CHAPTER III
RESEARCH METHODOLOGY

A. Research Setting

The researcher did the research at MTs Salafiyah Kajen Margoyoso Pati. She conducted this research from 5th of January 2010 to 2nd of February 2010.

Table 2
List of Time of the Study

No.	Activity	Month/Date							
		January							February
		5th	7th	12th	14th	19th	21st	28th	2nd
●	In experimental class								
1.	Pre test		√						
2.	Treatment I				√				
3.	Treatment II						√		
4.	Post test							√	
●	In control class								
1.	Pre test	√							
2.	Explaining I			√					
3.	Explaining II					√			
4.	Post test								√

B. Subject of the Research

1. Population

According to Arikunto, population is all the subject of the research.[1] In this case, the participants or the subjects of the research are the eight grade students at MTs Salafiyah Kajen Margoyoso Pati in 2009/2010 academic year. The number of the population is 207 students. The population of the research was distributed as follow:

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[1]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* (Jakarta: Rineka Cipta, 2006), 13th Ed., p.130.

Table 3
List of population

Class	Male	Female	Total
VIII A	39	-	39
VIII B	36	-	36
VIII C	36	-	36
VIII D	-	32	32
VIII E	-	30	30
VIII F	-	34	34
Total	111	96	207

2. Sample

Sample is part of population.[2] There are two samples in this study, experiment class and control class. Experiment class is taken from VIII D that consists of 32 students. Control class is taken from VIII F that consists of 34 students.

3. Sampling

Sampling is a technique to take a sample. There are many sampling techniques in investigation. In this research, the writer uses cluster sampling technique. This technique is used if the population consists of classes. According to Hadjar cluster sampling is the technique where the writer identifies convenient, naturally occurring group units, such as neighborhoods, schools, districts, or regions, not individual subjects, and then randomly selects some of these units for the study.[3] Finally, the writer took class VIII F as the control group and class VIII D as the experiment group. Both of those classes have the same teacher and on the available time to teach them.

C. Source of the Data

Source of the data in this research was from the students' written test of descriptive text in experimental and control classes of 2nd grade of MTs. Salafiyah Kajen Margoyoso Pati.

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[2]*Ibid.,* p. 131
[3]Ibnu Hadjar, *Dasar-dasar Metodologi Penelitian Kwantitatif dalam Pendidikan,* (Jakarta : PT RajaGrafindo Persada, 1999), 2nd Ed., p. 143.

D. Technique of Data Collection

The researcher must use instrument in order to get the better data. The instrument of the research is a tool or facility that is used by researcher for collecting data in order to get better result or in other words, it can be occur complete and systematic.

To get the accurate data, in this study the writer chooses some instruments for collecting the data, they are:

1. Test

Arikunto explained that a test is sequences of question of exercise often are used to measure skill, knowledge, intelligent, or talent of individual group.[4]

In this research, the writer used pre test and post test, they are:

a. Pre-test

Before the teacher taught new material by using Indonesian pop song, the teacher asked students to make a descriptive composition about someone that they have known before. Pre-test was given to the experimental and control classes in same way. This test was given before the experiment run.

b. Post-test

Post-test was given to the experiment class and control class. It was given in order to know students' achievement after they were taught by using Indonesian pop songs (experimental class) and without song (control class). In this case, students were asked to make writing about someone that they have known before.

2. Observation

While during the experiment, the researcher conducts observation. Classroom observation is an observation that is focused on the understanding of how social event of the language classroom are enacted.[5] The purpose of observations is to explain the situation in class activities,

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[4]Suharsimi Arikunto, *op.cit.*, p 150
[5]David Nunan, *Research Method in Language Learning,* (Cambridge: Cambridge University Press, 1992), p. 93.

individuals involved in some activities and relation between situation, activity, and individual. An observation is used to know how the process and the action of the implementation of Indonesian pop song as a media for learning writing in descriptive text. It takes from opening until the end or closing of teaching learning process. The researcher as a participatory, so she was an English teacher in both of two classes. To get the result of observation easily and systematically, the researcher used checklist and its containing list of students' activities and responses or happening which may happen.

The steps of collecting the data by giving the observation are as follows:

a. The researcher observed the teaching learning process of writing class. Started from when the teacher entered the class, held the class activities during the lesson until the teacher ended the lesson.

b. The researcher collected the data from the observation sheet and analyzed the data. Finally, the writer made some conclusions based on the observation.

In this study, observation only used to support the data about the students' imagination reflected on their engagement in writing class.

E. Validity of the Test

In this study the test form was free writing, and it has a subjective assessment. To make the instrument test was valid and avoid from subjective assessment, the researcher made scoring procedures or scoring guidance. According to Dana Ferris, regardless of the components emphasized for assessment in a writing course, teachers should have a working knowledge of the fundamental precepts of validity as they design instruments and make decisions about scoring procedures.[6] If a test is not valid, there is no point in

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[6] Dana Ferris and John S. Hedgcock, *Teaching ESL Composition: Purpose, Process, and Practice,* (USA: Lawrence Erlbaum Associates, 2005), 2nd Ed., p. 306

its being reliable since it is not testing any behavior of interest.[7] So, validity is as essential to equitable writing assessment as establishing reliable.

In this study, the researcher was using analytic scoring. There are five elements, which are used as consideration in scoring. They are content, organization, mechanic, vocabulary and grammar. Each of thus elements have different score weight. The weight ness depend on the crucial each elements in writing.[8]

The scoring guidance is not absolute; each teacher can make or choose the appropriate model, both the elements of quality and the size of quality of each element, and of course to avoid from the subjective assessment.[9] Because researcher did this research for finding students' imagination in order to flow their ideas smoothly and easily, she scored only content and organization. The scoring guidance is as follows:

Table 4[10]
The explanation of criterion

Item Analysis	Score Criteria
Content	53-60 Excellent: knowledgeable-substantive etc. 42-52 Good: some knowledgeable of subject-adequate range. 31-41 Fair: limited knowledgeable of subject-little substance. 20-30 Very poor: does not show knowledgeable of subject-non substantive.
Organization	36-40 Excellent: fluent expression-ideas clearly stated-cohesive 29-35 Good: somewhat choppy-loosely organized but main ideas stand out 22-28 Fair: not fluent-ideas confused / disconnected.

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[7]*Ibid.,* p. 304.

[8]Burhan Nurgiyantoro*, Penilaian dalam Pengajaran Bahasa dan Sastra*, (Yogyakarta: BPFE Yogyakarta, 2001),3rd Ed., p. 306.

[9]*Ibid*, p. 309.

[10]*Ibid.,* p. 307.

	15-21 Very poor: does not communicate-no organization.
Total of score	10-100

F. Technique of Data Analysis

1. Pre – request test

    Before the writer determined the statistical analysis technique used, she examined the normality and homogeneity test of the data.

    a. Normality Test

    It is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not. To find out the distribution data, normality test is done using the Chi-square formula. Steps of Chi-square test are as follows:

    1) Determine the range (R); the highest score - the lowest score.

    2) Determine the class interval (K) with formula:

    K = 1+ (3,3) log n

    3) Determine the length of the class, using the formula:

    $$P = \frac{R}{K}$$

    4) Make a frequency distribution table

    5) Determines the class boundaries (bc) of each class interval

    6) Calculating the average Xi ($\overline{X}$), with the formula:

    $$\overline{X} = \frac{\sum f_i x_i}{\sum f_i}$$

    7) Calculate variants, with the formula:

    $$S = \sqrt{\frac{\sum f_i (x_i - \overline{x})^2}{n-1}}$$

    8) Calculate the value of Z, with the formula:

    $$Z = \frac{x_i - \overline{x}}{s}$$

    x_i = limit class

$\overline{x}$ = Average

S = Standard Deviation

9) Define the wide area of each class interval

10) Calculate the frequency expository (Ei), with formula:

Ei = n x wide area with the n number of sample

11) Make a list of the frequency of observation (Oi), with the frequency expository as follows:

Class Interval	bc	Z	Size Classes for Z	Ei	Oi	$\dfrac{Oi - Ei}{Ei}$

12) Calculate the chi-square (X^2), with the formula:

$$X^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

13) Determine the degree of freedom (df). In the calculation of this data is arranged in list of frequency distribution consisting of k pieces so that the interval to determine the criteria test used formula dk = k-3, where k is the number of class intervals and $\alpha = 5\%$

14) Determining the value of X^2 table

15) Determining the distribution normality with test criteria:

If $X^2_{count} > X^2_{table}$ so the data is not normal distribution and the other way if the $X^2_{count} < X^2_{table}$ so the data is normal distribution. [11]

b. Homogeneity Test

Homogeneity test is conducted to determine whether the data are homogeneous or not. The steps as follows:

1) Calculate variants both classes (experimental and control classes), with the formula:

$$S_1^{\,2} = \frac{\sum(x-\overline{x})^2}{n_1 - 1} \text{ And } S_2^{\,2} = \frac{\sum(x-\overline{x})^2}{n_2 - 1}$$

[11]Sudjana, *Metode Statistika*, (Bandung: Tarsito, 2005), 6th Ed., p. 273.

2) Determine $F = \dfrac{Vb}{Vk}$

    Where:

    Vb   : Bigger Varian

    Vk   : Smaller Varian

  Determine dk $= (n_1 - 1) : (n_2 - 1)$

3) Determine F_{table} with $\alpha = 5\%$

4) Determining the distribution homogenity with test criteria:

    If $F_{count} > F_{table}$, the data is not homogeneous and the other way if the $F_{count} < F_{table}$, the data is homogeneous.[12]

c. Average Similarity Test

      Test of average is used to examine average whether experiment group and control group that has been decided having different average.[13] In the other hand, to analyze the data of this research is used *t*-test. A *t*-test would be the measure you would use to compare the mean scores of the two groups. To test the average similarity data is analyzed using t-test.

Hypothesis:

H_o: $\mu_1 = \mu_2$

H_a: $\mu_1 \neq \mu_2$

Description:

μ_1: average of experimental class

μ_2: average of control class

There are some formulas of t-test, there are:

1) If $n_1 = n_2$ and $\sigma_1{}^2 = \sigma_2{}^2$ (has same variant / homogeny), the formula is:

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[12]*Ibid*., p. 250.

[13]Anas Sudijono, *Pengantar Statistik Pendidikan,* (Jakarta: PT. RajaGrafindo Persada,1995), 16th Ed, p. 278

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

With determine dk = ($n_1 + n_2$ - 2) and α = 5%

2) If $n_1 \neq n_2$ and $\sigma_1^2 = \sigma_2^2$ (has same variant / homogeny) the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$$

With determine dk = ($n_1 + n_2$ - 2) and α = 5%

3) If $n_1 = n_2$ and $\sigma_1^2 \neq \sigma_2^2$ (has not same variant / not homogeny) it can choose one of two formulas, there are:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}} \quad \text{and} \quad t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$$

With determine dk = n_1 - 1 or n_2 - 2 , and α = 5%

4) If $n_1 \neq n_2$ and $\sigma_1^2 \neq \sigma_2^2$ (has not same variant / not homogeny) the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

With difference result both dk =(n_1 - 1) and dk= (n_2 - 2) divided

2, and then add with the smaller t_{table} , with α = 5%

5) If the sample correlated/related, the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2} - 2r\left(\dfrac{s_1}{\sqrt{n_1}}\right)\left(\dfrac{s_2}{\sqrt{n_2}}\right)}}$$

Where:

$\overline{X}_1$: The mean score of the experimental group

$\overline{X}_2$: The mean of the control group

n_1 : The number of experiment group

n_2 : The number of control group

$s_1{}^2$: variant of experiment group

$s_2{}^2$: variant of control group

If $t_{count} > t_{table}$ so Ho is rejected and there is no difference of average value from both of groups. Moreover, the other way if the $t_{count} < t_{table}$ so Ho is accepted and there is significant difference of average value from both of groups.[14]

But in this research, the researcher will choose one of the formulas, there are number 2 or 4 base on the variant result and because the sample of respondents both two classes are not same. In control class 34 students and experimental only 32 students as respondents.

2. The End Phase Analysis

a. Normality Test, this step is as same as the normality test on the initial data.

b. Homogeneity Test, this step is as same as the homogeneity test on the initial data.

c. Hypothesis test, proposed hypothesis test in average similarity with the right test is as follows:

H$_o$: $\mu_1 = \mu_2$

H$_a$: $\mu_1 \neq \mu_2$

Description:

μ_1: average of experimental class

μ_2: average of control class

There are some formulas of t-test, there are:

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[14]Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D,* (Bandung: Alfabeta, 2006), 2nd Ed., pp.272-273.

1) If $n_1 = n_2$ and $\sigma_1^2 = \sigma_2^2$ (has same variant / homogen), the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

With determine dk = ($n_1 + n_2$ - 2) and $\alpha = 5\%$

2) If $n_1 \neq n_2$ and $\sigma_1^2 = \sigma_2^2$ (has same variant / homogen) the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$$

With determine dk = ($n_1 + n_2$ - 2) and $\alpha = 5\%$

3) If $n_1 = n_2$ and $\sigma_1^2 \neq \sigma_2^2$ (has not same variant / not homogeny) it can choose one of two formulas, there are:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}} \quad \text{and} \quad t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$$

With determine dk = n_1 - 1 or n_2 - 2 , and $\alpha = 5\%$

4) If $n_1 \neq n_2$ and $\sigma_1^2 \neq \sigma_2^2$ (has not same variant / not homogen) the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

With difference result both dk =(n_1 - 1) and dk= (n_2 - 2) divided 2, and then add with the smaller t_{table} , with $\alpha = 5\%$

5) If the sample correlated/ related, the formula is:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2} - 2r\left(\dfrac{s_1}{\sqrt{n_1}}\right)\left(\dfrac{s_2}{\sqrt{n_2}}\right)}}$$

Where:

$\overline{X}_1$: The mean score of the experimental group

$\overline{X}_2$: The mean of the control group

n_1 : The number of experiment group

n_2 : The number of control group

$s_1{}^2$: variant of experiment group

$s_2{}^2$: variant of control group

If $t_{count} > t_{table}$ so Ho is rejected and there is no difference of average value from both of groups. Moreover, the other way if the $t_{count} < t_{table}$ so Ho is accepted and there is significant difference of average value from both of groups.[15]

G. Variable and Indicators of the Research

Variable is the object of research or something that become the concern of research.[16] In this research, there are two variables. They are Independent Variable (X) and Dependent Variable (Y).

1. Independent Variable (X)

Independent variable is variable that the experimenter expects to influence the other.[17] The independent variable of this study is the use of Indonesian pop songs to teach descriptive text.

2. Dependent Variable (Y)

Dependent variable is variable upon which the independent variable is acting.[18] There were two dependents variable of this study, such

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[15]*Ibid.*

[16]Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktik*, (Jakarta: PT Rineka Cipta, 2006), 13th Ed., p. 118.

[17]David Nunan, *op.cit.,* p. 25.

[18]*Ibid.*, p. 25.

as the students' imagination in writing descriptive text and the effectiveness of using Indonesian pop songs to teach descriptive text.

The indicator of the students' imagination in this study was shows in their content and organization aspect of descriptive text.

The indicator of the effectiveness in this study was the using of Indonesian pop songs to improve students' achievement when they wrote a descriptive text.

H. Research Procedure

In this research, the researcher conducted an experimental method. An experimental method is an approach to educational research in which an idea or hypothesis is tested or verified by setting up situation in which relationship between participants or variables can be determined.[19]

The researcher used pretest-posttest control group design. Two groups are employed in this design; one group, the experimental group, receives a treatment (X) while the second group, does not. Both groups are given a pretest and a posttest.

The pretest-posttest control group design can be diagrammed as shown below:

$$
\begin{array}{cccc}
\underline{E} & \underline{O1} & \underline{X} & \underline{O2} \\
C & O3 & Y & O4
\end{array}
$$

While:

E : Experimental group

C : Control group

O1 : Pre-test for the experimental group

O2 : Post-test for the experimental group

O3 : Pre-test for the control group

O4 : Post-test for the control group

X : Treatment with Indonesian pop songs as an aid

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[19]Jack C. Richard and Richard Schmidt, *Longman Dictionary of Language Teaching and Applied Linguistics*, (London: Pearson Education Limited, 2002), p. 191.

Y　:　Treatment without Indonesian pop songs as an aid[20]

The subjects of this research are divided into two groups: experimental group, which were taught by Indonesian pop songs "Kau Cantik Hari Ini by Lobow" and "Sempurna" by Andra & the Backbone, and control group which were taught without using song.

In this study, the researcher used quantitative approach. The data gained by numeric and analyzed by using statistical computation. It explained the result of pre - test and post – test.

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[20]Ibnu Hadjar., *op.cit.*, p.336.