

CHAPTER III

RESEARCH METHOD

A. Research Design

This research was an experimental research. Gay (1987) states experimental method is the only method of research that can truly test hypotheses concerning cause and effect relationship and because the researcher wants to know the effectiveness of Plus Minus Interesting strategy in teaching writing.

Gay (2003:234) says that experimental research typically consist of two groups, they were experiment group and control group. Researcher used post test only control design. In this research Plus Minus Interesting Strategy was independent variable and student's achievement was dependent variable. The experimental group taught with Plus Minus Interesting Strategy and the control group taught with teacher's technique in school.

Treatment were given to experimental group about five meetings. Every meeting researcher gives different topics. After doing treatment researcher gives writing test. Writing test used to know student's writing ability after treatment. The result would be known by comparing experimental group and control group.

Table 3.1
Table Research Design

Group	Treatment	Post-test
Experiment	X	O ₁
Control	-	O ₂

X = Treatment (teaching through Plus Minus Interesting Strategy)

O₁= Post-test for experimental class

O₂= Post-test for control class

B. Population and Sample

1. Population

Gay (1987: 102) says that population is a group to which the researcher would like the results of the study to be generalizable and sampling is the processes of selecting a number of individuals for a study in such a way that the individuals represent the large group from which they were selected. In this research, the population was students in class XII at Islamic Senior High School Padusunan Pariaman in academic year 2017-2018 which was grouped into five classes, there is XII IPA₁, XII IPA₂, XII IPS₁, XII IPS₂, XII IPK. The total population was about 133 students. It can be seen from table below :

Table 3.2

The Total of Students Class XII of Islamic Senior High School Padusunan Pariaman Academic Year 2016/2017

No.	Class	Total of Students
1.	XII IPA 1	24
2.	XII IPA 2	25
3.	XII IPS 1	28
4.	XII IPS 2	28

5.	XII IPK	28
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2. Sample

According to Gay (2012:134) a sample is a group of individuals, items, or events that represents the characteristic of the larger group from which the sample is drawn. Then, process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected is called Sampling. Researcher used cluster random sampling. Gay (2012:144) says that cluster sampling is sampling in which group, not individual are randomly selected. To get the representative sample of this research the researcher did these steps:

- a) Collected students' daily writing from all of students at twelve grades.
- b) Test of normality, normality test has an objective to know the population normal or not. The normality test analyzed by using SPSS (*Statistical Product and Service Solution*) with data exploration of Kolmogorov-Smoirnov test and Shapiro Wilk. Based on that test the data stated normal if every classes has significance or probability score bigger than 0.05.

It can be seen on the table.

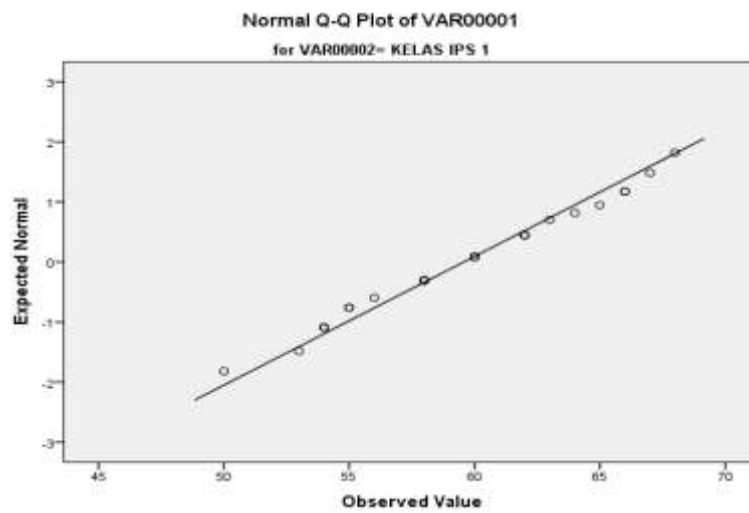
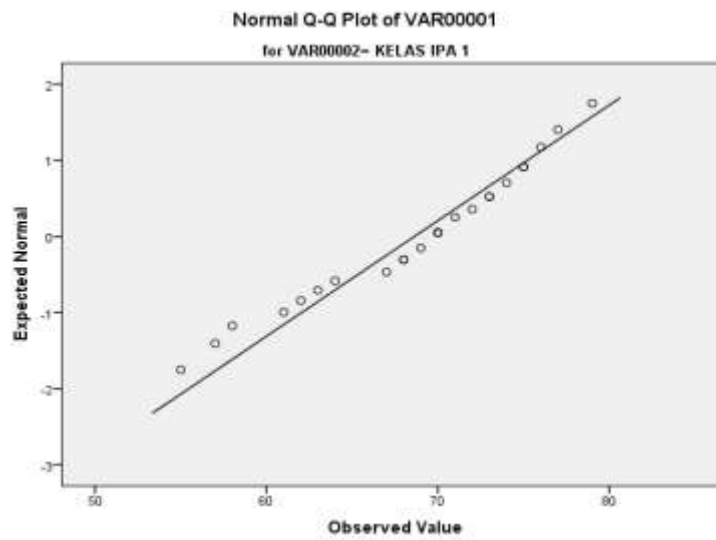
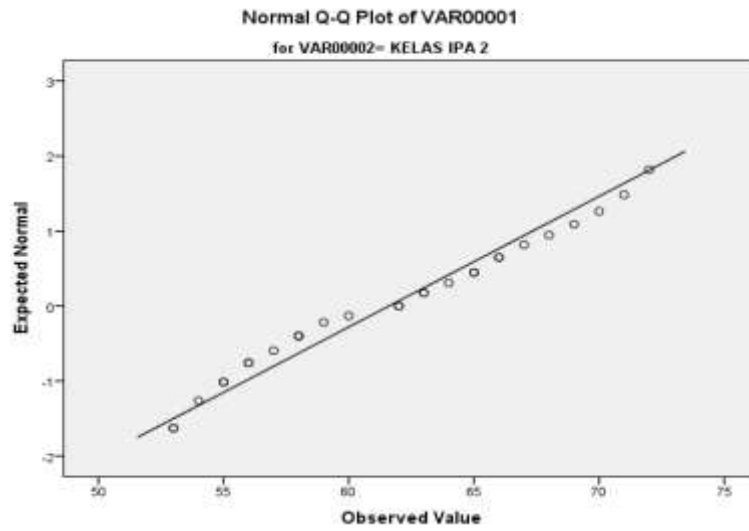
Table 3.3
Tests of Normality

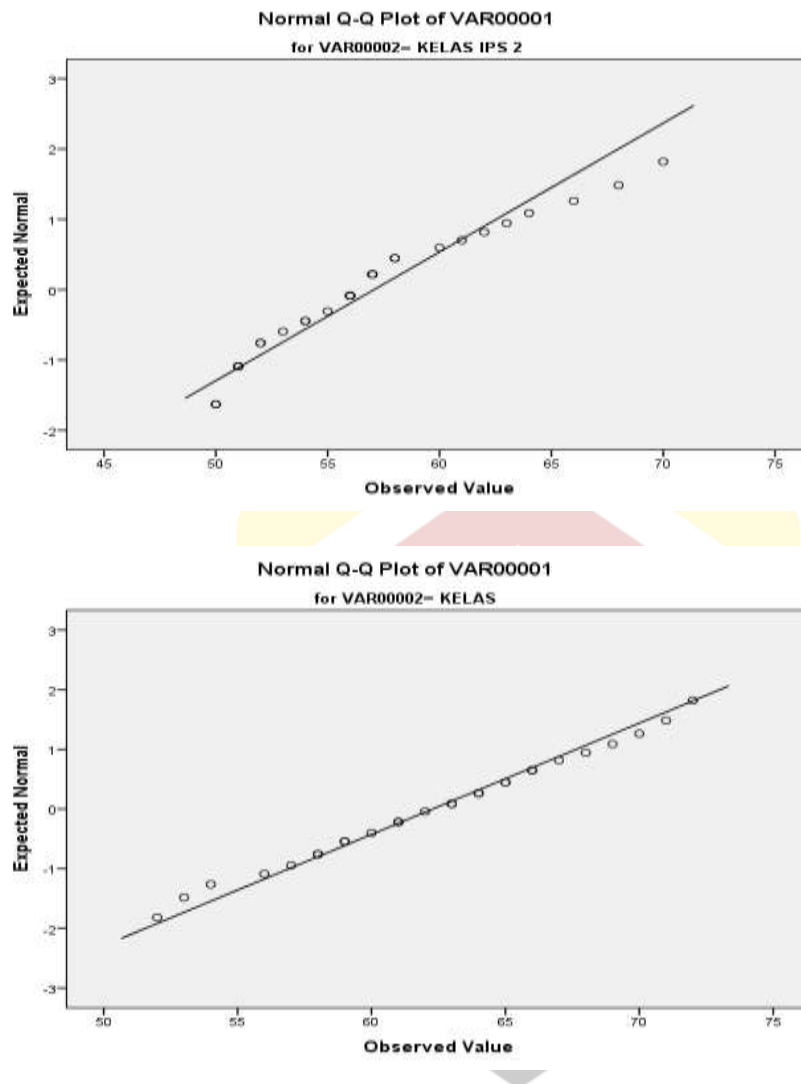
VAR00002	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
1	,129	24	,200 ⁺	,954	24	,331
2	,128	28	,200 ⁺	,954	28	,243
VAR00001 3	,096	28	,200 ⁺	,974	28	,682
4	,148	28	,119	,932	28	,068
5	,059	28	,200 ⁺	,983	28	,924

Based on the table, can be seen that the significance or probability score for all of classes (IPA 1, IPA 2, IPs 1, IPS 2 and IPK) bigger than 0.05 in both Kolmogorov-Smirnov and Shapiro-Wilk.

To see whether the sample normal or not in distribution, researcher also use normal graphic of Q-Q plot, the data is normal if the distribution of data plot be in the surrounding of slant and athwart line. From the normality test, researcher got the output as below:

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From the chart above can be seen that the drops spread around the line. So, it can be concluded that the distribution of all the population were not normal. Four classes was normal and the other not normal.

c) Test of Homogeneous Variances

After did the normality test and got the normal data. Then the researcher did the homegeneous variation test. This test had an objective as to know the sample homogeny or not. The researcher did the test of homogeneity by using *Test of homogeneity of variance*. If the data were

significant or the data were more than 0.05 it mean the data was homogeneous.

Table 3.4
Test of Homogeneity of Variance

	Levene Statistic	df1	df2	Sig.
Based on Mean	,900	4	131	,466
Based on Median	,726	4	131	,576
Based on Median and with adjusted df	,726	4	116,630	,576
Based on trimmed mean	,879	4	131	,479

The decision of column *test of homogeneity of variance* shown that p-value 0.001 is smaller than 0.05, so it can be concluded that all the class were homogeneity.

- d) After researcher analyzed the homogeneity and normality test, researcher found all classes was homogeny but one class was not normal. Then, researcher was chosen those normal classes for experimental class and control class. The procedure of cluster random sampling is researcher made a lottery which contained all of population. So, the researcher got XII IPA 2 as control class and XII IPA 1 as experimental class.

Table 3.5
Sample of Research

No	Class	Number of Student
1	XII IPA 1 (Experimental Class	24
2	XII IPA 2 (Control Class))	25
Total Sample		49

C. Place and Time

This research was done in class XII at Islamic Senior High School Padusunan Pariaman. This place was chosen because the researcher had ever done observation there. The treatment conducted on Oktober 2017 on academic year 2017/2018 at first semester.

D. Instrument of the Research

The instrument in this research was writing test. That used to collect the data about the improvement of student's writing ability after implementing Plus Minus Interesting Strategy. The instrumentation (written test) must consider the validity and reliability of the test. A test must have content validity if it measures what is going to be measured.

Arikunto (2010:67) says that one of the characteristics of test validity is content validity. It means the test is valid if it fixes with the material that has been given to the students and it is based on the Curriculum and syllabus. The writer used the Curriculum or syllabus and teaching material to construct the test

Table. 3.6
Blue Print of Writing Test

No	Type of Test	Indicators	Topic	Item
1	<p>Writing Test:</p> <p>Students are able to identified and make text by using components of writing</p>	<ol style="list-style-type: none"> 1. Students are able to make a discussion text who are relevant to assigned topic. 2. Students are able to organized sentences to be a good discussion text. 3. Students are able to choice effective word to develop topic. 	<p>Using Handphone</p> 	1
2		<ol style="list-style-type: none"> 4. Students can make a good paragraph by using correct grammar. 5. Students are able to use correct spelling, punctuations, capitalization and paragraphing. 	<p>Smoking in Public Area</p> 	1

3			Using Social Media	1
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According to Gay (2000:191), validity is the most important quality of a test. It is the degree to which a test measures it was supposed to measure and consequently, permitted appropriate interpretations of test scores. To be able to test the hypothesis and got better result, a test should have internal and external validities: *First,*

Internal Validity; the teacher teach the same class (experimental and control class), the students are asked to join the class while activities are going on, students' loss is controlled by tightening the absent list, contamination in experimental class is controlled by not telling the students about the research. *Second, External Validity;* the researcher divide the students into two classes (experimental and control classes), the teacher constructs the situation of experimental class just as the

daily situation, this research follows the school schedule, not tell the experimental students that they are as the object of research.

In this research, the researcher uses a written test. The written test is done on post-test toward two classes (experimental and control classes). The students in experimental class are taught writing through Plus Minus Interesting Strategy and the students of control class are taught through Conventional Strategy.

The test (written test) was reliable if it has stability consistently, even though, the test was given on two different occasions and the result were similar. The topics of written test were created by considering the ESL criteria (Jacob, 1981)) which appropriate to the level of grade XII students of Islamic Senior High School.

Table 3.7
Indicator of Writing Based on Jacob's Theory

No	Components	Criteria of each item	Score
1	Content	Excellent to very good: Knowledgeable; substantive; thorough development of thesis; relevant to assigned topic.	30-27
		Good to average: Some knowledge of subject; adequate range; limited development of thesis; mostly relevant to topic, but lacks detail.	26-22
		Fair to poor: limited knowledge of subject; little substance; inadequate development of topic.	21-17
		Very poor: does not show knowledge of subject; non substantive; not pertinent; or not enough to evaluate.	16-13
2	Organization	Excellent to very good: Fluent expression; ideas clearly stated/supported; succinct; well organized; logical sequencing;	20-18

		<p>cohesive.</p> <p>Good to average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing.</p> <p>Fair to poor: non-fluent; ideas confused or disconnected; lacks logical sequencing and development.</p> <p>Very poor: does not communicate; no organization; or not enough to evaluate.</p>	<p>17-14</p> <p>13-10</p> <p>9-7</p>
3	Vocabulary	<p>Excellent to very good: sophisticated range; effective word / idiom choice and usage; word form mastery; appropriate register.</p> <p>Good to average: adequate range; occasional errors of word / idiom form, choice, usage but meaning not obscured.</p> <p>Fair to poor: limited range; frequent errors of word / form choice, usage; meaning confused or obscured.</p> <p>Very poor: essentially translation; little knowledge of English vocabulary, idioms, word form, or not enough to evaluate.</p>	<p>20-18</p> <p>17-14</p> <p>13-10</p> <p>9-7</p>
4	Language Use	<p>Excellent to very good: effective complex constructions; few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions.</p> <p>Good to average: effective but simple construction; minor problems in complex constructions; several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured.</p> <p>Fair to poor: major problems in simple / complex constructions; frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions; meaning confused or obscured.</p> <p>Very poor: virtually no mastery of</p>	<p>25-22</p> <p>21-18</p> <p>17-11</p> <p>10-5</p>

		sentence constructions rules; dominated by errors; does not communicate; or not enough to evaluate.	
5	Mechanics	Excellent to very good: demonstrates mastery of conventions few errors of spelling, punctuations, capitalizations, paragraphing. Good to average: occasional errors of spelling, punctuation, and capitalization, paragraphing, but meaning not obscured. Fair to Poor: Frequent errors of spelling, punctuations, capitalizations, paragraphing; poor handwriting, meaning confused or obscured. Very poor: no mastery of conventions dominated by errors of spelling, punctuation, capitalization, paragraphing; handwriting illegible; or not enough to evaluate.	5 4 3 2

E. Procedure of Doing Research

1. Preparation

- a. Setting a schedule of the research
- b. Determining the population and sample
- c. Preparing the lessons plan arranged by curriculum or syllabus for six meetings to experimental and control class
- d. Preparing research instrument

2. Application Step

Researcher gives treatment by using Plus Minus Interesting Strategy in Experimental class. The scenario of learning for experimental class and control class can be seen as follows:

Table 3.8
Procedure Of Research

Experimental Class	Control Class
<p>A. Pre - teaching Activity</p> <ol style="list-style-type: none"> 1. Greeting. 2. Checking students' attendance list. 3. Teacher introduces learning objective to students. 4. Teacher writes a topic of the lesson on the whiteboard. 	<p>A. Pre - teaching Activity</p> <ol style="list-style-type: none"> 1. Greeting. 2. Checking students' attendance list. 3. Teacher introduces learning objective to students. 4. Teacher writes a topic of the lesson on the whiteboard.
<p>B. Whilst - teaching Activity</p> <p>1. Exploration Building Knowledge of the Field (BKOF)</p> <ol style="list-style-type: none"> a) The teacher introduces the topic based on the syllabus. b) The teacher gives some questions based on the topic to build students' background knowledge and their arguments. c) Students answer teacher's question. <p>2. Elaboration Modelling of Text (MOT)</p> <ol style="list-style-type: none"> a) Teacher gives an example of discussion text b) Teacher explain the example about: Generic structure, purpose and Language features of the text. It helps students to understand the basic parts of discussion text 	<p>B. Whilst - teaching Activity</p> <p>Exploration</p> <ol style="list-style-type: none"> a) The teacher introduces the topic based on the syllabus. b) The teacher gives some questions based on the topic to build students' background knowledge and their arguments. c) Students answer teacher's question. <p>Elaboration</p> <ol style="list-style-type: none"> 1. Teacher explain the material about generic structure, purpose, language features of the text 2. Every students makes a hortatory exposition text

<p>c) After that, Students identify the example of discussion text.</p> <p>Join Construction of the Text (JCOT)</p> <p>a) Teacher asks students to making group, each group consist of 4 member</p> <p>b) Teacher gives the class an idea or topic.</p> <p>c) Students have to think of plus point (p), minus point (m) and interesting point (i) of an idea.</p> <p>d) Students write their idea into coloums according plus, minus and interesting point.</p> <p>e) Each students works with their partner and they share their idea.</p> <p>f) Students work on their own group for a few minutes.</p> <p>g) Teacher controls students discussion.</p> <p>h) Teacher leads and asks the students to develop topic sentence and thesis statement based on their ideas in to paper</p> <p>Independent Construction of the Text (ICOT) The students make their own text</p> <p>3. Confirmation</p> <ol style="list-style-type: none"> 1. Students discusses with the whole class 2. Teacher gives them correction for their essay 	<p>Confirmation</p> <ol style="list-style-type: none"> 1. They discuss together and restate the generic structure of discussion text with their own knowledge about the topic 2. Finally, the teacher asks the brave students to read a discussion text 3. Students get the supporting comments from the teacher
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<p>C. Post – teaching Activity</p> <ol style="list-style-type: none"> 1. Teacher gives the opportunity for the students to ask their difficulties. 2. Teacher concludes the lesson. 3. Teacher closes the lesson. 	<p>C. Post – teaching Activity</p> <ol style="list-style-type: none"> 1. Teacher gives the opportunity for the students to ask their difficulties. 2. Teacher concludes the lesson. 3. Teacher closes the lesson.
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Table 3.9
The Application of Plus Minus Interesting Strategy in Writing Process

Process of Writing	Stages of PMI According to Klippel
Planning	The teacher gives the class an idea or topic
	Students have to think of plus point (p), minus point (m) and interesting point (i)
	Each student work with a partner and they share their ideas
Writing	Students work on their own group for a few minutes
Revising	The ideas are discussed with the whole class

3. Final Phase
 - a. Giving test (post-test) to experimental and control class
 - b. Processing data
 - c. Taking conclusion from Strategy of data collection

F. Technique of Data Collection

The data collected by giving writing test. Data of this research is the students' scores post-test. The post-test was given at the end of treatment. The researcher gave treatment to experimental group for six times by using Plus Minus Interesting Strategy. Finally, to identify the effect of Plus Minus Interesting Strategy in building students' writing

competence, the researcher gave post-test for both of experimental and control groups.

G. Technique of Data Analysis

The formula that is used is a t-test. The purpose is to differentiate of students' writing competence between experimental group and control group.

The formula of t-test is as follow (Sudjana (1989: 239)):

$$T = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$S^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

Where:

\overline{X}_1 = Mean score of post-test in experimental class

\overline{X}_2 = Mean score of post-test in control class

S_1^2 = Standard deviation in experiment class

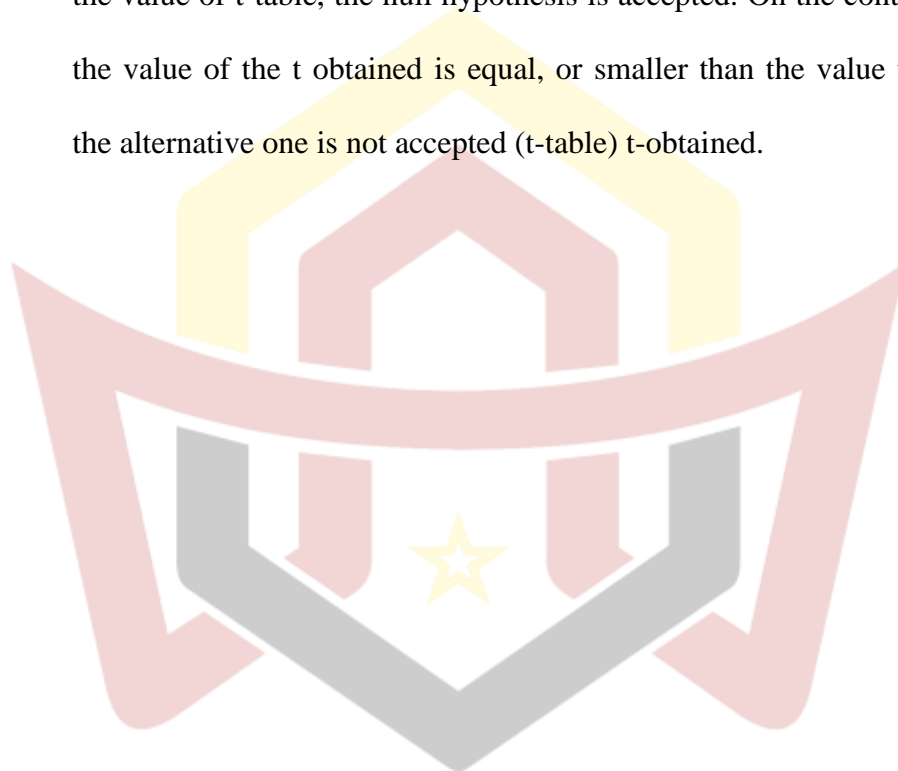
S_2^2 = Standard deviation in control class

n_1 = Number of samples in experiment class

n_2 = Number of samples in control class

The t-table is employed to see whether there is a significant difference between the mean score of post-test in experiment class and

control class. The value of t obtained is consulted with the value of t -table. The data is analyzed by using simple regression for hypothesis with 5 % ($=0,05$) of significance level and the value of t -table of the level of freedom $(N1-1) + (N2-1)$. If the value t -obtained is bigger than the value of t -table, the null hypothesis is accepted. On the contrary, if the value of the t obtained is equal, or smaller than the value t -table, the alternative one is not accepted (t -table) t -obtained.



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