

CHAPTER III

RESEARCH METHODOLOGY

A. Research Subject

Population in this research is two classes of the 8th grade in a public junior high school in Kota Bandung. Using convenience sampling two classes were chosen, one as experimental group and control group, both group were treated by different method in learning psychotropic and addictive substances. 30 students of 8I chosen as the experimental group and 30 students of 8F chosen as the control group.

B. Research Method

The method used in this study was quantitative experiment method. The data were collected from two classes. Control group was learn psychotropic and addictive substances by conventional method while experimental group learned psychotropic and addictive substances by role-playing method.

C. Research Design

The research used matching pretest - posttest comparison group. The characteristic of this design is both groups have different treatment which is chosen by convenience or haphazard sampling, means the population were chosen based on their relative ease of access so it was not based on the pretest score result. The research design can be seen in the Figure 3.1.

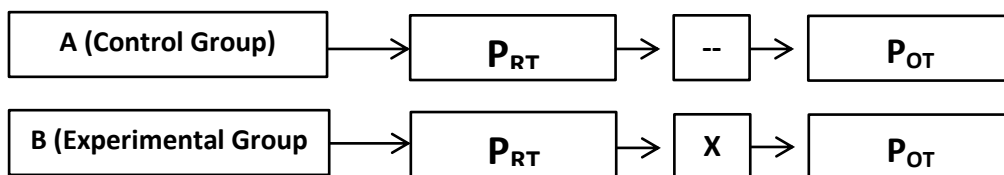


Figure 3.1

Matching pretest – posttest Comparison Group Research Design

Note:

- A : Control Group -- : No treatment
 B : Experimental Group X : Role-playing method treatment
- P_{RT} : Pre test
 P_{OT} : Post test

D. Operational Definition

Role-playing is science teaching and learning are define as active, experiential and student centred learning method, it means that the student directly involved into the learning process. Experimental group using three types of role-playing, they are presentations, theater in education and simulation.

The improvement of student's achievement stated on this paper is the improvement of student's score which is measured from student's pretest and posttest result from both experimental group and control group. Pretest and posttest questions were eight essay which represent the four objectives of the learning process itself.

The comparison of student's attitude stated on this paper will be observed from the attitude scale score result which is given once in the end of the session. The attitude scale has ten attitude statements which represent the four objectives of the learning process.

E. Instructional Tools

Instructional tools that is used in the implementation of this research is arranged as the follows:

1. Lesson Plan

a. Experimental group lesson plan

The lesson plan design for experimental group contained a learning scenario for four meetings in total. The learning implementation itself using three types of role-playing method to reach the objectives of the study about psychotropic and addictive substances chapter.

b. Control group lesson plan

The lesson plan design for control group contained a learning scenario for four meetings in total. The learning implementation itself using discussion and presentation method to reach the objectives of the study about psychotropic and addictive substances chapter.

2. Students Worksheets

a. Experimental group role-playing worksheet

The three sets of role-playing group worksheets was made to be used in the implementation process of the experimental group which is use role-playing as learning method. They are:

1) 1st Group Worksheet: Using Presentation type of role-playing

Worksheet contain articles about psychotropics and addictive substances cases or hot news, guided by some questions to find out 5W and H (what why who when where and how) about the contain of the articles. The rest is student should present their answer and idea about the whole article in their worksheet with their own way (e.g: investigation drama, conference drama) in front of the class.

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

The worksheet form for Group 1 can be seen below.



Figure 3.2

Experimental Class Group 1 Worksheet's Article



Figure 3.3

Experimental Class Group 1 Worksheet's Instruction

2) 2nd Group Worksheet: Using Theater in Education type of role-playing

In the worksheet, there is a scenario provided to be use in the implementation, titled Drugs are Bad with several role provided to be directly acted in front of the class by the students. The scenario itself in about a boy named Jack and his two friends which started to consume coccaïn and it change their life especially Jack's as the main character, Jack started to skip school and steal his parents jewelry to sell and get money to buy coccaïn. The material contained on the scenario are how parents should to to abused kid, what kind of treatment given to abused kid in the rehab and some more moral value.

The worksheet form for Group 2 can be seen below.



Figure 3.4

Experimental Class Group 2 Worksheet's Instruction

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikitropik Dan Zat Adiktif Di Sekolah Menengah Pertama Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

3) 3rd Group Worksheet: Using Simulation type of role-playing

The worksheet contain of 10 cutting cards and instructions, the cards itself contain certain condition which often happen in daily life such as:

“On the way home you meet a stranger, he offering you something looks like candy. What will you do? Act out and be safe!”

The student then discuss what will they do with their pair and act it out in front of the class.

The worksheet form for Group 3 can be seen below.

3rd Group

ACT OUT AND BE SAFE

1. Divided your 12 members group into 9 pairs.
2. Choose one of the situations randomly.
3. Act it out according to your own idea and improvisation.

1 Good Student & 1 Bad Student A bad student offered a good student to try some kind of unknown medicine. What should a good student do? act out and be safe.	Mother and her abused Kid act as a mother. If you have an abused kid, what will you do to help your kid? act out and be safe.	2 Students One of the student found some unknown pills from someone. What should you do? act out and be safe.	Doctor and a Patient Doctor asked about your illness (influenza) and you still got some medicine left after you got well. What should you do about the leftover medicine? act out and be safe.
2 Male Friends One offered another to join him to club and to try out some alcohol drink. What should another male do? act out and be safe.	2 Male Students One of the student complaining about his smoking habit that affect his ability in sport. What should another student do to help and suggest to him to do? act out and be safe.	2 Mothers 2 Mothers discuss how to prevent their kids from drugs. What will you do as a mother? act out and be safe.	Student and a Stranger On the way home you meet a stranger, he offer you some unknown medicine. What will you do? act out and be safe.
Dad and His Son Last time his son got headache, and Dad give him a pain-relieving medicine. Now the son asks for the medicine again.			

Figure 3.5

Experimental Class Group 3 Worksheet's Instruction

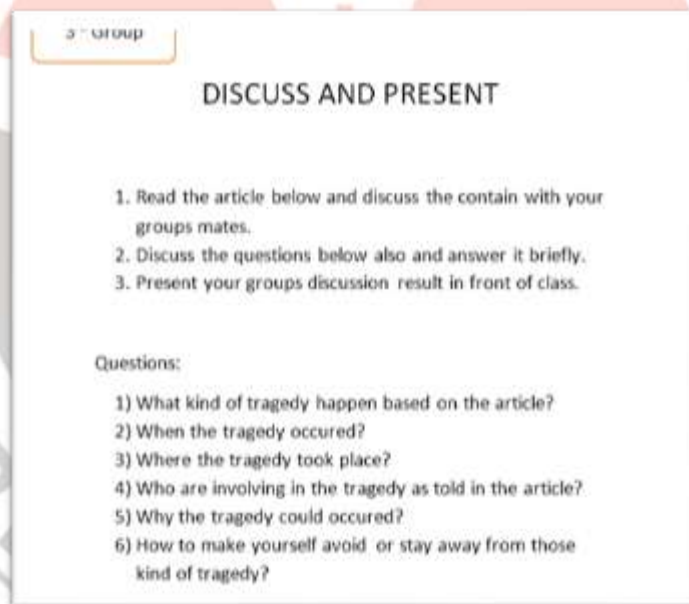
Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

b. Control Group Discussion Worksheet

Worksheet contain articles about psychotropics and addictive substances cases or hot news, guided by some questions to find out 5W and H (what why who when where and how) about the contain of the articles. Each group should present and inform their friends about the 5W and H information about their article in front of class.

The example of control group's worksheet form can be seen below.



The image shows a worksheet titled "DISCUSS AND PRESENT" with a "Group" label at the top left. The instructions are:

1. Read the article below and discuss the contain with your groups mates.
2. Discuss the questions below also and answer it briefly.
3. Present your groups discussion result in front of class.

Questions:

- 1) What kind of tragedy happen based on the article?
- 2) When the tragedy occured?
- 3) Where the tragedy took place?
- 4) Who are involving in the tragedy as told in the article?
- 5) Why the tragedy could occured?
- 6) How to make yourself avoid or stay away from those kind of tragedy?

Figure 3.6

Control Group's Worksheet Instruction

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

More drugs found in yet another fatal accident

Dicky Christanto, The Jakarta Post, Jakarta | Headlines | Sun, March 31 2013, 11:23 AM

A- A A+

Paper Edition | Page: 2

A speeding black sedan hit the toll road divider on Jl. TB Simatupang, South Jakarta, killing the driver and only passenger on Saturday morning. The victims were identified as Yasir Lutfi Marfadi and Winda Angraini.

The police examining the scene found six packets of crystal methamphetamine weighing 5 grams, three bongs, a bottle of liquor, two daggers and 29 tranquilizer pills.

"We collected the drugs from inside the car," South Jakarta traffic police chief Adj. Sr. Comr. Hindarsono said as quoted by kompas.com.

He said that according to statements made by the driver's wife and neighbors who viewed the remains at Fatmawati General Hospital, Yasir was a car dealer who resided in Pulogadung, East Jakarta. Details about Winda, who was half-naked in the car, have not been released.

Hindarsono said the police were investigating the accident to determine what caused it and would investigate the drug angle.

There has been a growing number of traffic accidents involving drugs in the capital over the past six months. Just a week ago, the police seized 598

More drugs found in yet another fatal accident - The Jakarta Post http://www.kompas.com/...chback in

Figure 3.7

Control Group's Worksheet Article Example

F. Research Instrument

a. Pretest and Post test

Pretest consist of eight essay questions and given at the beginning of the meeting after the introduction of the psychotropic and addictive substances chapter. It does not affect which group will be decided as control group and experimental group because there is a big chance that the result will have no significant different because in government school in every class the student

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

intellectual level always in average condition means in every class has the same amount of high achiever and low achiever.

Posttest has the same question used in the pretest, it is consist of eight essay questions and given after all the role-playing types being done in the experimental group and the discussion and presentations group present their discussion result about psychotropic and addictive substances in the control group are done. The result of posttest itself will be used to measure the effect of is role-playing that is given to experimental group will affected their achievement in learning psychotropic and addictive substances.

Table 3.1
Blueprint of Pretest and Posttest Questions

No	Indicator	Item Test
1.	Student can differentiate the different between medicine and drugs.	1
2.	Student know the different effect caused by certain kinds of psychotropic were different.	1
3.	Student know the different and example of psychotropic and addictive substance found in our daily life.	1
4.	Students have to be able to explain their action in some condition occurred in order to prevent themselves from drugs.	1
5.	Students have to be able to explain their action in some condition occurred in order to protect family and themselves from the negative effect of addictive substances.	1
6.	Student has to be able to explain their action in some condition occurred in order to help a friend to cure their addiction.	1
7.	Students have to be able to explain their action in some condition occurred in order to prevent themselves from psychotropic and addictive substances.	1
8.	Students know what kind of treatments done to cure/treat drug abuser in rehabilitation center.	1

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

b. Attitude Scale

Attitude scale is consist of Likert scale with ten positive statements provided each statement has the different objective in order to know the student's determination for their attitude in some case mention on the statements relate to the material being learn in this opportunity it is psychotropic and addictive substances.

Table 3.2

Blueprint of Student's Attitude Scale

No	Objectives	Test Item
1.	Explain kinds of drugs and its classification.	1
2.	Differentiate additives substances and psychotropic.	2
3.		
4.	Explain the effect of using addictive substances and psychotropic in daily life.	3
5.		
6.		
7.	Describe how to treat and prevent drugs user and psychotropic addiction.	4
8.		
9.		
10.		

c. Observation Sheet

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Writer asked two observers to come to both experimental group and control group in the implementation stages to observe how the learning activities about psychotropic and addictive substances being done in the class referring to the learning scenario made. The lesson plan is divided into three main parts of learning activity they are opening, core activity and closing. There are 'done' column and 'undone' column that have to be filled by observers by check (v) symbol to marked those activity has been implemented or done in the class room or not.

d. Student's Questionnaire

Writer will identify the student's responses in using role-playing as a method in learning psychotropic and addictive substances chapter by distribute a questionnaire contain five opened answer's questions about the activities being done in the learning process to the experimental group. The blueprint of student's questionnaire can be seen in Table 3.3 below.

Table 3.3
Blueprint of Student's Questionnaire

No	Aspect	Item Test
1.	The form of the role-playing group worksheet.	1
2.	Student's respond to the presentation type of role-playing learning activities.	1
3.	Student's respond to the theater in education type of role-playing learning activities.	1
4.	Student's respond to the simulation type of role-playing learning activities.	1
5.	Student's respond of interest to the whole role-playing learning activities.	1

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

e. Teacher's Questionnaire

Writer will identify the teacher's responses in using role-playing as a method in learning psychotropic and addictive substances chapter by distribute a questionnaire contain five opened answer's questions about role-playing and its implementation in the learning activities.

Table 3.4
Blueprint of Teacher's Questionnaire

No	Aspect	Item Test
1.	The teacher's interest toward role-playing in science learning process.	1
2.	The form of the role-playing group worksheet.	1
3.	Teacher's respond to the whole role-playing learning activities of psychotropic and addictive substances.	1
4.	Teacher's respond to the whole role-playing learning activities of psychotropic and addictive substances.	1
5.	Teacher's respond to the whole role-playing learning activities of psychotropic and addictive substances.	1

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

G. Research Procedures

In general, the research to be conducted has three stages, namely:

1. Stage 1: Preparation

The preparation stage are mainly about the process when writer preparing all the instrument being used in the research, as follow:

- a. Doing some literature study, mainly from international journals writer got from the internet and the journals collection book. According to Dana Craciun (2012) the improvement of the student's achievement using every method of learning can be measure and seen clearly from the test result before and after the learning implementation being done in the class, that is why writer use pretest and posttest as writing instrument to measure student's achievement in learning psychotropic and addictive substances using role-playing method. Meanwhile according to Ajzen & Fishbein attitude can be measure after the implementation being done because the link between attitudes and learning described as turn effect of personal experiences of the students in the learning process which can affect behaviour and attitudes, but because the attitude itself cannot be observed by a slight moment by the teacher when the implementation occurred so attitude scale was use to

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

measure the student's knowledge attitude after learn about psychotropic and addictive substances.

b. Writer observing the activities and learning process in four classes of Greade 8 in one of public junior high school in Kota Bandung which is being teach by the writer in her internship period and decided two classes as the observation subject to be observed for this research paper. Determine one class as control group class and another one as experimental group class randomly.

c. Determine the basic competence and material that will be use in the research, here writer choose Psychotropic and Addictive Substances from Grade 8 material in second semester because nowadays it was an important things to learn knowing how easy our teenagers are harmed by the use of psychotropic and addictive substance. It is exist in Indonesia KTSP 2006 curriculum which is use in SMP Negeri 5 Bandung as the place where the research taken.

d. Analysis the type of role-playing that appropriate with the chapter of Psychotropic and Addictive Substances that will be use in the implementation/learning process in the experimental group.

e. Implementation tools designing process to be use in the learning process. Two lesson plan being developed to be appropriate with the chapter taken it is psychotropic and addictive substances for control group it is using discussion and presentation method and for experimental group is using the role-playing types in the implementation/learning process. The implementation tools itself are two lesson plan for the experimental group and control group,

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

three role-playing worksheet for experimental group and three psychotropic and addictive substances cases article worksheet for control group.

f. Research instrument designing. In the implementation process some instrument needed in order to support the research to be done, they are:

1. Student's Pretest Posttest Questions to measure the improvement of student's achievement.
2. Student's Attitude Scale to measure student's attitude after the implementation being done.
3. Learning Process Observational Sheet to know whether the implementation process being done in the class same as expected from the lesson plan or not.
4. Student's Questionnaire to know the responses in using role-playing as a method in learning psychotropic and addictive substance.
5. Teacher's Questionnaire to know the responses in using role-playing as a method in learning psychotropic and addictive substance.

g. Expert judgement for the instrument making is a must in order to judge whether the instrument made by writer is appropriate with the research being taken and whether it is suitable to use in the implementation/learning process or not. Writer get three experts as the judges, they are one chemistry lecturer and two biology lecturers.

h. Revision of the instruments was done to revise some mistakes or incomplete term made by writer.

2. Stage 2: Implementation

1) Experimental Group Implementation Process

a. 1st Meeting: Pretest and Introduction

In the first meeting student from both experimental and control group was given pretest question to measure that their starting point before the research done are nearly in the same level.

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

Introduction of the material about Psychotropic and Addictive Substances are done to introduce the student to what they will learn then continue to divided the student in the experimental group into three groups and distribute the role-playing group worksheets.

b. 2nd and 3rd Meeting:

1) Learning Implementation using Role-playing

The implementation done according to the groups that has been divided in the previous meeting.

2) Observation of the Learning Implementation using Role-playing

Three types of role-playing are implemented in the experimental class, they are presentation, theater in education and simulation. All of those role-playing types chosen because, for the chapter of psychotropic and addictive substances which is learn about drugs and any addictive substances that really close to teenagers commingling in a big city like Bandung and Jakarta.

Presentations itself being done by giving the students worksheet with articles about psychotropics and addictive substances cases or hot news, guided by some questions to find out 5W and H (what why who when where and how) about the contain of the articles. The rest is student should present their answer and idea about the whole article in their worksheet with their own way (e.g: investigation drama, conference drama) in front of the class. After the role-playing being performed in front of class, techer and student discuss about the cases taken in the role-playing and discuss the 5W and H to make sure the students get the point of the first group presentation, it is mainly about type of psychotropics and addictive substance and its effect to our body and our life.

Meanwhile for Theater in Education, writer provide a scenario to be use in the implementation, titled Drugs are Bad with several role provided to be directly acted in front of the class by the students. The scenario itself in about

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

a boy named Jack and his two friends which started to consume cocaine and it change their life especially Jack's as the main character, Jack started to skip school and steal his parents jewelry to sell and get money to buy cocaine. The material contained on the scenario are how parents should to to abused kid, what kind of treatment given to abused kid in the rehab and some more moral value. After the drama, teacher and students discuss about the drama being performed in front of class and mentions what are the value that the students get from the dialogue performed, it is mainly about the social effect of psychotropics and addictive substance and the procedure of the treatment given in the rehabilitation center.

The last type of role-playing is simulation. Student divided into some pairs and given 1 cutting cards each, the cards itself contain certain condition which often happen in daily life such as:

“On the way home you meet a stranger, he offering you something looks like candy. What will you do? Act out and be safe!”

The student then discuss what will they do with their pair and act it out in front of the class. Teacher and the student discuss after the lesson to decide whether the student act is a right thing to do or not and give a right solution to face certain condition in real life.

Two observer came to observe the whole process of the implementation occurred in the experimental group with the guidance from the writer and the observational sheet given to check whether the implementation process suit the lesson plan prepared by the writer or not.

3) Distributing Teacher's Questionnaire

Teacher's questionnaire distribute to know teacher's respond to the implementation of the learning process of psychotropic and addictive

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

substances that the writer known as a rare method to use as a method in learning science in one of public junior high school in Kota Bandung.

c. 4th Meeting: Posttest and Distributing Student's Questionnaire

The posttest with the exactly same questions as pretest question distributed to measure the student's improvement in both experiment and control group to be compared to know the different of both group result to make conclusion about the effectiveness of role-playing method to improve student's achievement.

d. 5th Meeting: Distributing Attitude Scale

Attitude scale was distribute to both experimental and control group to know student's knowledge attitude result after the implementation/learning process occured.

2) Control Group Implementation Process

a. 1st Meeting: Pretest and Introduction

In the first meeting student from both experimental and control group was given pretest question to measure that their starting point before the research done are nearly in the same level.

Introduction of the material about Psychotropic and Addictive Substances are done to introduce the student to what they will learn then continue to divided the student into 3 groups.

b. 2nd and 3rd Meeting:

1. Learning Implementation using Discussion and Presenatation

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

The implementation done according to the groups that has been divided in the previous meeting.

2. Observation of the Learning Implementation using Discussion and Presentation

For the control group, the students learn about psychotropics and addictive substance using discussion and presentation method where the students divided into five groups with six members each. They're given one worksheet each group contain an article/case about psychotropic and addictive substance which is happen in Indonesia in 2010 until 2013, they discuss the article and answering 5W and H questions about the case and every group in the class given time to present their discussion result in front of class. In the end of the lesson teacher and student discuss about the whole activity being done in the class and add some more material from the slides of power-point presentation.

Two observer came to observe the whole process of the implementation occurred in the control group with the guidance from the writer and the observational sheet given to check whether the implementation process suit the lesson plan prepared by the writer or not.

c. 4th Meeting: Posttest

The posttest with the exactly same questions as pretest question distributed to measure the student's improvement in both experiment and control group to be compared to know the different of both group result to make conclusion about the effectiveness of role-playing method to improve student's achievement.

d. 5th Meeting: Distributing Attitude Scale

Attitude scale was distribute to both experimental and control group to know student's knowledge attitude result after the implementation/learning process

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

occured and expected that the result of experimental group is better that the control group.

3. Stage 3: Analysis and Conclusion

1. Research Instrument Scoring Process

Scoring process of the research instrument is different for each instrument in order to obtained the right data to be analyze in the next data processing process.

a. Pretest and Posttest Scoring

The process of pretest and posttest data scoring from both control and experimental group is 10 out of 10 points given if the students can answer all the 8 questions given in the test sheet. Then the total 60 pretest sheets and 60 posttest sheet being collected to put the score obtained into Microsoft Excel and SPSS program to be process furthermore.

b. Attitude Scale Scoring

The attitude scale scoring process is using Likerp scale with ten positive statements provided. So the more right the column checked by the students the more positive answer they choose and more points they got. The point itself is Strongly Disagree (1 point), Disagree (2 points), Neutral (3 points), Agree (4 points), and Strongly Agree (5 points) the points collected from student's answers of the 10 statements being calculated and divided by 5 to get total 10 out of 10 points maximum.

c. Learning Process observational Sheet Scoring

Two observers were came to both experimental group and control group implementation process given observational sheet based on the lesson plan to guide them in observing the whole activities happen. It was done by give

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psicotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

check mark in 'done' column if the activities in the class happen as written in the observational sheet and observer can give check mark in 'undone' column if the activities in the class were not same as what is written in the observational sheet. Writer then percentage the check mark exist in the 'done' column to know is the lesson plan made by writer can really being use in the learning implementation process.

d. Student's Questionnaire Scoring

Student's questionnaire form was five open questions so the scoring process is to collect all type of answer and make the similar one counted in one type of answers comes up. Percentage all the answers obtained and make a diagram pie for each question.

e. Teacher's Questionnaire Scoring

Same as student's questionnaire, the form of teacher's questionnaire was 5 open questions too so the scoring process is to collect all type of answer and make the similar one counted in one type of answers comes up. Percentage all the answers obtained and make a diagram pie for each question.

2. Data analysis done to process the data obtained from the whole research the Quantitative data processing done using SPSS 18.0 for Windows and Microsoft Excel 2010.

The whole analysis process of the data obtained from the experiment are as follow:

a. Test Data and Analysis

Test data obtained from this research are pretest, posttest and gain index. This is the analyze result of quantitative data obtained from this research.

1. Normality Test

Normality test conducted to determine whether data obtained normally distribute or not. To count it we can use SPSS software using *Kolmogorov-*

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

smirnov statistic test with 5% signification level. Normality test conducted to pretest and post test score from two different class/group (experimental and control group).

Both data were distributed normally, the data processing continued to homogeneity test. The data shown the distribution from one or all the data not normally distribute, the data processing can continue using *non perametric* statistic it is using *Mann Whitney-Wilcoxon* test.

2. Homogeneity Test

The data obtained normally distribute so the next process to be done was homogeneity test. Homogeneity test use to determine whether both group has homogenous variances or not. To count homogeneity *Leven's* test with 5% signification level was used. Homogeneity variances test done in order to determine which statistic test will be used to test our hypothesis (similarities and mean test).

From the *Leven's* test obtained, the data normally distribute and homogenous, the hypothesis test will be use is *One-Way Anova* (more than 28 students).

3. Compare Mean Test

Compare mean test is done to determine whether both group (experimental and control group) have the same mean score or not. If the data obtained normally distribute and has homogenous variances the next test will be *One-Way Anova*. Meanwhile if the data obtained did not distribute normally and did not have homogenous variances the test will be use is a Non-parametric test (*Mann Whitney-Wilcoxon* test).

According to the things that have already explained in the beginning that the data which is processed and analyzed in this research are pretest and post test data. The similarity test of those two group and the mean test is done to both

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

pretest and post test data. Similarity test done to determine whether both group (experimental and control group) has the same initial mean score or not.

Meanwhile, difference test and mean test done to the post test data only to determine the improvement of student's cognitive achievement. The counting obtained from both control group and experimental group pretest and post test score. Normalize gain index was used as measurement to determine the student's achievement of cognitive quality improvement.

The improvement occurred after and before the learning process according to Meltzer (Ward, 2006:39) is calculated by gain index formula below:

$$N - \text{Gain index} = \frac{\text{post test score} - \text{pre test score}}{\text{maximum ideal score} - \text{pre test score}}$$

The criteria used by Hake (Sopandi, 2010) are presented in below:

Table 3.7
Table of Normalize Gain Criteria

Gain	Interprets
$g > 0,7$	High
$0,3 < g < 0,7$	Medium
$g < 0,3$	Low

a. Attitude Scale Data Analysis

Attitude scale analysis data done by comparing each aspects from the total ten questions given to both control and experimental group then using Microsoft Excel 10, writer can see the average of both groups's score and compare them to see whether the score of experimental group is bigger than control group or inversly.

3. Observational Sheet Analysis

The observational sheet with check marked 'done' and 'undone' column being analyze one by one and presentage the activities being done in each

class to see if the learning activities being done in the class is based on the lesson plan made or not. The result then compared between control group and experimental group to know in which class the implementation done effectively based on the lesson plan made.

4. Student's Questionnaire Analysis

The student's questionnaire which has been scored was collected to make percentage of each answers comes up as the answer of five open questions given to the experimental class which learn psychotropic and addictive substance using role-playing.

5. Teacher Questionnaire Analysis

The teacher's questionnaire which has been scored collected to make percentage of each answers comes up as the answer of five open questions given to the science teachers in a public junior high school in Kota Bandung to know how was their responses through learning psychotropic and addictive substances using role-playing.

2. Conclusion can be determine after processing all the data from the whole research. The conclusion expected that the experimental group's posttest and the attitude score result which learn using role-playing method were better that control group's result which used conventional method in learning psychotropic and addictive substances

H. Research Plot

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikotropik Dan Zat Adiktif Di Sekolah Menengah Pertama
Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu

In order to arrange the sequence of research organizely, the whole process of the data collected shown in the following diagrams:

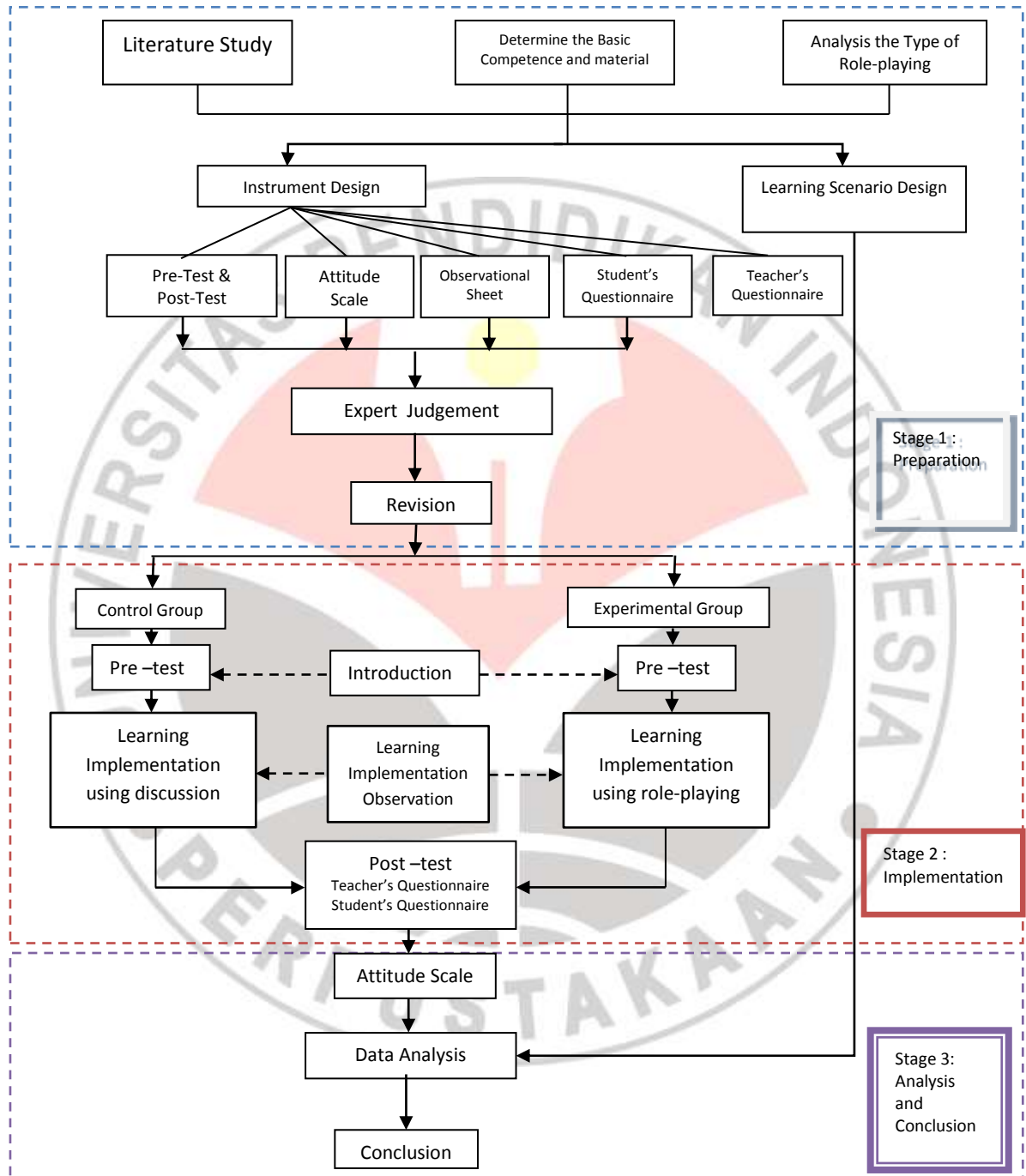


Figure 3.8

The Research Plot Diagram

Adinda, 2013

Efektifitas Metode Role-Playing Dalam Meningkatkan Hasil Belajar Dan Sikap Siswa Pada Pembelajaran Psikitropik Dan Zat Adiktif Di Sekolah Menengah Pertama Universitas Pendidikan Indonesia | repository.upi.edu | perpustakaan.upi.edu