by assuming the same variant (-6.360) with different (-6.360) both showing the same significant level of 0.000, which means P < 0.05, meaning there is no difference ability to analyze complex explanatory text structure between students. With 95% confidence level interval between the lower limit, lower = -32.271 and upper limit = -16.769 are all of the same assumption.

In addition, to show the level of effectiveness of the model used, the following are the results of the SPSS class-control program calculation using conventional model for XI grade TKJ 2 students as a comparison of the effectiveness of the model used, as follows in Table III below :

TABLE III. GROUP STATISTICS

	Evaluation outcome	N	Mean	Std. Deviation	Std. Error Mean
Learning outcomes of conventional models	Pre-test	25	67,68	8,924	1,785
	Post-test	25	73,12	9,396	1,879

These group statistics result shown the SPSS 22 program calculation on the control class which is not given treatment or still uses conventional models (commonly used in the school) with the average N = 25, with the average grade of the calculation for pre-test is 67.68 and the average grade for post-test is 73.12. Which mean that the post-test grade is greater than the value of pre-test by $73.12 \geq 67.68$. With each standard deviation and mean standard error displayed.

TABLE IV. INDEPENDENT SAMPLES TEST

		Learning outcomes of conventional models	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	,684	
	Sig.	,412	

t-test for Equality of Means	T		-2,099	-2,099
	Df		48	47,873
	Sig. (2-tailed)		,041	,041
	Mean Difference		-5,440	-5,440
	Std. Error Difference		2,592	2,592
	95% Confidence Interval of the Difference	Lower	-10,651	-10,651
		Upper	-,229	-,229

Based on the Table IV above, homogeneity test results for the control class with a value of F = 0.684, and a significance level of 0.412, can be said to be homogenous. Because, P (sig) > 0.05 or P (sig) = 0.412. The t-value calculated either through the assumption of the assumption of the same variant (-2.099) or different (-2.099) both shows the same significance level, which is 0.041. That means P < 0.05, which means that there is no difference in the ability to analyze complex explanatory texts between students. With a 95% confidence level interval between the lower limit, lower = -10.651 and upper limit, upper = -0.229 all of the same assumption.

B. Discussion

From the results of the study, it can be seen that the application of learning instruments using creative problem solving models that have been made can be declared appropriate for class XI students of SMK 4 Bandung. This has been proven from the results of assessments carried out by material experts with very good categories (A). Creative problem solving models are also more effective in analyzing complex explanatory texts. The results of calculation with the SPSS program showed an increase of 48.04% from early test carried out using creative problem solving model with the mean post-test calculation value greater than the pre-test value 75.56 ≥ 51.04. From these results three values were found with the lowest, medium and highest categories at the pre-test and post-test. For the lowest pre-test score obtained a value of 16, for the value of the pre-test being obtained with a value of 66 and with the acquisition of 83 being the highest value in the pre-test. In addition, there are also three values categorized as low, medium, and highest in the post-test obtained with a value of 50 for the lowest category, for the moderate category 66 values are obtained, and for the highest category in the post-test the creative problem solving model is obtained with 100. Whereas using conventional model did not show a significant increase of only 8.03% of the initial test conducted. Although the post-test value when using a conventional model is also greater than the pre-test value of 73.12 ≥ 67.68. With the highest scores from the pre-test and post-test only 63 and 70.

The effectiveness has been seen from the superiority of the creative problem solving model presented by Shoimin, which can train students to design inventions creatively, train the thinking process and act more creatively, can solve problems faced realistically, be able to help students in identifying and investigating, able to assist students in interpreting and evaluating observations, can stimulate the development of students' thinking progress to solve problems appropriately, and can help school education more relevant to life [9].

Based on the results of pre-test and post-test data, it can be seen that out of 25 students or equivalent to 100% the number of students taking the study has reached the Minimum Completion Criteria (KKM) of 75. Thus, creative problem solving models can be used as new variations in Indonesian language learning, especially in learning to analyze complex explanatory texts. With the problem solving that is passed through systematic techniques when organizing creative ideas. So, it can be proven that the model is more effective to use than the conventional models commonly used in these schools. The conclusion of the hypothesis is that all proposed hypotheses were declared accepted and the research conducted by the authors was also stated to be successful in gaining differences in the value of students from pre-test to post-test who experienced a good increase.

IV. CONCLUSION

The application of the learning model that is carried out meets the criteria for validity, practicality and effectiveness. The indicators can be seen as follows: (1) Learning to analyze complex explanatory texts in improving student learning outcomes that are applied has met the criteria of validity, namely for the assessment of material experts including preparation of learning and implementation of learning that determines the feasibility of the presentation with the average acquisition of 3.91 using scale 4 with each valid category. (2) The application of the creative problem-solving model provides student learning outcomes with a total post-test score greater than the value of pre-test 75.56 ≥ 51.04, by showing the difference in the increase of 48.04%. In this category, the creative problem solving model is said to be effective because it provides a significant increase. Although the conventional model also provides an increase in learning outcomes, it does not show significant value, because it only gives an increase of 8.03%.

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