THE EFFECTIVENESS OF "TREASURE HUNT GAME"

IN TEACHING ENGLISH SPELLING TO SMP STUDENTS

(The Case of Seventh Graders of SMP N 1 Gembong/Pati

in the Academic Year of 2009/2010)

A final project

submitted in partial fulfillment of the requirements
for the degree of *Sarjana Pendidikan*
in English

by

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PERNYATAAN

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"The Effectiveness of "Treasure Hunt Game" in Teaching English Spelling to the Seventh Year Students of SMP N 1 Gembong in the Academic Year of 2009/2010"

yang saya tulis dalam rangka memenuhi salah satu syarat untuk memperoleh gelar sarjana ini benar-benar merupakan karya saya sendiri yang saya hasilkan setelah melakukan penelitian, pembimbingan, diskusi dan pengarahan / ujian.

Semua kutipan baik yang langsung maupun tidak langsung, baik yang diperoleh dari sumber kepustakaan, wahana elektronik, wawancara langsung maupun sumber lainnya telah disertai keterangan mengenai identitas sumbernya dengan cara sebagaimana lazimnya dalam penulisan karya ilmiah.

Dengan demikian, walaupun tim penguji dan dosen pembimbing penulisan skripsi / tugas akhir / final project ini membubuhkan tanda tangan sebagai tanda keabsahanya, seluruh isi karya ilmiah ini tetap menjadi tanggung jawab saya sendiri. Jika kemudian ditemukan pelanggaran terhadap konvensi tata tulis ilmiah yang berlaku, saya bersedia menerima akibatnya.

Demikian, harap pernyataan ini di gunakan sebagaimana mestinya.

> Semarang,   Februari 2010
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> Yang memuat pernyataan
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Ever onward no retreat (Bung Karno)

To:
- My beloved father and mother, who give me a lot support and motivation
- My beloved brother
- My husband, who helps, supports, and loves me.

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ABSTRACT

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Key Words: Treasure Hunt Game, English Spelling, Year Seven Students of Junior High School.

This study dealt with the use of the effectiveness of treasure hunt game in teaching English spelling to junior high school students. The problem that is discussed in this study is whether teaching English spelling by using treasure hunt game is effective or not for junior high school students. Therefore, the objective of the study is to find out whether teaching English spelling by using treasure hunt game is effective or not for junior high school students.

The population of this study is the year seven students of SMPN 1 Gembong in the academic year of 2009/2010. The number of population is 270 students are divided into seven classes. In taking sample, the writer used simple random sampling. The writer chose 76 students from class VII^A as the experimental group and class VII^B as the control group. The treatments given to the groups were different but the materials and topics were the same. The experimental group was treated by using treasure hunt game. Meanwhile, the control group was taught by using conventional strategy.

Before conducting the research, the instrument had been tried out first. The purpose of conducting the try out was to find out the validity, reliability, item difficulty, and discriminating power. The test consisted of three parts in form of multiple choices, filling the blank and matching the word. The research was conducted by giving a pre-test to the students. After that, the treatments were given to them. The activity was continued by playing treasure hunt game for each treatment. At the end of the research, the writer gave a post-test to them.

In analyzing the data, the writer used t-test formula. Based on the data analysis, the result of the students' post-test was higher than the result of the students' pre-test. It can be concluded that there was a significant difference of the result of the students' pre-test and post-test. The result of the research showed that the students' progress in mastering English spelling during the treatment conducted was good.

The mean of the pre-test for experimental group was 66.00, and the mean of the post-test was 82.12. Meanwhile, the mean of the pre-test for control group was 63.14, and the mean of the post-test was 66.39. The result shows that the mean of the students' achievement in learning English spelling through treasure hunt game had significant improvement. Based on this conclusion, it is recommended that English teachers can apply treasure hunt game as media in teaching English spelling for junior high school students.

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CHAPTER I

INTRODUCTION

This chapter discusses the general background of the study. It also presents the reasons for choosing the topic. Moreover, it presents statements of the problem, objectives of the study, significance of the study and limitation of the study. It also gives the outline of the study.

1.1 General Background of the Study

English is one of the most widely used international languages. It can be considered as a means of oral communication as well as written communication. In Indonesia, English is taught at SD (Elementary School), SMP (Junior High School), SMA (Senior High School) and the University for some semesters. English is a part of the school curriculum, which means that it is taught as one compulsory subject in all schools and the study of this language is a compulsory part of the student education.

The government in Indonesia always makes efforts to improve the education. The quality of the teacher and other components which are involved in educational process are improved from time to time. It can be seen in General State Guideline for Development, which states that all facilities involved in educational process, such as school buildings, teaching media, textbooks, libraries and other facilities should be improved and be made perfect to increase the quality of education.

Although the teaching of English begins at Junior High School, the result of the teaching of English is considered unsatisfactory. There are lots of factors that may affect students in learning English. One of these factors is motivation that is some kind of internal drive that encourages somebody to pursue a course of action. There are two kinds of motivation, extrinsic motivation (concerned with factors outside the classroom) and intrinsic motivation (concerned with factors taken place in the classroom). Dealing with the intrinsic motivation, there are many factors involved, such as teachers, physical conditions, methods, techniques and approach.

As we know that one important task of English teachers is to facilitate learning by creating and making careful situation in the classroom. This can be done by using many kinds of interesting and various techniques act as stimulus to arouse the students' interest in English they learn. It is said to be a good start if the students are interested and motivated in learning the target language.

It seems that the teacher's job is not so much to offer descriptions of language or models to be learnt, but rather to create conditions in the classroom that will enable students to learn by becoming engaged in activities. The teacher is not longer expected to dominate all work in the classroom. He sets up conditions and activities that will make it possible for students to operate with language because they have a real interest in the outcome in the tasks. The teacher's success is therefore closely linked to his ability to stimulate interest in a subject.

One possibility why that the teacher can serve the students to become engaged in English and to practice the English language they have just studied is

by doing lots of game and communicative activities, not as a relaxation but as a complementary component of the course. The purpose of game is not only to demonstrate to the students how to conduct the game or to make them have deeper understanding about the lesson, but to allow them to develop the feeling of excitement and enjoyment that follows from performing something really meaningful in a group.

By using games, the students are given something new and different from what they usually get in class. They are not only as the object of teaching-learning process, that is always given the English lesson, tasks and homework, etc, but also as the subject of it, that is as the participants. Games can be used as a media in which the students are given a chance to study English more enjoyable and they will be motivated. When the teacher uses games as treasure hunt game in teaching English spelling, it means that he gives a chance to the students to be active, creative and they can express their own attitudes, feelings, emotions, etc. So, to make the teaching more communicative, the teacher should be creative in using media for teaching English.

Many students face many problems in learning English. Based on my observation in SMP N 1 Gembong, I found many mistakes in spelling. The students wrote the word with their own spelling. For example in writing "breakfast" they wrote "brekfast". Another example is "swimming" they wrote "swiming". Sometimes teacher just wrote the correct one bellow or besides the incorrect word, moreover, they forgot to tell the students that their words were wrong.

Treasure hunt game has never been used in teaching spelling at Junior High School before. The writer found that treasure hunt game is only used in a nonacademic activity like birthday party. But in final project the writer used it as the media to teach English spelling at Junior High School.

Due to the fact above, the teacher should teach the correct spelling. Remembering the characteristics of the Junior High School students, the writer wants to propose media in teaching writing, especially in spelling mastery at Junior High School by using game called treasure hunt game.

In this study, the writer will focus on treasure hunt game as media in teaching spelling for the seventh grade of Junior High School students. It is necessary to find out whether treasure hunt game is effective in teaching spelling to the seventh year students in junior high school.

1.2 Reason for Choosing the Topic

There are varieties of games and many English teachers do not know the importance of games and the kind of the games that can be used as complementary activities in teaching spelling in English especially at Junior High School. Teacher has to select smart games that give the student's stimulation to learn it.

A game is one way for teacher to give learning to the students easily. The writer takes treasure hunt game as a medium to improve students spelling skill. The writer's reasons for choosing the title 'The Effectiveness of the Treasure Hunt

Game in Teaching English Spelling to the Seventh Year Students of SMP N 1 Gembong in the Academic Year of 2009/2010' are as follows :

1. It is good for students to know how to spell the latter A-Z correctly.
2. Treasure hunt game is a game which I consider as a fun game.
3. To help students learning to spell words well.

1.3 Statement of the Problem

Selecting research problem is one of the important considerations for any researcher should take. In order to get the expected result, the writer limits the discussion of this final project in the form of question as follows:

"Is there any significant differentce in students' achievement in spelling between the students who are taught spelling using Treasure hunt game and those who are taught spelling using conventional technique of teaching?"

1.4 Objective of the Study

In this study, the objective of the study is to find out whether there is any significant difference in the students' achievement in spelling between the students who are taught spelling using treasure hunt game and those who are taught spelling using conventional technique of teaching.

1.5 Significance of the Study

The writer hopes the study will give significant advantages for:

1) Teachers

   a. Hopefully, this study will help teachers improve their strategy in teaching spelling in the classroom, so that the problems that the teacher

and students face in the teaching and learning process can be minimized. In addition, teachers can apply this new strategy in their classroom to make the teaching learning process more interesting.

   b. The teachers could use the treasure hunt game as an alternative technique in teaching English spelling to the year seven students of junior high school.

2) Students

   a. Learning English by using treasure hunt game leave a new strategy to learning English spelling.

   b. The students of the years seven of junior high school have experience in learning English spelling through treasure hunt game.

1.6 Treasure Hunt Game and Conventional Strategy

1) Treasure Hunt Game

Treasure hunt is sometimes organized by parents as a game to be played at children's parties. This could be in a range of formats; just searching for items, following clues as a group or splitting into team to race to a prize. (http://en.wikipedia.org/wiki/Armchair treasure hunt).

2) Conventional strategy

Based on the writer's experience during the research, the English teacher in the control group applied the conventional strategy. This strategy was indicated by giving explanation of materials. In this case, the teacher explained the materials based on text book monotonously. The teacher was dominant in the classroom which caused the difficulty for the students to express their ideas and ask

questions, when they did not understand the teacher's explanation. The teacher only taught the materials on the textbook without developing it. The students only got little comprehension because the teacher did not encourage them to analyze the concept in textbook. As a result the students only did exercises given by their teachers and did not know the purpose of studying the materials. Generally, teachers who apply this strategy will fine their students are only able to memorize the materials and not able to understand to apply the concept in their daily life.

1.7 Outline of the Study

This final project contains five chapters the first chapter is the introduction. This chapter presents background of the study, the reason for choosing the topic, the statement of the problem, the objective of the study, treasure hunt game and conventional strategy and outline of the study.

Chapter II is review of related literature. It consists of teaching English in junior high school, teaching English spelling in junior high school, the problem of the spelling, definition of Game, definition of treasure hunt game, applying treasure hunt game in spelling.

Chapter III is method of investigation. It consists of source of data, subjects, the experimental design, statistical design, variables, the instrument, try out, condition of the test, item analysis and method of collecting data.

Chapter IV is result of the research. It consists of try out findings, computation between the two means and test of significance.

Chapter V is conclusion and suggestion.

CHAPTER II

REVIEW OF RELATED LITERATURE

Supporting this study, the writer did a literature review related to the topic of this study that is about teaching English in Junior High School, teaching English spelling in Junior High School, the problem of spelling, definition of game, definition of treasure hunt game, and applying treasure hunt game in spelling.

2.1 Teaching English in Junior High School

Learning a foreign language is not as easy as learning native language. To learn a foreign language, the learners will meet all kinds of learning problems dealing with vocabulary, sound system, structure, and spelling and how to arrange word into sentences that they are quite different from those of their native language.

In teaching, a teacher should have an objective. The common objective of teaching a foreign language is to make learners able to communicate using foreign language orally and written from. However, since the emphasis of the learning and teaching English as the first foreign language in Indonesia is generally on the mastery of reading comprehension, it makes the students learn English through written most of the time. It does not mean that the other skills such us listening, speaking, and writing completely ignored. The lesson in each English teaching and learning process involves listening and speaking skill. The writing skill is also

involved in which students are asked to do exercises on structure, vocabulary, or even spelling in writing form.

Teaching English in Junior High School is a good starting to continue learning English for further level. The function of the teaching English in Junior High School is to introduce English as the foreign language to the students in order to be able to communicate in simple English. The teachers have to introduce the new language which is different from student's mother tongue by giving clear explanation about the meaning of the new language including how to construct sentences in a correct grammatical for communication.

The teacher is called a facilitator, that means the teacher could sit in the group of students and teacher also transmits his/her knowledge of English to them. The teacher has to make students interest in the subject and the teacher does not gain difficulties when teaching English. Beside that, the teacher has to describe how to learn English well so that the students are interesting and they are enthusiast learning English. The teacher also has to plan the lesson well, evaluate student's progress periodically and make every effort to sustain motivation of students by praising them and friendly relationship with them.

2.2 Teaching English to the Year Seven Students of Junior High School

English is one of the compulsory subjects, and it is very important to learn it because it is one of the international languages that requires as a bridge of communication between the various countries in the world.

In order to support the English teaching and learning, Indonesia government has constructed Kurikulum Tingkat Satuan Pendidikan (KTSP) for elementary school, junior high school, and senior high school. This curriculum is used for guidance the teachers of SD, SMP, SMA to develop or create their own teaching.

English has been one of the subject that is difficult enough to be learnt by students of junior high school especially those of SMP N 1 Gembong, it is proved based on the result of the students' score. In teaching English especially English spelling, the students are expected to be more active during teaching and learning activities. A teacher in teaching and learning language, especially English should determine what kinds of sub competency should be gained instead of what in the subject she should teach. Then the teacher should seek for different sources that support the competency achievement instead of sticking to one text book.

Even though English is taught for many years of school, students' achievement in English is still unsatisfactory. Some students have taken an additional lesson of English in many informal institutions. The unsatisfactory results might be caused by the different elements between the two languages. These different elements have to do with the differences in sound system, grammatical pattern, vocabulary items, spelling pronunciation, etc.

There are many factors why the system of education in Indonesia cannot be done well such as; the limitation of teachers' understanding about the system of curriculum based competence, the limitation of medium and infrastructure which is had by schools in Indonesia.

2.2.1 2006 English Curriculum for Junior High School (SMP/MTS)

2006 curriculum is called School Based Curriculum which is in Bahasa Indonesia called Kurikulum Tingkat Satuan Pendidikan (KTSP). It is the main basic for every institution in Indonesia to arrange their own syllabus for teaching and learning. It consists of the socialization, standard and basic competence, syllabus and also provided with lesson plan. Inside of the syllabus 2006 curriculum there is always 2004 curriculum. 2004 curriculum is the basic design of 2006 curriculum. So, it can be said that 2006 is the completion of 2004 curriculum.

2.2.2 2006 Competence of English in SMP/MTs to Achieve

According to the 2006 curriculum, competence standard of English subject at SMP and MTs to communicate the language in spoken and written using various texts fluently and accurately. They are presented in four basic skills:

1) Listening: understanding various meaning (interpersonal, ideational, textual) in various interactional spoken texts and monologue especially in form of descriptive, narrative, recount, procedure, report, and anecdote text.

2) Speaking: telling various meanings (interpersonal, ideational, textual) in various interact ional spoken texts and monologue especially in form of descriptive, narrative, recount, procedure, report and anecdote text.

3) Reading: understanding various meanings (interpersonal, ideational, textual) in various interact ional spoken texts and monologue especially

in form of descriptive, narrative, recount, procedure, report and anecdote text.

4) Writing: expressing various meaning (interpersonal, ideational, textual) using rhetorical development of various written text especially in form of descriptive, narrative, recount, procedure, report and anecdote text.

2006 English curriculum states that the year seven students of junior high school should master listening, speaking, reading and writing skills in the form of description and procedure text.

2.3. Characteristics of the Year Seven Students of Junior High School

Junior high school students have special characteristics that make them different from younger and older students. The students of junior high school have a period of changing from children to adult. In this period, they are more interested in thinking and doing something, but they also still have children emotions, such as interested in playing games. They learn everything in this mature period slowly. So, they should be taught to get more responsibility without ignoring their childness.

The range of the age of junior high school students varied between thirteen to fifteen years old. They are in the process of changing from children to adult. Brand (2004:11) comments that "the children of thirteen and fifteen seem to be less lively and numerous than adults. They are so much less motivation and they show outright discipline problems."

As a teacher it is essential for to understand their characteristics, so that will be able to design the appropriate and adequate programs to fit the particular requirements of individuals in this age group. According to David and Tom (1993:30) as quoted by Purwaningsih (2008:11), certain psychological and psychological characteristic of youngster in the 11 to 14 years old group require a set of educational conditions in the school.

Moreover, Wendy (1990:2-4) states the characteristics of children of eleven to fourteen years of age as follows:

1) They are competent users of mother tongue.

2) They can tell the difference between fact and fiction.

3) They love to play and learn best when they enjoy themselves. But they also take themselves seriously and like to think that what they are doing is real work.

4) They are enthusiastic and positive about learning.

5) They are able to work with others and learn from others.

In addition, according to Pennington in his article, he states that by ages 12, 13, and 14, most students have begun developing the ability to understand symbolic ideas and abstract concepts. According to Moore (1983:21) classification, students will range in development from the concrete operational stage of development to the ability to the formal operational stage of development to the ability to the formal operational stage. In fact, studies show that brain growth slows down during these years, so cognitive skills of learners may expand at a slower down during these years, so cognitive skills of learners may expand at

a slower rate; however, refinement of these skills can certainly be reinforced. (http://ezinearticles.com/English-Teaching-Strategies-Especially-for-Teacher)

Based on the explanation about characteristics of adolescents above, I concludes that the age of students in junior high school has a period of changing from children to adult. So, they need something special task in education. School and teachers should provide opportunities for them to explore and experiment in a stable and supportive atmospheres, because they learn new experience, new role, and this range of age is one of the most challenging times in life. They also like to be encouraged to respond to the texts and situation with their own thought and experiences, rather than just by answering questions and doing abstract learning activities. The teachers have to give the students tasks that they are able to do.

2.4 Teaching English Spelling in Junior High School

There are some general meanings of spelling:

1) Spelling is the forming of words through the traditional arrangement of letters. (Mercer and Mercer, 1989:412)

2) Spelling and pronunciation are relevant only to written English, which is itself derivative from spoken English. (Brand, 2004:4)

3) Spelling mastery has a close relationship with the mastery of phonetic skills. (Mercer and Mercer, 1989:412)

4) Spelling is the act of forming words correctly from individual letters (Hornby: 1995)

From the explanation above, I conclude that spelling is the forming of words through the letters which are very important to the student because it has a close relationship with the mastery of phonetic and writing skills.

In teaching spelling, I have to prepare the student introduce the English alphabets. Indonesian students who learn English as a foreign language have difficulties in mastering the inconsistency of the English spelling patterns. Based on the scope of the English 1994 Basic Course Outline, language components like structure, vocabulary, sound system and spelling can be taught to improve the four basic skills (listening, speaking, reading and writing) not to master the components themselves.

In contrast with the point mentioned above, Brand (2004:15) states that for many years a fierce debate raged over whether spelling is taught, or whether it is 'caught' (learned accidentally by alongside their learning to read and write). He further says that accurate spelling may be one manifestation of general proficiency in the language since it is sometimes assumed that improving reading skills will automatically improve spelling, and for this reason teacher does not need to bother with the direct teaching of spelling.

Various teaching methods and strategies may be used to help the students in improving their spelling mastery. Since learning is hard work, an effort should be made to help and encourage the students to sustain their interest. I think that teaching the spelling rules, analyzing words building and teaching homophones and similar pairs can be boring activity. Therefore, games help the teacher to create the contexts in which language is useful and meaningful, while the students

respond in definite way. If they are amused, challenged, intrigued, or surprised, the content is clearly meaningful to them. Thus, the language learners will be more vividly experienced and therefore, better remember.

2.5 The Problem of Spelling

Spelling is ability to spell, action of spelling way in which a word is spelt. (Brand, 2004:399). Learning spelling to children begins to learn spell letter A-Z in process of learning.

According to Mercer to Mercer (1989:412), spelling is the forming of words through the traditional arrangement of letters. Moreover, Brand describes spelling as the action of process of forming words correctly from individual letters.

Spelling is one of the language components. But, unfortunately, in comparison with reading, spelling has received little attention to the teachers. Whereas, the ability to spell is the basic and essential skill within language curriculum. (Mercer and Mercer, 1989:412) point out:Spelling a word may be a more difficult task than reading a word. Reading is a decoding process in which the reader receives clues (such as context) for word recognition. Spelling is an encoding process in which the learner must respond without the benefit of a complete visual stimulus, thus there are fewer clues. Spelling requires concentration on each letter of very words or to attend to every word, but in reading it is not necessary to know the exact spelling of words or to attend to every letter in most words.

The inconsistent relationship of graphemes phonemes relationship of graphemes-phonemes spelling causes many difficulties. It makes learning to spell even more complicated for those who learn English as a foreign language. Edgington as quoted by Mercer and mercer (1989:418) states that the types of errors that should be noted in spelling are addition of extra letters omission of needed letters, reversals of whole words, consonant order of syllables, errors resulting from a child's misinterpretation of dialect, and phonetic spelling of non phonetic words.

2.6 Definition of Game

There are many definitions of game stated by some experts. Those are as follows:

(1) A game can be defined as something enjoyable, however serious involving competition for specific objectives and observing rules (Deighton,1968:106)

(2) A game is an activity carried out by cooperating and competing decision makers, seeking to achieve, within a set of rules, their objectives(Rixon, 1981:13)

(3) A game or stimulation is a simplified, operational model of a real-life situation that provides students with various participation in variety of roles and events (Wright, Andrew, David and Michael, 1994:90)

From the definition above, we can see that there are some characteristics of a game:

(1) It must be enjoyable for the players.

(2) It must have some objectives to be achieved.

(3) There must be a cooperation and competition activity among the players.

(4) It must have a set of rules, which have to be obeyed by the players.

(5) It must reveal a decision-making process and variety of roles and events.

2.7 Definition of Treasure Hunt Game

Basically, people are interested in playing games. Students like playing games since it give them enjoyment and relaxation.

The children's world is game. They are happy and fun. When playing games, singing and learning are integrated into a total learning experience, the combination is very powerful. It is made them to express their idea by game. We know about many kinds of game that can improve their skill.

A conceiving medium of any person about material or event enable to measure the attitudes. However, media will be defined as "the graphic, photographic, electronic or mechanical means for arresting processing and reconstruction visual or verbal information." (Wendy, A. Scott and Lishbeth, 1990:164) Every medium is a means to an end or to a goal.

A game is one of the media or sample to know how far they can spell well. By the game children can express their skill. Children usually likes something is new and interesting. Playing game together with friend is very fun. They can play it and learn something. On the other hand the children can be active by cooperating with their friend. A game is an activity carried out by cooperating or

competing decision makes seeking to achieve within a set of rules, their objectives. (Rixon, 1981:3)

In each game there are some rules. The children used to play it, they know the game is done. The rule of game is very important in processing of playing game from it is started until finished. Playing game like is something enjoyable to them. It can be defined as something enjoyable, however serious involving competition for specified objectives and observing rules. (Deighton, 1968:106)

Game is identical with playing something, fun and correcting; each game has different to play in rules. It is also different to purpose. A game is a form of playing or sport with rules. (Wehmeier, 1995:171)

Treasure hunt game is a game which attempts to find hidden articles by means of a series of clues.

(http://www.thefreedictionary.com/treasure+hunt)

There are many different types of treasure hunt game which can have one or more players who try to find hidden articles, locations or places by using a series of clues. They is a fictional activity; treasure hunting can also be a real life activity. Treasure hunt games may be an indoor or outdoor activity. Outdoor they can be played in a garden or the treasure could be located anywhere around the world.

A puzzle hunt is a typical treasure hunt game involving clues. Sometimes treasure hunt may not have clues because of the age of the children. Treasure hunt is sometimes organized by parents as a game to be played at children's parties.

This could be in a range of formats; just searching for items, following clues as a group or splitting into team to race to a prize.

(http://en.wikipedia.org/wiki/Armchair treasure hunt).

This is a example of treasure hunt games:

Material needed: -paper

                    -markers

                    -candy or a small prize appropriate for the children's age

1) Create a treasure map that will lead the children to different clues. Write out messages or take the pictures leading to hidden treasure somewhere in your yard or house. For example a clue could be "This is where the birds like to get clean". This clue would then lead them to a birdbath.

2) At the start of the game, hand the leader (usually the birthday child) a map. Each of the children then guesses the answer to a riddle and then all the children run to wherever the clue leads them until they find another clue.

3) At the end of several hidden areas that contain clues, have a small prize or bag of candy waiting as an end to the treasure hunt.

(http://wiki.answers.com/Q/What are some good treasure hunt clues for a 3 year old&src-ansTT)

2.8 Applying Treasure Hunt Game in Spelling

Treasure hunt game as a medium for children means to play directly in the class. Children will be able to spell well by game, here as a medium for students; teacher has a good strategy in teaching and learning process. Children learn to

find letters in a treasure and spell them well. A treasure hunt game makes the children able to spell well by spelling words. It is good for Junior High School students to do exercise in learning and remembering the letters A-Z.

The writer tries to makes students spell well by the treasure hunt game, and this is the treasure hunt game in the writer's class:

Material needed: -paper

-markers

-word cards

-whiteboard

The rules of the game are:

1) Teacher makes a treasure map (or list of direction) that would lead to the treasure. There are seven treasure and the students have to find all the treasure.

2) In the map there are some locations the treasure in the map (word cards that arranged randomly)

3) If the students find all the treasure (the letters) and then they write it in the whiteboard.

4) The students find the new vocabulary and know how to spell it well.

CHAPTER III

METHOD OF INVESTIGATION

In this chapter, the writer discusses the source of data, the subjects, the experimental design, the procedure of experiment, the statistical design, the variables, the instrument, the try out, the condition of the test, the item analysis and method of collecting data.

3.1 Sources of Data

In this research, some data are needed to achieve the objective of the research. The data and the information were obtained from the experimental research.

3.2 Subjects

It refers to the activity of collecting data from the subject of the research. In doing so, the seventh of SMP N 1 Gembong where chosen to be the subjects of the research.

3.2.1 Population

Population refers to the object of investigation. Arikunto (1995:115) states that "Population is a set or correlation of all elements possessing one or more attributes of interest".

Hadi (1980:35) states that "population is a group of people or item from which the data are collected." In addition, Brown (2004:8) mentions that

"population is any group of individual that have one or more characteristics in common that are of interest to the researcher."

The population of this study was the year seven students of SMPN 1 Gembong in the academic year of 2009/2010. There were seven classes; VII A, VII B, VII C, VII D, VII E, VII F, VII G. Since the number of population is large, there are 270 students from seven classes, so it was difficult for the writer to observe the entire population. Therefore, a researcher had to select a sample to study a population more effectively.

3.2.2 Sample and Sampling Technique

Arikunto (2002:109) states that "sample is a part of population or the representation of population being assessed." Therefore, the process of taking the sample from the population is crucial in a research. The writer asked permission to the headmaster to do the experiment there and she permitted her to do it. She asked the writer to consult with the English teacher.

The number of the year seven students of SMP N 1 Gembong is 270, it is divided into 7 classes. Then, the writer asked permission to the teacher to take three classes as samples. There are 76 students for the two classes of experimental group and control group. Besides, the other one class was taken as class of try out class.

Ideally, a sample is taken at random to avoid bias in the sense that no member of population has more chance of being selected as sample. According to Gay (1987:101) "samples are usually drawn by random samples, each students of the population have an equal chance of being selected for the samples."

According to Best (1981:9), randomization has two important applications in research:

1) Selecting groups of individuals for observation that are representative of population about which the researcher wishes.

2) Equating experimental and control groups in an experiment. Assessing individuals by random assignment is the best method of providing their equivalence.

In this study, the writer used random sampling because there are some limitations, it was impossible to observe all sample in this research. Those limitations were the sample of this study was the students' fresh-graduate from elementary school. They were the year seven students of SMPN 1 Gembong in the academic of 2009/2010. Therefore, the writer assumed that the averages of students' quality are different. They have low, medium and high intelligence. However, they have equal background. They are in the same level, medium to low background. Besides, they have not had the scores which as consideration for the process of sampling technique.

According to Gay (1987:101), "sampling is the process of selecting a number of individuals to represent the larger group from which they are selected." The process of sampling technique proposed by Gay (1987:104-105) is the very simple way of random sampling. The process of taking the samples was employed as follows:

1) Wrote each individual's class in a separate slip of paper.
2) Placed all the slips in a container.
3) Shook the container.

4) Selected the two slips from the container.

Therefore, the result which was gotten of the process of taking random sampling was VII^A as the experiment group and VII^B as the control group by shaking the container.

3.3 The Experimental Design

This study uses "pre-test post-test" control and experimental group design. The design of experimental research can be described as follows:

E 01 X 02
C 03 Y 04

(Arikunto, 2002:79)

Where:

E   : Experiment group

C   : Control group

01   : Pre test for the experiment group

02   : Post test for the experiment group

03   : Pre test for the control group

04   : Post test for the control group

X   : Treatment with treasure hunt game

Y   : Treatment without treasure hunt game

In the design above, the subjects were assigned to the experiment group (top line) and the control group (bottom line). First, the quality of the subject was checked by giving them pre test (01 and 03), then the experimental treatment will be performed to the experimental group, while the control group was taught without treasure hunt game. The test consisted of one part, it was multiple choice tests. The result of the test (02 and 04) where then computed statistically.

3.4 Statistical Design

Brown (1998:116-117) points out that statistics is made calculations to describe a sample. If the same calculations are actually done for the entire populations he adds, they would be called parameters. Brown concludes that there are always chances that the result based on the sample does not represent the population. In other words, the results are in error, and that is way we need the probability called the alpha level of significance. Brown suggests that for the language or educational studies, usually the alpha level of significance is set at 5 percent (0, 05), which means that the probability of error in rejecting the null hypothesis is 5 in 100.

The calculations needed for statistical analysis is as follow:

1) To determine the coefficient of correlation of the reliability by using split half method, the person's product moment is applied. (Arikunto, 2002:157). It means that this formula would be used to calculate just for one item.

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

Where:

r_{xy} = the correlation of the scores on two halves of the test

N = the number of the students

$\sum X$ = the sum of x score

$\sum Y$ = the sum of y score (Arikunto, 2002; 157)

2) To determine the reliability of the test, Spearman-Brown Formula is used. (Arikunto, 2002:156). It means that this formula would be used to calculate the reliability for the whole test:

$$r_{ll} = \left(\frac{k}{k-1}\right)\left(\frac{M(k-m)}{kVt}\right)$$

r_{ll} = reliability of total test

k = the number of the item

M= the means of the scores total

Vt= the total of variants (Arikunto, 2002:156)

3) To determiner whether there is a significant difference between the means of the experimental and the control group by using the t-test formula (Arikunto,2002:200)

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{\sum X^2 + \sum Y^2}{N_x + N_y - 2}\right)\left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

t = t-test

M_x = the mean of experimental group

M_y = the mean of control group

$\sum X^2$ = deviation of the experimental group

$\sum y^2$ = deviation of the control group

N_x = number of the sample of the experimental group

N_y = number of the sample of the control group

The detail of those points would be stated in the chapter four.

3.6 Variables

A variable can be defined as an attribute of a person or from an object. From the design of the experiment, two variables can be involved in this final project.

1) Independent Variable

It is variable that will be studied its relations or influenced toward other certain variable that becomes main discussion. In experimental research, the independent variable is the presumed cause of the dependent variable.

2) Dependent Variable

It is main study that will be examined its condition by studying the relation with other variable. In experimental research, the dependent variable is the presumed effect of the independent variable.

From the explanation above, the writer conclude that in this research, the independent variable is the method of the teaching spelling for both groups. They are the use of Treasure Hunt Game for the experimental group and the use of conventional strategy for the control group while the dependent variable is the students' achievement manifested in the score.

3.7 The Instrument

An instrument plays an important role in a study in the sense that the reliability of the instrument will influence the reliability of the data obtained. The use of the instrument in this experiment is intended to measure the students' achievement in spelling test. Therefore, I used a test as the instrument for collecting data.

3.7.1 Spelling Test

3.7.1.1 The Construction of the Test

According to Heaton (1975:30) there are two basic kinds of the test. Those are objective test and subjective test. The writer decided to use an objective test in a form of multiple- choice tests with two options A and B. one of the options was the answer, while another one was distracter. The test consisted of 35 spelling items. The students were given thirty minutes to do the test. The objectives of the

test were used to consider that it could be marked very quickly and completely reliable since one objective has only one correct answer.

This instrument was intended to evaluate the mastery of English spelling to seven graders of Junior High School. It only tested the cognitive ability of the students in mastering all the topics which had been taught by the teacher during the experiment.

The material tested as an instrument of this research was taken from topics stated in the 2004 curriculum from Yudistira Text book.

3.7.1.2 Arrangement of the Test Items

After constructing the test item, the writer arranged the items randomly from all material in second semester of Yudistira Text Book.

3.8 Try Out

Before the instrument was used to collect the data, the writer had to tried it out first in order to figure out whether the test instrument was valid or not. The subjects of the try out were the students with the same level with the population of SMPN 1 Gembong . The number of population is 270 students are divided into seven classes. The writer chose 76 students from class VII^A as the experimental group and class VII^B as the control group.

3.9 Condition of the Test

Harris (1996:13) says that all good tests possess three qualities, there are: validity, reliability. That was to say, any test that we had to use appropriate, in

item of our objectives, dependable in the evidence it provides and applicable to our particular situation. Those characteristics of a good test would be explained further below:

3.9.1 Validity

Validity referred to the precisely measurement of the test. There are three kinds of validity, content validity, empirical validity, face validity. Content validity means the test reflects and analysis according to the views of recognizing in the skills area. Empirical validity depends on large part on the reliability of both test and criterion measure. Face validity is the way the test looks whether it is irrelevant, silly or inappropriate. In this study, the main concern was to deal with content validity was particularly important to achievement test.

3.9.2 Reliability

Reliability is a general quality of stability of scoring regardless of what the test measured. Harris (1969:14) states that to have confidence in measuring, instrument, we would need to be assured. Based on the statement above, the writer carried out a try out test to 76 students from the seven grades of SMPN 1 Gembong to get reliability of the test items. The writer decides to use the Pearson Product Moment Formula in measuring the reliability of the test.

Consulting the Pearson Product Moment Formula, the writer did four steps to measure the reliability of test.

➤ Firs, the writer administered the test and gave the result of each student's test paper score. Then, the writer divided the test into two halves and recorded the scores made by each student each half.

➢ Second, in order to be safe, the writer took the odd items as one half of the test and even items as the other half. Then, listed the pairs of the scores in two columns. Labeling the column to the left X, and that to the right Y.

➢ The third step was to calculate the following statistics:

1. The sum of the X scores (odd items)

2. The sum of the Y scores (even items)

3. The sum of the square of the X scores.

4. The sum of the square of the scores, and

5. The sum of the product of each X scores with its corresponding Y scores for the same students.

These data were needed to compute the correlation between the two sets of half scores by means of the Pearson Product Moment.

1) After that, the writer applied the Pearson Product Moment like this:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

r_{xy} = coefficient of correlation between x and y variable or validity of each item

N   = the number of the students

$\sum_x$ = the sum of score of each item

$\sum^2_{,x}$ = the sum of the square score in each item

$\sum_y$ = the sum of total score from each student

$\sum^2_{,y}$ = the sum or the square score of each item

$\sum xy$ = the sum of the multiple choice from each students with the total score in each item

In the following step, the writer computed r_{xy} by applying the Pearson Product Moment formula. By applying this formula, we get the computation below:

r_{xy} = the correlation index of the odd even.

➢ In the last step, the writer used the Spearman Brown formula to estimate the reliability of the entire test. The formula goes like this:

$$r_{11} = \frac{2 \times r_{xy}}{(1 + r_{xy})}$$

Where,

r_{11} = the reliability of the instrument.

r_{xy} = the correlation index of the odd and even.

Before applying the Pearson Moment Formula in order to measure the test reliability, the writer made preparatory table for r value of odd number items (X) and even number item (Y).

2) To get the result of r_{xy}, the formula was as follows:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

Where:

r_{xy} = coefficient of correlation between x and y variable or validity of each item

N = the number of the students

$\sum x$ = the sum of score of each item

$\sum {}^2_{,x}$ = the sum of the square score in each item

$\sum y$ = the sum of total score from each students

$\sum {}^2_{,y}$ = the sum or the square score of each item

$\sum xy$ = the sum of the multiple choice from each students with the total score in each item

3.10 Item Analysis

After determining and scoring the try out test, an item analysis is making to evaluate the effectiveness of the items. It is meant to check whether each item met the requirement of a good test item. This item analysis concentrate on two vital features, there are level of difficulty and discriminating power.

3.10.1 Item Difficulty

According to Heaton (1975:172), the index of difficulty or the facility value of an item simply shows how easy or difficult for the students, so they can answer the items. If a test contains many items, which are too difficult or too easy, it cannot function as good means of evaluation. Therefore, every item should be analyzed first before it is used as a test.

The formula of item difficulty is as follow:

$$P= \frac{B}{JS}$$

Where:

P   = the facility value (index of difficulty)

B   = number of students who answered the item correctly

JS   = the total number of students.

(Arikunto, 1995:212)

According to Suharno (1984:84), the index of difficulty could be classified as follows :

An item with P 0.00 _____ 0.30 was difficulties

An item with P 0.31 _____ 0.70 was medium

An item with P 0.71 _____ 1.00 was easy

3.10.2 Discriminating Power

The discriminating power is a measurement of the effectiveness of an item discriminating between high and low scores of the whole test. The higher values of discriminating power are the more effective the item will be. Heaton (1975:173) states:

"The discrimination index of an item indicates the extent to which the item discrimination between the testers, separating the more able testers from the less able to. The index of discriminating told us whether those students who perform well on the whole test tends to do well or badly on each item in test".

Discriminating power can be obtained by using this following formula:

$$D = \frac{BA}{JA} - \frac{BB}{JB}$$

Where:

D = the discrimination index

BA = the number of students in the upper group who answered the item correctly

BB = the number of students in the lower group who answered the item correctly

JA = the number of students in the upper group

JB = the number of students in the lower group

(Arikunto, 1995:218)

The classification of the discrimination index was presented below:

D = 0.00 _____ 0.20 = poor

D = 0.21 _____ 0.40 = satisfactory

D = 0.41 _____ 0.71 = good

D = 0.71 _____ 1.00 = excellent.

3.11 Method of Collecting Data

In collecting data to complete the study, the writer collected data and analyzed it in the following steps:

First, the writer held a test for groups, experimental and control group. It included scoring the students' test both of the experimental and control groups. The second, the writer compared the data from both of the groups. To see whether the difference of the students' result of teaching vocabulary between using treasure hunt game and without treasure hunt game significant or not, the writer uses the t-test formula:

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\left[\dfrac{\sum x_1 + \sum X_2}{n_1 + n_2 - 2}\right]\left[\dfrac{1}{n_1} + \dfrac{1}{n_2}\right]}}$$

Where:

t   = t-value

X_1 = the mean of the experimental group

X_2 = the mean of the control group

$\sum X_1$ = deviation of the experimental group

$\sum X_2$ = deviation of the control group

n_1 = the number of the students in experimental group

n_2 = the number of the students in control group

(Arikunto, 2002:278)

Further analysis of the result of actual test would be discussed in the next chapter.

CHAPTER IV

RESULT OF THE INVESTIGATION

This chapter presents the result of the data analysis and discussion about the result. First is try out findings, second computation between two means and the last is the test significance of the test.

4.1 Try Out Findings

Before the instrument was used to collect the data, the writer had tried it out first in order to figure out whether the test instrument was valid or not. After scoring the result of the try out test, the next step is to analyze the result. The result was used to know the reliability and the validity of each item to decide whether the items were properly used in the next tests or not.

4.1.1 Validity

As mentioned in chapter three, validity refers to the precise measurement of the test. In this study, item validity was used to know the index validity of the test. After the writer calculated using Pearson Product Moment, the index validity of number 1 is 0,679. Then the writer calculated the table of r product moment with n= 12 and significance level 5% in which r= 0,576. Since the result of the computation was higher than r in the table, the index of the items number one was considered to be valid.

4.1.2 Reliability

A good test must be reliable. Besides the index of validity, the writer has also calculated the reliability of the test using Spearman Brown formula. The calculation of reliability of the test using Spearman Brown formula above was presented below:

$$r_{11} = \frac{2 \times 0.6793}{1 + 0.6793}$$

For alpha =5% and number of subject 12, r table = 0,576.

Because r_{11}>r table, so the writer could conclude that the test was reliable.

The result of computing reliability of the test was r_{11}= 0,956. Because r_{11} was greater than of the r table, so the writer could conclude that the test was reliable.

4.1.3 Item Analysis

This item analysis concentrated two vital features, level of difficulty and discriminating power.

4.1.3.1 The Level of Difficulty

As mention in chapter III, there are three categories of level of difficulties; they are difficult, medium, and easy. After computing 50 items of try out, items number 3,20,22,34,41,42 and 47 as the difficult items, items numbers 1,2,4,6,7,8,9,12,13,14,16,17,18,21,24,25,28,29,30,31,35,36,37,38,39,40,43,45,46, 48,49 and 50 were considered as the medium items and items numbers 5,10,11,15,19,23,27,32,33 and 44 were considered as the easy items.

The next step, the writer calculated the discriminating power in order to determine how well each item discriminated between high-level and low-level examiner.

4.1.3.2 The Discriminating Power

The discrimination index of an item indicated the extent to which the item discriminated between the tasters, separating the more able testers from the less able. The index of discriminating told us whether those students who performed well on the whole test tended to do well or badly on each item in the test. There were four categories of the discrimination index, there are excellent, good, satisfactory and poor. After try out test was administrated, the test items which did not fulfill the requirements of the valid test were invalid and they had to be rejected. Items number 3,5,9,13,15,19,23,28,29,32,33,41,44,45 and 47 had to be rejected.

4.2 Computation between the Two Means

In this chapter, the writer would like to determine the different effectiveness of treatment given to both groups, which was reflected on the means gathered. The writer would apply the t-test formula to count the difference.

The t-test formula is:

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\left[\dfrac{\sum x_1 + \sum X_2}{n_1 + n_2 - 2}\right]\left[\dfrac{1}{n_1} + \dfrac{1}{n_2}\right]}}$$

Where:

t   : t-value

$\overline{X_1}$: the mean of experimental group

$\overline{X_2}$: the mean of the control group

$\sum X_1$: deviation of the experimental group

$\sum X_2$: deviation of the control group

N_1 : the number of the students in experimental group

N_2 : the number of the students in control group

There are three steps in computing the statistical analysis. First is calculating the means scored of the experimental and control group. Before, the writer calculates the means score, the writer will see the score distribution of experimental and control group.

The score distribution of pre-test

Student's number	Experiment	Control	Xe	Xc
1	62.86	57.14	3951.38	3264.98
2	65.71	68.57	4317.80	4701.84
3	65.71	57.14	4317.80	3264.98
4	62.86	65.71	3951.38	4317.80
5	65.71	57.14	4317.80	3264.98
6	71.43	68.57	5102.24	4701.84
7	68.57	71.43	4701.84	4701.84
8	65.71	60.00	4317.80	3600
9	65.71	65.71	4317.80	4317.80
10	65.71	60.00	4317.80	3600
$\sum$	660.00	631.41	43613.64	39736.06

After getting all the scores, the computation was made. The first way to know the significant different of the experiment can be seen through the difference of the means.

The following formula was used to get the means:

$$Me = \frac{\sum x_e}{N} \qquad\qquad M_c = \frac{\sum x_c}{N}$$

Where:

Me : the mean score or the experimental group

$\sum x_e$: the sum of all scores of the experimental group

M_c : the mean score or the control group

$\sum x_c$: the sum of all scores of the control group

N : the number of the subject sample.

The computation of the mean score of the experimental and control groups based on the pre-test as follow:

$$Me = \frac{\sum x_e}{N}$$

$$= \frac{660.0}{10}$$

$$= 66$$

The score of the experimental group was 66.

$$M_c = \frac{\sum x_e}{N}$$

$$= \frac{631.4}{10}$$

$$= 63.14$$

The mean score of the control group was 63.14.

If the writer compared the two means it is clear that the mean of the experimental group is higher than that of the control group. The difference between the two mean is (Me - Mc) = 66-63.14=2.86.

The score distribution of post-test

Student's number	Experiment	Control	Xe	Xc
1	91.43	71.43	8358.53	5102.24
2	85.71	77.14	7346.20	5950.58
3	82.86	71.43	6865.78	5102.24
4	85.71	77.14	7346.20	5950.58
5	88.57	77.14	7844.64	5950.58
6	97.14	85.71	9436.18	7346.20
7	94.14	91.43	8890.60	8358.53
8	85.71	80.00	7346.20	6400
9	82.86	77.14	6865.78	5950.58
10	88.57	80.00	7844.64	6400
$\sum$	882.9	788.56	78144.75	65211.53

The computation of the mean score of the experimental and control groups based on the post test result as fallows:

The following formula was used to get the means:

$$\text{Me} = \frac{\sum x_e}{N}$$

$$= \frac{882.9}{10} \quad = 88.29$$

The score of the experimental group was 88.29

$$M_c = \frac{\sum x_e}{N}$$

$$= \frac{788.6}{10}$$

$$= 78.86$$

The score of the control group was 78.86

Comparing the two means above, it is clear that the mean of the experimental group is higher than of the control group. The difference between the two means is 88.29 – 78.86 = 9.43.

After calculating the mean of the experimental and control groups the writer calculated the deviation of experimental group (SSe) and deviation of control group (SSc).

Based on the Pre-test result,

$$SSe = \sum x_e - \frac{(\sum x_e)^2}{N_e}$$

$$= 43616.33 - 43560$$

$$= 56.33$$

The deviation of each value of the experimental group is 56.33

$$SSc = \sum x_c - \frac{(\sum x_c)^2}{N_c}$$

$$= 40138.77 - 39870.2$$

$$= 268.57$$

The deviation of each value of the experimental group is 268.57

While based on the post result.

$$SSe = \sum x_e - \frac{(\sum x_e)^2}{N_e}$$

$$= 78146.9 - \frac{(882.9)^2}{10}$$

$$= 78146.9 - 7794.7$$

$$= 203.2$$

The deviation of each value of the experiment group is 203.2

$$SSc = \sum x_c - \frac{(\sum x_c)^2}{N_c}$$

$$= 62514.3 - \frac{\left(\frac{789}{10}\right)}{10}$$

$$= 62514.3 - 62184.5$$

$$= 329.8$$

The deviation of each value of the control group is 329.8.

After getting the deviation of experiment group (SSe) and deviation of control group (SSc), then the t-test formula was calculated.

The t-test of Pre-test

$$t = \frac{66.00 - 63.14}{\sqrt{\left[\frac{56.33 + 268.57}{10 + 10 - 2}\right]\left[\frac{1}{10} + \frac{1}{10}\right]}}$$

$$= \frac{2.06}{\sqrt{3.60998}}$$

$$= \quad \frac{9.43}{2.43} \quad = 3.87$$

The t-test of Post-test is 3.87.

4.3 Test of Significance

To check whether the difference between the two means of the control group and the experimental group is statistically significant, the t-value obtained should be consulted with the critical value in the t-table. Before the experiment was conducted, the level of significant should have been decided first so that the decision making would not be influenced by the result of experiment.

In this experiment, the number of subject of both the experimental and control group was 20. The degree of the freedom was 20. The critical value with the degree of freedom 20 at 5% alpha level of significance is 2.10. The t-value of pre-test is lower than the critical value. So it can be concluded that there is no significant difference of pre-test result between experimental group and control group.

While t-value of post-test is higher than the critical value because t-value of post test (3.874) is higher than critical value (2.10).

It can be concluded that there is significant difference of post test result between experimental group and control group. Therefore, the null hypothesis that "there is no significant difference of students' achievement in spelling teaching between those taught with and without treasure hunt game is rejected". In edition,

this study suggests improving students' vocabulary using treasure hunt game is an effective way.

The difficulties of teaching spelling because of the different from the student's mother tongue could be minimal zed through this game. Before, the students wrote the words with their spelling, for example in writing "lunch" they wrote "lanch" and then with the treasure hunt game the students tried to arrange words correctly because the teacher also helps students learning to spell words well.

CHAPTER V

CONCLUSION AND SUGGESTION

In this chapter, the writer presents the conclusion and suggestion, which elaborates the result of the research and data analysis. Here the writer gives the conclusion and the suggestion.

5.1 Conclusion

The result of the study shows that after the treatment, there is a difference in the students' achievement in learning English spelling between students taught by using treasure hunt game and those taught using conventional strategy.

The two groups are in the same level. Meanwhile, the final result shows that the students' score improved if they were taught by using treasure hunt game than those who were taught conventional strategy. The result of the experimental group is 66, 00 and the control group is 63, 14.

Teaching spelling by using treasure hunt game has many advantages. Based on the writer's experience during the research, the use of treasure hunt game as media in teaching English spelling can motivate the students in learning English. The students are also interested in playing treasure hunt game while teaching learning process. They also feel excited when learning English spelling by using a new media that is rarely used by their teacher. Most students like to play game, what kinds of games are. The game it self will create the learning atmosphere

funnier and more interesting. So the students are easier to receive the lesson (the material of the study) by using this game in teaching learning process.

However, we all know that every strategy has limitation. Teaching vocabulary by using treasure hunt game has also its weaknesses, such as it spends money to prepare the materials, beside that it needs a lot of time for searching the suitable material.

Based on the result of the test in the previous chapter, it can be concluded:

1) The result of the study shows that after the treatment, there is a difference in the students' achievement in learning English spelling by using treasure hunt game than by using conventional strategy. The final result shows that the students' English spelling improved better if they were taught by using treasure hunt game than those who were taught by using conventional strategy. The result of the experimental group is 66.00 and the control group is 63.14.

2) The result of the calculation using t-test is 5.567>1.67. the result of the study shows that after treatment given there is a significant difference of the students' achievement in learning English spelling by using treasure hunt game than by using conventional strategy. From this statement, it is said that treasure hunt game is effective enough to be used in improving students' mastery in English spelling. Thus, the treasure hunt game can be used as an alternative technique in improving students' mastery in English spelling.

5.2 Suggestion

From the advantages of teaching English spelling by using treasure hunt game to junior high school students, the writer would like to give some suggestions as follows:

a. Using treasure hunt game in teaching English spelling is recommended for the English teachers, especially for junior high school teachers to attract the students' interest and motivation in learning English.

b. Students should do much practice in learning English spelling not only in the classroom teaching-learning process but also in daily activity.

c. The program should be done regularly and continuously.

d. For the next researchers, they can make this study as their milestone to conduct other research on the same field. They may use true experimental research design to know whether the method is effective or not.

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(http://www.thefreedictionary.com/treasure+hunt)

(http://en.wikipedia.org/wiki/Armchair treasure_hunt)

(http://wiki.answering.com/Q/What are some good treasure hunt clues for a 3 year old&src=ansTT)

Try Out Test

Subject : English

Class : V11

Name :

No. Absent :

Pilihlah kata dibawah ini yang benar tulisanya!

1.	a. shirt	b. sirt	26.	a. sketboard	b. skateboard
2.	a. hanting	b. hunting	27.	a. marbel	b. marble
3.	a. sokcs	b. socks	28.	a. balloon	b. baloon
4.	a. handkerchief	b. handkercief	29.	a. coffee	b. coffe
5.	a. pant	b. patn	30.	a. bowl	b. bolw
6.	a. diner	b. dinner	31.	a. cichken	b. chicken
7.	a. jeans	b. jins	32.	a. soup	b. suop
8.	a. skirt	b. skit	33.	a. nodle	b. noodle
9.	a. jaket	b. jacket	34.	a. cheese	b. cheesse
10.	a. hat	b. het	35.	a. vejetable	b. vegetable
11.	a. dicsionary	b. dictionary	36.	a. unifom	b. uniform
12.	a. magezine	b. magazine	37.	a. homework	b. homewok
13.	a. aculist	b. oculist	38.	a. wacth	b. watch
14.	a. driver	b. draiver	39.	a. lanch	b. lunch
15.	a. library	b. librari	40.	a. breakfast	b. brekfast
16.	a. stomachache	b. stomacahce	41.	a. half	b. hafl
17.	a. tootache	b. toothache	42.	a. twelev	b. twelve
18.	a. ofice	b. office	43.	a. quarter	b. kuarter
19.	a. truk	b. truck	44.	a. clock	b. cloke
20.	a. square	b. skuare	45.	a. painting	b. painnting
21.	a. sylindrical	b. cylindrical	46.	a. running	b. runing
22.	a. claimbing	b. climbing	47.	a. swimming	b. swiming
23.	a. pajama	b. piyama	48.	a. vollyball	b. volleyball
24.	a. sweter	b. sweater	49.	a. chess	b. chees
25.	a. trouser	b. troser	50.	a. cycling	b. ciclyng

Pre Test and Post Test

Subject : English
Class   : V11

Name   :
No. Absen :

Pilihlah kata dibawah ini yang benar tulisanya!

1. a. vejetable   b. vegetable   25. a. square   b. skuare
2. a. homework   b. homewok   26. a. sweter   b. sweater
3. a. lanch   b. lunch   27. a. trouser   b. trouser
4. a. breakfast   b. brekfast   28. a. sketboard   b. skateboard
5. a. half   b. hafl.   29. a. marbel   b. marble
6. a. quarter   b. kuarter   30. a. balloon   b. baloon
7. a. clock   b. cloke   31. a. coffee   b. coffe
8. a. painting   b. painnting   32. a. bowl   b. bolw
9. a. swimming   b. swiming   33. a. cichken   b. chicken
10. a. chess   b. chees   34. a. nodle   b. noodle
11. a. cycling   b. ciclyng   35. a. cheese   b. cheesse
12. a. shirt   b. sirt
13. a. hanting   b. hunting
14. a. sokcs   b. socks
15. a. pant   b. patn
16. a. skirt   b. skit
17. a. jaket   b. jacket
18. a. dictionary   b. diktionary
19. a. magezine   b. magazine
20. a. aculist   b. oculist
21. a. driver   b. draiver
22. a. library   b. librari
23. a. stomachache   b. stomacahce
24. a. tootache   b. toothache

THE KEY ANSWER OF THE TRY OUT TEST

THE KEY ANSWERS OF PRE-TEST AND POST-TEST

1. a	26. b	1. b	19. b
2. b	27. b	2. a	20. b
3. b	28. a	3. b	21. a
4. a	29. a	4. a	22. a
5. a	30. a	5. a	23. a
6. b	31. b	6. a	24. b
7. a	32. a	7. a	25. a
8. a	33. b	8. a	26. b
9. b	34. a	9. a	27. b
10. a	35. b	10. a	28. a
11. b	36. b	11. a	29. b
12. b	37. a	12. a	30. a
13. b	38. b	13. b	31. a
14. a	39. b	14. b	32. a
15. a	40. a	15. a	33. b
16. a	41. a	16. a	34. b
17. b	42. b	17. b	35. a
18. b	43. a	18. a	
19. b	44. a		
20. a	45. a		
21. b	46. a		
22. b	47. a		
23. a	48. b		
24. b	49. a		
25. a	50. a		
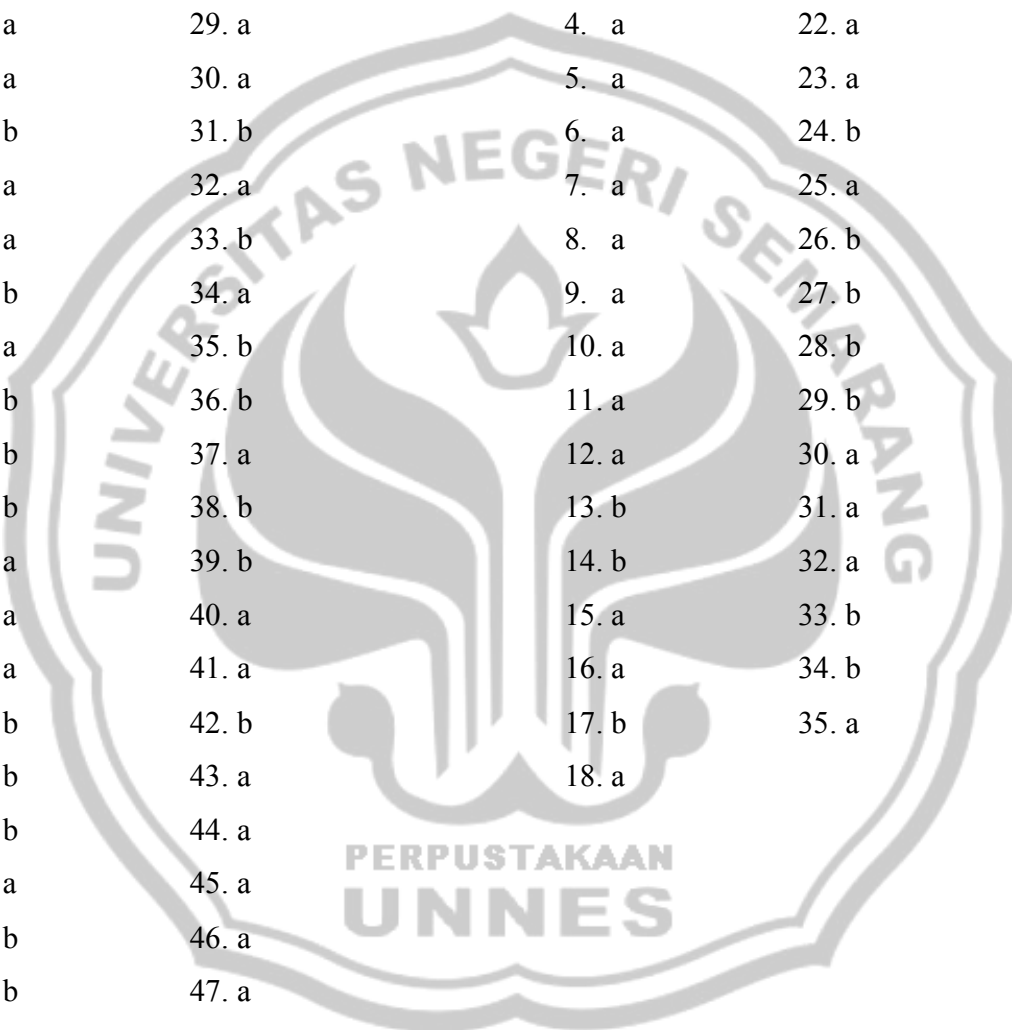
THE EXERCISES OF EXPERIMENTAL GROUP

T.4			
		T.2	
T.5	T.3		T.1

Find these treasures:

T.1 : Celana pendek in English is………….

T.2 : Sarapan in English is………………….

T.3 : Makan siang in English is……………

T.4 : Belajar in English is………………….

T.5 : kemeja in English is…………………

THE EXERCISES OF EXPERIMENTAL GROUP

T.5			
			T.1
	T.4		
T.3		T.2	

Find this treasure:

T.1 : Berenang in English is………….   T.4 : Catur in English is…………

T.2 : Berolahraga in English is……….   T.5 : Melukis in English is………

T.3 : Bola basket in English is……….

LESSON PLAN FOR EXPERIMENTAL GROUP

Junior high school   : SMP N 1 Gembong, Pati

Subject   : English

Class/Semester   : V11/1

Competence Standard : Understanding instruction in simple with action of

school context.

Basic Competence   : Responding instruction in simple with action of class

and school context.

Indicators   : 1. Mention the kinds of hobbies

2. Write the kinds of hobbies correctly

Theme   : Hobbies

Aspect/Skill   : Spelling/Writing

Time   : 2x35'

1. Goal of Learning

In the end of learning process, the students are able to learn English and

improve their skill, especially in writing the correct spelling in an interesting

way.

2. material

Hobbies:

- swimming

- football

- basketball

3. Method of Teaching

   The Treasure Hunt Game

4. Class Activity

   1). BKOF

      ▪ Greeting

      ▪ Teacher tells the students what they are going to learn in this meeting.

      ▪ Teacher asks students to mention some vocabularies about hobbies.

   2). MOT

      ▪ Teacher introducing the treasure hunt game

      ▪ Teacher asks students for playing game

   3). JCOT

      ▪ Teacher asks students to cooperate in playing game and write the right

        answer in the whiteboard.

   4). ICOT

      ▪ Teacher asks students write kinds of hobbies individually.

5. Bibliography

      ▪ Yudistira Text Book

      ▪ Erlangga Text Book

6. Assessment

      ▪ Technique   : the treasure hunt game

      ▪ Instrument form   : Written Test

      ▪ Instruction form   : Question in the map

      ▪ Example of instruction   : sepak bola in English is…

LESSON PLAN FOR EXPERIMENTAL GROUP

Junior high school : SMP N 1 Gembong, Pati

Subject   : English

Class/Semester   : V11/1

Competence Standard : Understanding instruction in simple with action of

         school context.

Basic Competence : Responding instruction in simple with action of class

         and school context.

Indicators   : 1. Mention the kinds of hobbies

          2. Write the kinds of hobbies correctly

Theme   : Food and Drinks

Aspect/Skill   : Spelling/Writing

Time   : 2x35'

1. Goal of Learning

   In the end of learning process, the students are able to learn English and

   improve their skill, especially in writing the correct spelling in an interesting

   way.

2. material

   Food and Drinks:

   - dinner

   - chicken

   - lunch

3. Method of Teaching

   The Treasure Hunt Game

4. Class Activity

   1). BKOF

   - Greeting

   - Teacher tells the students what they are going to learn in this meeting.

   - Teacher asks students to mention some vocabularies about food and drinks.

   2). MOT

   - Teacher introducing the treasure hunt game

   - Teacher asks students for playing game

   3). JCOT

   - Teacher asks students to cooperate in playing game and write the right

     answer in the whiteboard.

   4). ICOT

   - Teacher asks students write kinds of food and drinks individually.

5. Bibliography

   - Yudistira Text Book

   - Erlangga Text Book

6. Assessment

   - Technique   : the treasure hunt game

   - Instrument form   : Written Test

   - Instruction form   : Question in the map

   - Example of instruction   : Sarapan in English is…

LESSON PLAN FOR CONTROL GROUP

Junior high school : SMP N 1 Gembong, Pati

Subject   : English

Class/Semester   : V11/1

Competence Standard : Understanding instruction in simple with action of

         school context.

Basic Competence : Responding instruction in simple with action of class

         and school context.

Indicators   : 1. Mention the kinds of hobbies

         2. Write the kinds of hobbies correctly

Theme   : Hobbies

Aspect/Skill   : Spelling/Writing

Time   : 2x35'

1. Goal of Learning

   In the end of learning process, the students are able to learn English and

   improve their skill, especially in writing the correct spelling in an interesting

   way.

2. material

   Hobbies:

   - swimming

   - football

   - basketball

3. Method of Teaching

Using information, question-answer and task.

4. Class Activity

1). BKOF

- Greeting

- Teacher tells the students what they are going to learn in this meeting.

- Teacher asks students to read the material based on the text book.

2). MOT

- Teacher explains the materials based on text book.

- Teacher asks students to analyze the spelling and doing exercise from text book.

3). JCOT

- Teacher asks students to do exercise with their group.

4). ICOT

- Teacher asks students write kinds of hobbies individually.

5. Bibliography

- Yudistira Text Book

- Erlangga Text Book

6. Assessment

- Technique   : the treasure hunt game

- Instrument form   : Written Test

- Instruction form   : Translate into English!

- Example of instruction : sepak bola =…..

LESSON PLAN FOR CONTROL GROUP

Junior high school   : SMP N 1 Gembong, Pati

Subject   : English

Class/Semester   : V11/1

Competence Standard   : Understanding instruction in simple with action of

school context.

Basic Competence   : Responding instruction in simple with action of class

and school context.

Indicators   : 1. Mention the kinds of foods and drinks

2. Write the kinds of foods and drinks correctly

Theme   : Foods and Drinks

Aspect/Skill   : Spelling/Writing

Time   : 2x35'

1. Goal of Learning

In the end of learning process, the students are able to learn English and

improve their skill, especially in writing the correct spelling in an interesting

way.

2. material

Foods and Drinks:

- dinner

- chicken

- lunch

3. Method of Teaching

   The Treasure Hunt Game

4. Class Activity

   1). BKOF

   - Greeting

   - Teacher tells the students what they are going to learn in this meeting.

   - Teacher asks students to mention some vocabularies about foods and drinks.

   2). MOT

   - Teacher asks students to read the materials based on the text book.

   - Teacher explains the materials based on the text book.

   3). JCOT

   - Teacher asks students to analyze the spelling and doing exercises from the text book.

   4). ICOT

   - Teacher asks students write kinds of food and drinks individually.

5. Bibliography

   - Yudistira Text Book

   - Erlangga Text Book

6. Assessment

   - Technique   : the treasure hunt game

   - Instrument form   : Written Test

   - Instruction form   : Question in the map

   - Example of instruction : Sarapan in English is…

- **The Computation of the Validity, Reliability, Difficulty Level**
  - **And Discriminating Power of the Try-out Test**

No	Code	Item										
		1	2	3	4	5	6	7	8	9	10	11
1	T-01	1	1	1	1	1	1	1	1	1	1	1
2	T-07	1	1	1	1	1	1	1	1	1	1	1
3	T-12	1	1	0	1	1	1	1	1	1	1	1
4	T-09	1	1	0	1	1	1	1	1	0	1	1
5	T-04	1	1	0	1	1	1	1	1	0	1	1
6	T-11	0	0	0	1	1	1	1	1	0	1	1
7	T-10	1	1	0	1	1	0	1	0	1	1	1
8	T-08	0	0	0	0	1	1	0	0	0	0	0
9	T-02	1	1	1	1	0	0	0	1	0	1	0
10	T-03	0	0	0	0	1	0	0	1	1	0	1
11	T-06	0	0	0	0	0	1	1	0	0	1	1
12	T-05	0	0	0	0	0	1	0	0	0	0	0
Validity	$\sum X$	7	7	3	8	10	8	8	8	5	9	9
	$\sum X^2$	7	7	3	8	10	8	8	8	5	9	9
	$\sum XY$	252	252	111	284	311	273	280	275	174	295	294
	r_{xy}	0.679	0.679	0.373	0.761	0.497	0.622	0.710	0.647	0.412	0.594	0.580
	r_{tabel}	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
	Criteria	Valid	Valid	Invalid	Valid	Invalid	Valid	Valid	Valid	Invalid	Valid	Valid
Discriminating Power	BA	5	5	2	6	6	6	6	6	3	6	6
	BB	2	2	1	2	4	2	2	2	2	3	3
	JA	6	6	6	6	6	6	6	6	6	6	6
	JB	6	6	6	6	6	6	6	6	6	6	6
	P	0.50	0.50	0.17	0.67	0.33	0.67	0.67	0.67	0.17	0.50	0.50
	Criteria	Good	Good	Poor	Good	Satisfactory	Good	Good	Good	Poor	Good	Good
Difficulty Level	B	7	7	3	8	10	8	8	8	5	9	9
	JS	12	12	12	12	12	12	12	12	12	12	12
	D	0.58	0.58	0.25	0.67	0.83	0.67	0.67	0.67	0.42	0.75	0.75
	Criteria	Medium	Medium	Difficult	Medium	Easy	Medium	Medium	Medium	Medium	Easy	Easy
Criteria		Used	Used	Unused	Used	Unused	Used	Used	Used	Unused	Used	Used

No	Code	Item										
		12	13	14	15	16	17	18	19	20	21	22
1	T-01	1	1	1	1	1	1	1	1	1	1	1
2	T-07	1	1	1	1	1	1	1	1	1	1	1
3	T-12	1	1	1	1	1	1	1	1	0	0	0
4	T-09	0	0	1	1	1	1	0	1	0	1	0
5	T-04	1	0	1	0	1	1	1	1	1	1	0
6	T-11	1	1	1	1	1	1	0	1	0	1	0
7	T-10	0	0	1	1	0	1	0	0	0	1	0
8	T-08	0	0	0	1	1	0	0	1	0	0	0
9	T-02	1	0	0	1	0	1	0	1	0	0	0
10	T-03	0	1	0	1	0	1	0	1	0	0	0
11	T-06	0	0	0	1	0	0	0	0	0	0	0
12	T-05	0	0	0	1	0	0	0	0	0	0	0
	$\sum X$	6	5	7	11	7	8	4	9	3	6	2
Validity	$\sum X^2$	7	5	7	11	7	8	4	9	3	6	2
	$\sum XY$	222	183	269	298	263	284	175	292	134	228	96
	r_{xy}	0.646	0.522	0.886	-0.261	0.813	0.761	0.799	0.552	0.691	0.718	0.642
	r_{tabel}	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
	Criteria	Valid	Invalid	Valid	Invalid	Valid	Valid	Valid	Invalid	Valid	Valid	Valid
Discriminating Power	BA	5	4	6	5	6	6	4	6	3	5	2
	BB	1	1	1	6	1	2	0	3	0	1	0
	JA	6	6	6	6	6	6	6	6	6	6	6
	JB	6	6	6	6	6	6	6	6	6	6	6
	P	0.67	0.50	0.83	-0.17	0.83	0.67	0.67	0.50	0.50	0.67	0.33
	Criteria	Good	Good	Excellent	Poor	Excellent	Good	Good	Good	Good	Good	Satisfactory
Difficulty Level	B	6	5	7	11	7	8	4	9	3	6	2
	JS	12	12	12	12	12	12	12	12	12	12	12
	D	0.50	0.42	0.58	0.92	0.58	0.67	0.33	0.75	0.25	0.50	0.17
	Criteria	Medium	Medium	Medium	Easy	Medium	Medium	Medium	Easy	Difficult	Medium	Difficult
	Criteria	Used	Used	Unused	Used	Unused	Used	Used	Used	Unused	Used	Used

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No	Code	Item										
		23	24	25	26	27	28	29	30	31	32	33
1	T-01	1	1	1	1	1	1	1	1	1	1	1
2	T-07	1	1	1	1	1	1	1	1	1	1	1
3	T-12	1	1	1	1	1	1	0	1	1	1	1
4	T-09	1	1	1	1	1	1	1	1	1	1	1
5	T-04	1	1	1	1	1	1	1	1	1	0	0
6	T-11	1	0	1	0	1	0	0	1	1	1	1
7	T-10	0	1	0	0	1	0	0	0	0	1	1
8	T-08	1	0	0	1	1	1	0	1	0	1	1
9	T-02	1	0	0	0	0	0	0	0	1	1	1
10	T-03	1	0	0	0	0	0	1	0	1	1	1
11	T-06	1	0	0	0	0	1	0	0	0	1	1
12	T-05	0	0	0	0	1	0	0	1	0	1	1
	$\sum X$	10	6	6	6	9	7	5	8	8	11	11
Validity	$\sum X^2$	10	6	6	6	9	7	5	8	8	11	11
	$\sum XY$	303	237	246	231	296	242	187	273	275	298	298
	r_{xy}	0.369	0.825	0.933	0.754	0.608	0.558	0.570	0.622	0.647	0.216	0.216
	r_{tabel}	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
	Criteria	Valid	Valid	Invalid	Valid	Invalid	Invalid	Invalid	Valid	valid	Invalid	Invalid
Discriminating Power	BA	6	5	6	5	6	6	5	4	6	5	5
	BB	4	1	0	1	4	3	2	1	2	6	6
	JA	6	6	6	6	6	6	6	6	6	6	6
	JB	6	6	6	6	6	6	6	6	6	6	6
	P	0.33	0.67	1.00	0.67	0.50	0.50	0.50	0.50	0.67	-0.17	-0.17
	Criteria	Satisfactory	Good	Excellent	Good	Good	Good	Good	Good	Poor	Poor	Poor
Difficulty Level	B	10	6	6	6	9	7	5	8	8	11	11
	JS	12	12	12	12	12	12	12	12	12	12	12
	D	0.83	0.50	0.50	0.50	0.75	0.58	0.42	0.67	0.67	0.92	0.92
	Criteria	Easy	Medium	Medium	Medium	Easy	Medium	Medium	Medium	Medium	Easy	Easy
	Criteria	Used	Used	Unused	Used	Used	Unused	Unused	Used	Used	Unused	Unused

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No	Code	Item										
		34	35	36	37	38	39	40	41	42	43	44
1	T-01	1	1	1	1	1	1	0	1	1	1	1
2	T-07	1	1	1	1	1	1	1	0	1	1	1
3	T-12	1	1	1	1	0	1	1	0	0	1	1
4	T-09	0	1	1	1	1	1	1	0	0	1	1
5	T-04	0	1	1	1	1	1	1	1	0	1	1
6	T-11	0	1	1	0	1	1	1	0	1	0	1
7	T-10	0	1	0	1	0	0	0	0	0	1	1
8	T-08	0	1	1	0	0	1	0	0	0	0	1
9	T-02	0	0	0	0	0	0	0	0	0	0	0
10	T-03	0	0	0	0	0	1	0	0	0	0	1
11	T-06	0	0	0	0	0	0	0	0	0	0	1
12	T-05	0	0	0	0	0	0	1	0	0	0	1
	$\sum X$	3	8	7	6	5	8	7	1	3	6	11
Validity	$\sum X^2$	3	8	7	6	5	8	7	1	3	6	11
	$\sum XY$	137	286	263	237	205	277	256	38	128	237	321
	r_{xy}	0.732	0.787	0.813	0.825	0.788	0.672	0.728	0.216	0.608	0.825	0.281
	r_{tabel}	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
	Criteria	Valid	Valid	Valid	Valid	Valid	Valid	Valid	Invalid	Valid	Valid	Invalid
Discriminating Power	BA	3	6	6	5	5	6	6	1	3	5	6
	BB	0	2	1	1	0	2	1	0	0	1	5
	JA	6	6	6	6	6	6	6	6	6	6	6
	JB	6	6	6	6	6	6	6	6	6	6	6
	P	0.50	0.67	0.83	0.67	0.83	0.67	0.83	0.17	0.50	0.67	0.17
	Criteria	Good	Good	Excellen	Good	Excellen	Good	Excellen	Poor	Good	Good	Poor
Difficulty Level	B	3	8	7	6	5	8	7	1	3	6	11
	JS	12	12	12	12	12	12	12	12	12	12	12
	D	0.25	0.67	0.58	0.50	0.42	0.67	0.58	0.08	0.25	0.50	0.92
	Criteria	Medium	Medium	Difficul	Medium	Easy	Medium	Medium	Medium	Medium	Easy	Easy
	Criteria	Used	Used	Used	Used	Used	Used	Used	Unused	Used	Used	Unused

No	Code	Item						Y	Y²
		45	46	47	48	49	50		
1	T-01	1	1	0	1	1	1	48	2304
2	T-07	1	1	0	1	1	1	48	2304
3	T-12	1	1	0	1	1	1	41	1681
4	T-09	1	1	0	1	1	1	39	1521
5	T-04	0	0	0	1	1	1	38	1444
6	T-11	0	0	0	1	1	1	32	1024
7	T-10	1	0	0	0	1	1	23	529
8	T-08	0	0	1	0	0	0	17	289
9	T-02	0	0	0	1	0	0	15	225
10	T-03	0	0	0	0	0	0	14	196
11	T-06	1	0	0	0	0	0	11	121
12	T-05	0	0	1	0	1	0	10	100
	$\sum X$	6	4	2	7	8	7	336	11738
Validity	$\sum X^2$	6	4	2	7	8	7		
	$\sum XY$	210	176	27	261	279	269		
	r_{xy}	0.502	0.812	-0.465	0.788	0.698	0.886		
	r_{tabel}	0.576	0.576	0.576	0.576	0.576	0.576		
	Criteria	Invalid	Valid	Invalid	Valid	Valid	Valid		
Discriminating Power	BA	4	4	0	6	6	6		
	BB	2	0	2	1	2	1		
	JA	6	6	6	6	6	6		
	JB	6	6	6	6	6	6		
	P	0.50	0.50	0.17	0.67	0.33	0.67		
	Criteria	Satisfactory	Good	poor	Excellent	Good	Excellent		
Difficulty Level	B	7	7	3	8	10	8	k = 50	
	JS	12	12	12	12	12	12	M = 28.000	
	D	0.58	0.58	0.25	0.67	0.83	0.67	Vt = 194.167	
	Criteria	Medium	Medium	Difficult	Medium	Easy	Medium	r_{11} = 0.956	
Criteria		Used	Used	Unused	Used	Unused	Used		

- **The Computations of the Discriminating Power Test**

- **Formula**

-
- $$D = \frac{BA}{BB} - \frac{BB}{JB}$$
-

- Explanation:

- D : The discriminating index

- BA   : The number of students in lower group whop answered the item correctly

- BB   : The number of students in upper group whop answered the item correctly

- JA   : The number of students in upper group

- JB   : The number of students in lower group

- **Criteria**

Interval	Criteria
$0.00 \leq$ DP ≤ 0.20	Poor
$0.20 <$ DP ≤ 0.40	Satisfactory
$0.40 <$ DP ≤ 0.70	Good
$0.70 <$ DP ≤ 1.00	Excellent

-

- The following is the example of the computation of the discriminating power of item number 1, and for the other items will use the same formula.

	Upper Group			Lower Group	
No	Code	Score	No	Code	Score
1	T-01	1	1	T-10	0
2	T-07	1	2	T-08	1
3	T-12	1	3	T-02	0
4	T-09	1	4	T-03	1
5	T-04	1	5	T-06	0
6	T-11	0	6	T-05	0
	Total	5		Total	2

-

- $\frac{5}{6}$, $= \frac{2}{6}$ -

-     $= 0.50$

- According to the criterions, the item number 1 is Good

■

■

   ■ **The Computation Level of Difficulty Test**

■ **Formula**

$$P = \frac{B}{JS}$$

■

■ Explanations:

■ P : The facility value (index of difficulty)

■ B : The number of student who answered correctly

■ JS　　: The total number of the student

■ **Criteria**

Interval	Criteria
0.00 < IK ≤ 0.30	Difficult
0.30 < IK ≤ 0.70	Medium
0.70 < IK < 1.00	Easy

■

■ The following is the example of the computation of the facility value of item number 1, and for the other items will use the same formula.

Upper Group			Lower Group		
No	Code	Score	No	Code	Score
1	T-01	1	1	T-10	0
2	T-07	1	2	T-08	1
3	T-12	1	3	T-02	0
4	T-09	1	4	T-03	1
5	T-04	1	5	T-06	0
6	T-11	0	6	T-05	0
Total		5	Total		2

■

■ $\dfrac{5 + 2}{12}$

■ $= 0.58$

■ According to the criterions, the item number 1 is medium.

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   - **The Computations of the Reliability Test**

- **Formula**

$$R_{11} = \left(\frac{k}{k-1} \right) \left(\frac{M(k-M)}{kVt} \right)$$

-
- Explanation
- k : The number of the item
- M : The means of the scores total
- Vt : The total of the variants
- **Criteria**
- The instrument is reliable if $r_{11} > r_{tabel}$
-
- The following is the computation of the reliability of the instrument
- k = 50
- M = 28.00
- Formula the variants totals

$$Vt = \frac{\sum Y^2 - \left(\frac{\sum Y}{N} \right)}{N}$$

-
-

$$Vt = \frac{11738 \frac{336}{12} \left(\right)}{12} = 194.167$$

-

$$r_{11} = \frac{50}{50-1} \left(1 - \right) \left(\frac{28.0 \ (50 - 28.0)}{50 \ (194.167} \right)$$

- = 0.956

- For α = 5% and number of subject n = 12, $r_{tabel} = 0.576$

- Because $r_{11} > r_{tabel}$, then instrument is reliable

-

The Computation of Item Validity Test

- **Formula**

$$r_{xy} = \sqrt{\frac{N\sum XY - (\sum X)(\sum Y)}{\left\{N\sum X^2 - (\sum X)^2\right\}\left\{N\sum Y^2 - (\sum Y)^2\right\}}}$$

-

- **Criteria**

- The item test is valid if $r_{xy} > r_{tabel}$

- The following is the example of counting the validity of item number 1, and for the other items will use the same formula.

No.	Code	X	Y	X^2	Y^2	XY
1	T-01	1	48	1	2304	48
2	T-07	1	48	1	2304	48
3	T-12	1	41	1	1681	41
4	T-09	1	39	1	1521	39
5	T-04	1	38	1	1444	38
6	T-11	0	32	0	1024	0
7	T-10	1	23	1	529	23
8	T-08	0	17	0	289	0
9	T-02	1	15	1	225	15
10	T-03	0	14	0	196	0
11	T-06	0	11	0	121	0
12	T-05	0	10	0	100	0
$\sum$		7	336	7	11738	252

- By using that formula, we obtain that:

-

- $$r_{xy} = \frac{(12 \times 252) - (7 \times 336)}{\sqrt{\left\{(12 \times 7) - (7)^2\right\}\left\{(12 \times 11738) - (336)^2\right\}}}$$

- $r_{xy} = 0.6793$

- On α = 5% with N = 12 it is obtained = 0,576

- Because of $r_{xy} > r_{tabel}$, so the item number 1 is valid.

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- **SCORE PRE TEST BETWEEN EXPERIMENTAL AND**

- **CONTROL GROUP**

Experimental			Control		
No	Code	Score	No	Code	score
1	E-01	62.86	1	C-01	67.14
2	E-02	65.71	2	C-02	68.57
3	E-03	65.71	3	C-03	57.14
4	E-04	62.86	4	C-04	65.71
5	E-05	65.71	5	C-05	57.14
6	E-06	71.43	6	C-06	68.57
7	E-07	68.57	7	C-07	71.43
8	E-08	65.71	8	C-08	60.00
9	E-09	65.71	9	C-09	65.71
10	E-10	65.71	10	C-10	60.00
$\sum$	=	660.00	$\sum$	=	631.43
n_1	=	10	n_2	=	10
$\overline{x_1}$	=	66.00	$\overline{x_2}$	=	63.14
s_1^2	=	6.2585	s_2^2	=	29.8413
s_1	=	56.327	s_2	=	268.571

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- **INDEPENDENT SAMPLES PRE TEST BETWEEN EXPERIMENTAL**
- **AND CONTROL GROUP**

- **Phothesis**

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- Ho: $\mu_1 \leq \mu_2$

- Ha: $\mu_1 > \mu_2$

- $$t = \frac{M_x - M_y}{\sqrt{\dfrac{\sum X^2 + \sum Y^2}{N_x + N_y - 2}\left[\dfrac{1}{N_x} + \dfrac{1}{N_y}\right]}}$$

- **Formula**
- To measure hypothesis using the formula bellow:

	Experimental	Control
Sum	660.0	631.4
n	10	10
x	66.00	63.14
Variance (s^2)	6.26	29.84
Standard deviation	56.33	268.57

-
- There:
- $Mx \dfrac{\sum X}{Nx}$ $\dfrac{660.0}{10} = 66$ $My \dfrac{\sum Y}{Ny}$ $\dfrac{631.4}{10} = 63.14$

-
- $\sum x^2 = \sum X \dfrac{(\sum X)^2}{Nx}$ $\sum y^2 = \sum Y^2 \dfrac{(\sum y)^2}{Nx}$
-
- $= 43616 - \dfrac{(660.0)^2}{10}$ $= 40139 - \dfrac{(631)^2}{10}$
-
- $= 43616.3 - 43560$ $= 40138.8 - 39870.2$
-

- $= 56.33$ $= 268.571$

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$$t = \frac{66.00 - 63.14}{\sqrt{\dfrac{56.33 + 268.57}{10 + \left[10 - 2\right]} \dfrac{1}{10}}\left[\dfrac{1}{10} + \dfrac{1}{10}\right]}$$
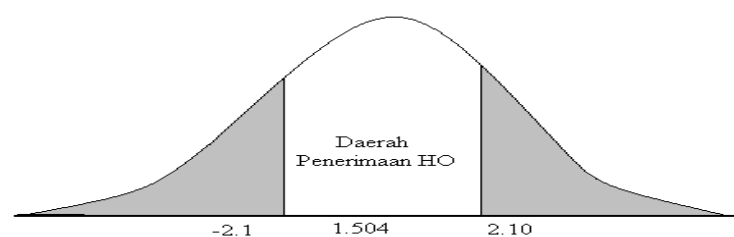
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$$= \frac{2.86}{\sqrt{\dfrac{324.9}{18}\left[\dfrac{2}{10}\right]}}$$

■

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$$= \frac{2.86}{\sqrt{3.60998}}$$

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$$= \frac{2.86}{1.9}$$

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- $= 1.50376$

- On $\alpha = 5\%$ with dk $= 10 + 10 - 2 = 18$ the result $t_{(0.95)(18)} = 2.10$

Daerah
Penerimaan HO

-2.1 1.504 2.10

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- Since $-t$ table $< t$ value $< t$ table, mean there is no significant difference between experimental and control class on the pre test

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▪ SCORE POST TEST BETWEEN EXPERIMENTAL AND

▪ CONTROL GROUP

Experimental			Control		
No	Code	Score	No	Code	score
1	E-01	91.43	1	C-01	71.43
2	E-02	85.71	2	C-02	77.14
3	E-03	82.86	3	C-03	71.43
4	E-04	85.71	4	C-04	77.14
5	E-05	88.57	5	C-05	77.14
6	E-06	97.14	6	C-06	85.71
7	E-07	94.29	7	C-07	91.43
8	E-08	85.71	8	C-08	80.00
9	E-09	82.86	9	C-09	77.14
10	E-10	88.57	10	C-10	80.00

$\sum$ = 882.86
n_1 = 10
$\overline{x_1}$ = 88.29
s_1^2 = 22.5850
s_1 = 203.265

$\sum$ = 788.57
n_2 = 10
$\overline{x_2}$ = 78.86
s_2^2 = 36.6440
s_2 = 329.796

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- **INDEPENDENT SAMPLES POST TEST BETWEEN EXPERIMENTAL**
- **AND CONTROL GROUP**

- **Phothesis**

-

. Ho: $\mu_1 \leq \mu_2$

. Ha: $\mu_1 > \mu_2$

- $$t = \frac{M_{x1} - M_y}{\sqrt{\left[\frac{\sum X^2 + \sum Y^2}{N_x + N_y - 2}\right]\left[\frac{1}{N_x} + \frac{1}{N_y}\right]}}$$

- **Formula**
- To measure hypothesis using the formula bellow:

	Experimental	Control
Sum	882.9	788.6
n	10	10
x	88.29	78.86
Variance (s^2)	22.59	36.64
Standard deviation	203.27	329.80

-

- There:
- Mx $\frac{\sum X}{Nx}$ $\frac{882.9}{10}$ = 88.2857   My $\frac{\sum Y}{Ny}$ $\frac{789}{10}$ = 78.8571

-

- $\sum x^2$ = $\sum X \frac{(\sum X)^2}{Nx}$ $\sum y^2$ = $\sum Y^2 \frac{(\sum y)^2}{Nx}$

-

- = $78147 - \frac{(882.9)^2}{10}$ = $62514 - \frac{(789)^2}{10}$

-
- $= 78146.9 - 77943.7$ $= 62514.3 - 62184.5$
-
- $= 203.27$ $= 329.796$
-
-

$$t = \frac{88.29 - 78.86}{\sqrt{\frac{203.27 + 329.80}{10 + \left[10 - 2 \right.} \left[\frac{1}{10} \right] + \left[\frac{1}{10} \right]}}$$

-

$$= \frac{9.43}{\sqrt{\frac{533.1}{18} \left[\frac{2}{10} \right] \left[\quad \right]}}$$

-

$$= \frac{9.43}{\sqrt{5.9229}}$$

-

$$= \frac{9.43}{2.43}$$

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- $= 3.87417$
- On $\alpha = 5\%$ with dk $= 10 + 10 - 2 = 18$ the result $t_{(0.95)(18)} = 2.10$
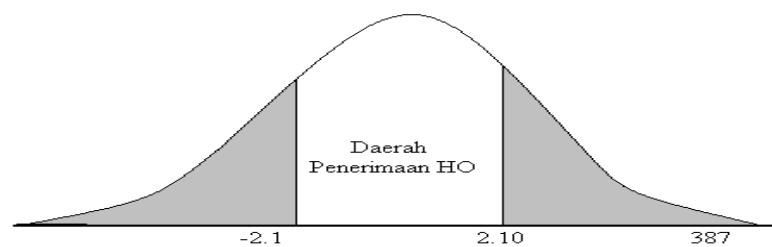
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- Since –t table < t value < t table, mean there is no significant difference between experimental and control class on the test experimental is higher than the control one.
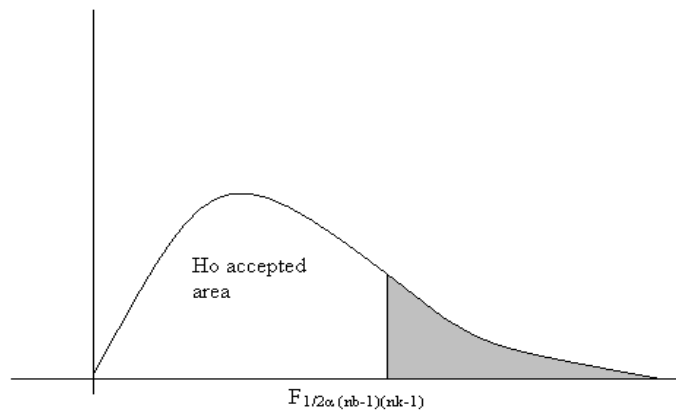
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- **LEVENE'S TEST FOR EQUALITY VARIANS PRE-TEST DATA BETWEEN**
- **EXPERIMENTSL GROUP AND CONTROL GROUP**

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- **Hipothesis**
- Ho: $\sigma_1^2 = \sigma_2^2$
- Ha: $\sigma_1^2 = \sigma_2^2$
- **The Calculation**
- Formula:

$$F = \frac{\text{Varians terbesar}}{\text{Varians terkecil}}$$

-
- Ho is accepted if F < F 1/2a (nb-1):(nk-1)

$F_{1/2\alpha \, (nb-1)(nk-1)}$

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- Dari data diperoleh:

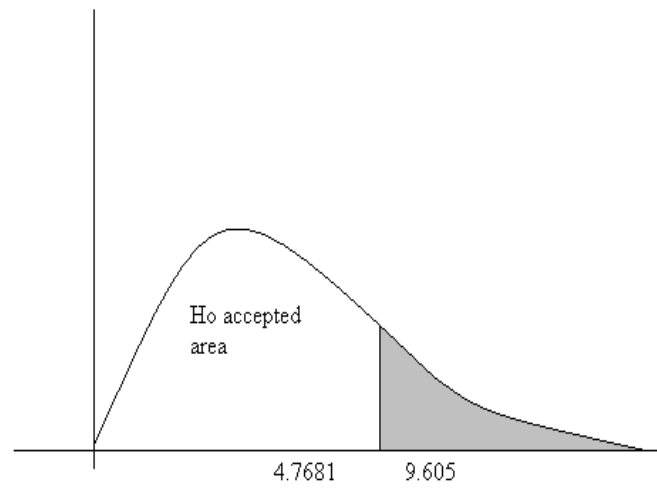|	Experimental	Control
Sum	660	631.4285714
n	10	10
$\overline{x}$	66.00	63.14
Variance(s^2)	6.2585	29.8413
Standard Deviation (s)	56.33	268.57

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-
- $\dfrac{29.84}{6.26} = 4.7681$
-
- For a = 5% with:
- df1   n1 – 1   = 5 – 1   = 4
- df2   n2 – 1   = 5 – 1   = 4
- $F_{(0.025)(36:36)} = 9.6$

Ho accepted area

4.7681   9.605

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- Since F value < F table, the experimental and control group have the same variance
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- **LEVENE'S TEST FOR EQUALITY OF VARIANS PRE-TEST DATA BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP**

- **Hipothesis**
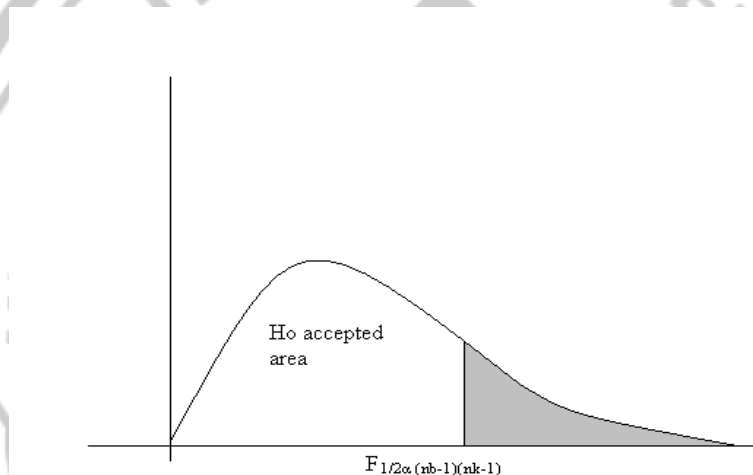
- Ho: $\sigma_1^2 = \sigma_2^2$

- Ha: $\sigma_1^2 = \sigma_2^2$

- **The Calculation**

- Formula:

$$F = \frac{\text{Varians terbesar}}{\text{Varians terkecil}}$$
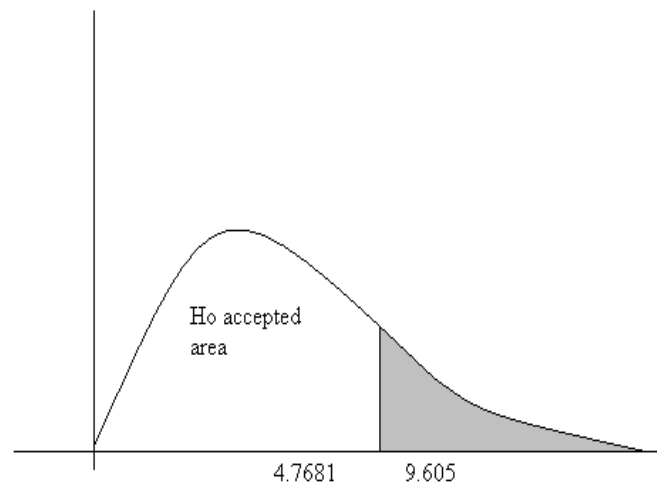
- Ho is accepted if $F < F\ 1/2a\ (nb-1):(nk-1)$

$F_{1/2\alpha\ (nb-1)(nk-1)}$

- Dari data diperoleh:

	Experimental	Control
Sum	660	631.4285714
n	10	10
$\overline{x}$	66.00	63.14
Variance(s^2)	6.2585	29.8413
Standard Deviation (s)	56.33	268.57

$$F = \frac{29.84}{6.26} = 4.7681$$

- For a $= 5\%$ with:

- df1   n1 – 1   = 5 – 1   = 4
- df2   n2 – 1   = 5 – 1   = 4
- $F_{(0.025)(36:36)} = 9.6$

-
- Since F value < F table, the experimental and control group have the same variance
-