

## Hak Cipta Diindungi Undang-Undang

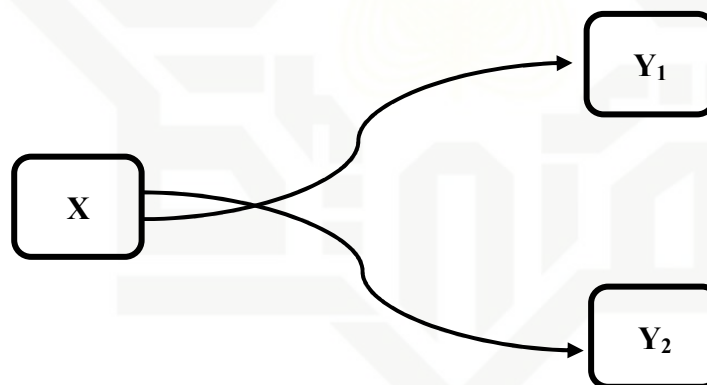
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## CHAPTER III

### RESEARCH METHODOLOGY

#### III.1 The Research Design

This research was a correlational research and it was one of quantitative study. This research was aimed to find out the influence of creative thinking on students' speaking and writing abilities. Two variables were involved in this research; creative thinking that was symbolized by "X" was as independent variable and dependent variable was the students' productive skills that was symbolized by "Y". The dependent, variable Y, was students' productive skills which elaborated in two skills; speaking and writing abilities. Speaking ability was the first construct and writing ability was the second construct.



Gay and Airasian (2000:2) point out that correlational research attempts to determine whether, and to what degree, a relationship exist between two or more variables. The study was proposed to examine the influence of creative thinking on students' speaking and writing abilities or how to use these influences to rank prediction quantitatively.

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### III.2 The Location and Time of the Research

This research was conducted at MTs Al- fajar Pekanbaru which was located at Fajar street number 5, Labuh Baru Barat in Pekanbaru. The research was conducted from 1<sup>st</sup> June to 5<sup>th</sup> June 2017.

### III.3 The Population and Sample of the Research

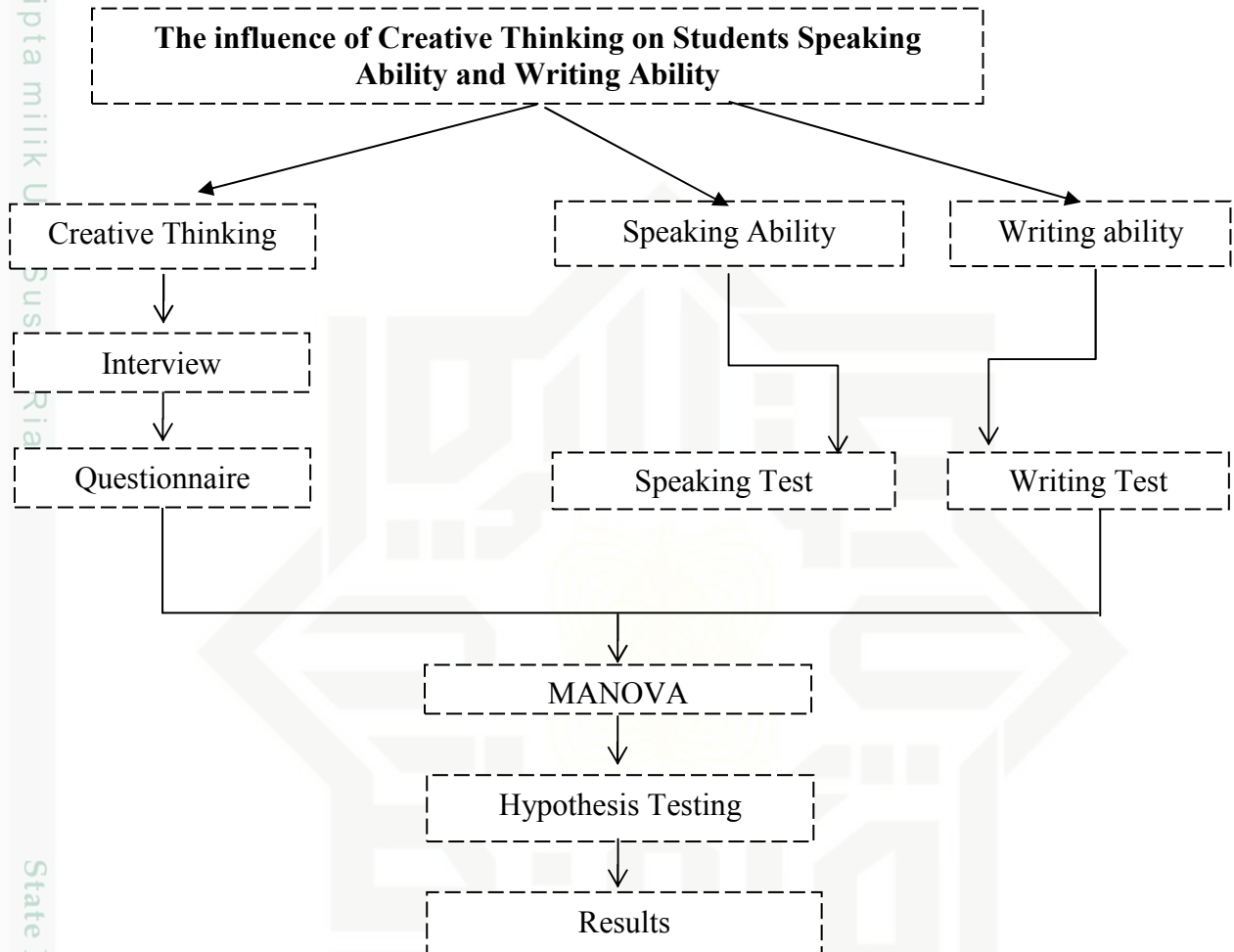
The population of this research was the eight grade students at MTs AL-Fajar Pekanbaru. There were three classes which consisted of class A, B, and C. The number of the eight grade students at MTs Al-Fajar Pekanbaru was 60 students presented in the following table:

**Table III.1**  
**The Total Population of the Eight Grade Students**  
**At MTs Al-Fajar Pekanbaru**

No	Class	Total Students
1	VIII.A	20 Students
2	VIII.B	20 Students
3	VIII.C	20 Students
<b>Total</b>		<b>60 Students</b>

Gay (2000 : 121) states that total population is sample comprise the individuals, item, or events selected from a larger group. The fact that population size was relatively small which was less than a hundred. Therefore the total sampling was used. *Multivariate Analysis of Variance* (MANOVA) was used to analyze the correlated coefficient technique in this research.

### III.4 Research Procedures



### III.5 Data Collection Technique

Four instruments of collecting data were used in this research. The first was questionnaire, the second was interview, the third was speaking test, and the last was writing test. The first and the second test were included in creative thinking test.

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### III.5.1 Creative Thinking Questionnaire

The creative thinking questionnaire used in this study was structured based on the components constructing creative thinking ability comprising acquiring competencies, taking risk, solving problems, embracing contradictions, innovating thinking, and connecting, synthesizing, transforming, fluency, flexibility, originality, and elaboration, as well as metaphorical thinking. All of dimensions or components above are manifested into three sections. Firstly, the section focused on the dimensions such as acquiring competencies, taking risk, solving problems, embracing contradictions, innovating thinking, and connecting, synthesizing, transforming, asks the participants to take into account ad deal with a matter provided through making it into an essay based on the available topic. Secondly, it focused on four dimensions comprising fluency, flexibility, originality, and elaboration. In this case, the participants were asked to use their creative thinking verbally, they were asked to name as many as possible of new uses for daily object given along the time constraint available. The third section specially focused on the metaphorical thinking. In this case they are asked to answer a multiple choice questions associated with analogy. To facilitate the participants answered the creative thinking test, the participants' native language, i.e. *Bahasa Indonesia*, were employed. Next, the creative thinking test could be seen in Table III.2 below:

**Table III.2**  
**The Matrix of Creative Thinking**

Research Variable	Indicator	Total of Items	Percentage Distribution	Section	Total of Percentage for each Section
Creative Thinking Ability	Acquiring Competencies	1	4%	1	24%
	Tasking Risks	1	4%		
	Solving Problems	1	4%		
	Embracing Contradictions	1	4%		
	Innovative Thinking	1	4%		
	Connecting, Synthesizing, & Transforming	1	4%	2	60%
	Fluency	1	10%		
	Flexibility	1	10%		
	Originality	1	20%		
	Elaboration	1	20%		
Metaphorical Thinking	16	16%	3	16%	
<b>Total</b>			<b>100%</b>	<b>3</b>	<b>100%</b>

### III.5.2 Speaking Test

In this test, the students were asked to describe the pictures. Their speaking were recorded to be scored by English lectures or raters, Mr. Abrar and Mr. Tommy. The data of this research were the scores of the students' speaking ability. It had five components. Hughes (2003:131) states that there are some components that should be considered in giving

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students' score; pronunciation, grammar, vocabulary, fluency, and comprehension.

### III.5.3 Writing Test

The test of writing recount text skill was intended to find out students' writing skill on a descriptive text. A topic, My Holiday was provided. Then, the participants were free to create and write their own experience toward holiday. The developed into a short composition should have at least a hundred words in length.

### III.6 Data Analysis Technique

In order to find out whether there was a significant or not correlation between students' creative thinking and their productive skills consist of speaking and writing, the data were analyzed statistically by using SPSS 23. Gay and Airasian (2000:323) state that when two data are correlated the result is a correlation coefficient indicates the size and positive direction of relationship, it is a decimal number ranging from -1.00 to +1.00. A correlation coefficient near +1 has a high size and positive direction and vice versa. .

Meanwhile, Pearson Product Moment was used to analyze the first hypothesis that to find out the influence of creative thinking on students' speaking ability at MTs Al-Fajar Pekanbaru and Pearson Product Moment was used to analyze the second hypothesis that to find out the influence of creative thinking on students' writing ability at MTs Al-Fajar Pekanbaru and *Multivariate Analysis of Variance* (MANOVA) was used to analyze the third hypothesis that to find out

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the influence of creative thinking on students speaking and writing ability at MTs Al-Fajar Pekanbaru. To determine whether the independent variable had significance on dependent variable(s) or not, the significant value ( $p$ ) of four different multivariate tests (Pillai's Trace, Wilks' Lambda, Hotteling's Trace, and Roy's Largest Root) were used to compare with the level significant.

However, before using the test, pre-requisite tests were carried out. They were:

- a. Testing Homogeneity of Variance
- b. Testing Homogeneity of Co-Variance

### III.6.1 Assessing Creative Thinking

The first section was scored based on the creative thinking value rubric proposed by AACU of with range from 1 to 4, which measure the dimensions such as acquiring competencies, taking risk, solving problems, embracing contradictions, innovating thinking, and connecting, synthesizing, and transforming. Furthermore, to get the standard scored of 100, the following formula is applied (Suharsimi : 2009):

$$\text{Standard Score} = \frac{\text{Obtained Score} \times 100\%}{\text{Expected Maximum Score}}$$

Next, the second section was scored based on the four dimensions of creative thinking comprising fluency, flexibility, originality, and elaboration. The four dimensions were scored separately. The scoring was explained as follows:

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## a) Fluency

The participants' fluency was scored based on the number of responses they can produce. Every idea given was counted one point. For instance, if they gave ten responses, then they would get ten responses on fluency.

## b) Flexibility

The participants' flexibility was scored based on the number of different categories of their responses. For instance, in the test participants were asked to list as many different possible use for empty egg cartons, and on their responses they mention four possible uses.

## c) Originality

The participants' originality was scored based on the frequency of idea on on the list of their participants taking the test. The more unusual idea given than other participants, the more extra points the participants could be obtained.

## d) Elaboration

The participants' elaboration was scored based on the way they could elaborate the responses given. The more elaborations and interesting ideas given, the more points were obtained. For instance, in the test the participants were asked to list as many different possible uses for empty egg cartons, and on their responses they mention "home for cockroaches" and "homes for honeybees, who can use the twelve egg spaces to create twelve small but connected honeycombs". The response "homes for honeybees, who could use the twelve egg spaces to create twelve small but



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connected honeycombs” would obtain two pints on elaboration because it was more than the home for cockroach.

In addition, the standard score for the section is calculated by using the following formula:

$$\text{Standard Score} = \frac{\text{Obtained Score} \times 100\%}{\text{Expected Maximum Score}}$$

The last section, test metaphorical thinking or analogy, was scored based on the correct answer on multiple choice question given. Forty items were involved. Besides, to obtain the standard score, the same formula as the first and the second section is employed:

$$\text{Standard Score} = \frac{\text{Obtained Score} \times 100\%}{\text{Expected Maximum Score}}$$

All of the three sections above were assumed to get the students’ score in creative thinking. Moreover, the students’ levels of creative thinking were interpreted based on the score scale of the level performance adapted from Treffinger et al represented as follows:

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**Table III.3**  
**Creativity Performance Level**

Level	Scale	Description
Excelling	80-100	The student's ratings are above average to excellent (in relation to local comparisons), on several indicators, in relation to varied tasks.
Expressing	61-79	The student's ratings are above average to better (in relation to local comparisons), and are above average in some of indicators, in relation to varied tasks.
Emerging	40-59	The student's ratings are at near the average (in relation to local comparisons), and may be above average for a specific task or project.
Not Yet Evident	0-39	The student's ratings on specific creative thinking criteria or behaviors completed by a qualified rater do not reflect evidence of creative thinking proficiency at the present time or in relation to the task, or the specific talent area or domain being rated.

### III.6.2 Assessing Speaking

The respondents' speaking is assessed through an adapted holistic scoring of which range can be seen as following table:

**Table III.4**  
**The Indicators of Speaking Ability**

a. Grammar

No	Indicators
1	Grammar errors are presented in each sentence.
2	Grammar errors are presented in some sentences.
3	Grammar almost entirely inaccurate in stock phrases.
4	Contrast errors showing control of very few major patterns and frequently preventing communication.
5	Frequent errors showing some major patterns uncontrolled and causing

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	occasional irritation and misunderstanding.
6	Occasional errors showing imperfect control of some patterns but no weakness that causes misunderstanding.

## b. Vocabulary

No	Indicators
1	Mixed between English and Indonesian language.
2	Indonesian languages are presented in some sentences.
3	Vocabulary inadequate for even the simplest conversation.
4	Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc).
5	Choice of words sometimes inaccurate, limitation of vocabulary prevents discussion of some common professional and social topics.
6	Professional vocabulary permits discussion of any nontechnical subject with some circumlocutions.

## c. Comprehension

No	Indicators
1	Misunderstandings are presented in each word.
2	Misunderstandings are presented in some sentences.
3	Understands too little for the simplest type of conversation.
4	Understand only slow, very simple speech of common and social and touristic topics; requires constants repetition and rephrasing.
5	Understands careful, somewhat simplified speech directed to him or her, with considerable repetition and rephrasing.
6	Understands quite well normal educated speech directed to him or her, but requires occasional repetition and rephrasing.

## d. Fluency

No	Indicators
1	Missing some words in each sentence.
2	Stutters are frequently presented.
3	Speech is so hailing and fragmentary that conversation is virtually

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	impossible.
4	Speech is very slow and uneven except for short or routine sentences.
5	Speech is frequently hesitant and jerky; sentences may be left uncompleted.
6	Speech is occasionally hesitant, with some unevenness caused by rephrasing and grouping for words.

## e. Accent/Pronunciation

No	Indicators
1	Pronunciation frequently unintelligible.
2	Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.
3	“Foreign accent” require concentrated listening and mispronunciation lead to occasional misunderstanding and apparent errors in grammar or vocabulary.
4	Marked “foreign accent” occasional mispronunciation that do not interface with understanding.
5	No conspicuous mispronunciation, but would not be taken for a native speaker.
6	No conspicuous mispronunciation

\*adapted : <https://www.slideshare.net/MagdaBeitler/general-speaking-rubric>

$$\text{Result of Student's Score} = \frac{\text{Total Score} \times 100\%}{\text{Expected Maximum Score}}$$

### III.6.3 Assessing Writing

The respondents' writing descriptive text is assessed through an adapted holistic scoring of which range can be seen as following table:

**Table III.5**  
**Assessment Aspects of Writing Recount Text**

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Aspect	Range	Criteria
Content	30-27	Excellent to Very Good: some knowledgeable of subject; adequate range; limited development of thesis; mostly relevant to topic
	26-22	Good to Average: some knowledgeable of subject; adequate range; limited development of thesis; mostly relevant to topic; but lacks detail
	21-17	Fair to Poor: Limited knowledge of subject; little substance; inadequate development of topic
	16-13	Very Poor: does not show the knowledge of subject; non-substantive; not pertinent; or not enough to evaluate
Organization - Identification -Description	20-18	Excellent to Very Good: loosely organized but main ideas stand out; limited support; logical
	17-14	Good to Average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing
	13-10	Fair to Poor: non-fluent; ideas confused or disconnected; lacks logical sequencing and development
	9-7	Very Poor: does not communicate; no organization; or not enough to evaluate
Vocabulary	20-18	Excellent to Very Good: adequate range; occasional errors of word/idiom form, usage but meaning not obscured
	17-14	Good to Average: inadequate range; occasional errors of word/idiom form, usage but meaning not obscured
	13-10	Fair to Poor: limited range; frequent errors of word/idiom form, choice, usage; meaning confused or obscured
	9-7	Very Poor: essentially translation; little knowledge of English vocabulary, idioms, word form; or not enough to evaluate

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Aspect	Range	Criteria
Language Use -Simple Past Tense -Adjectives -Attribute had -Linking verbs	20-18	Excellent to Very Good: effective but simple constructions; minor problems in complex constructions; several errors of agreement, tense, number, word order/functions, articles, pronouns, prepositions but meaning never obscured
	17-14	Good to Average: effective but simple constructions; minor problems in complex constructions; several errors of agreement, tense, number, word order/functions, articles, pronouns, prepositions and meaning obscured
	13-10	Fair to Poor: major problems in simple/complex constructions; frequent errors of negation, agreement, tense, number, word, order/functions, articles, pronouns, prepositions and or fragments, deletions; meaning confused or obscured
	9-7	Very Poor: virtually no mastery of sentence construction rules; dominated by errors; does not communicate; or not enough to evaluate
Mechanics -Spelling -Punctuation	10	Excellent to Very Good: occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured
	7	Good to Average: occasional errors of spelling, punctuation, capitalization, paragraphing, and meaning obscured
	4	Fair to Poor: frequent errors of spelling, punctuation, capitalization, paragraphing; poor handwriting; meaning confused or obscured
	2	Very Poor: no mastery of conventions; dominated by errors of spelling, punctuation, capitalization, paragraphing; handwriting illegible; or not enough to

Aspect	Range	Criteria
		evaluate

\*adapted from <https://www.slideshare.net/MagdaBeitler/general-writing-rubric>

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