APPLYING SCIENTIFIC APPROACH TO ENHANCE INDONESIAN EFL LEARNERS' DESCRIPTIVE WRITING PERFORMANCE

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Abstract : This study investigated the use of scientific approach to enhance students' descriptive writing skill of seventh grade students in one of junior high schools in Kuningan, Indonesia. The use of scientific approach was examined based on Cuff and Payne (1979), Educational staff development center of ministry of education and culture (2013), and Syahmadi (2014) while students' attitude was examined using a theory of Wenden (1991), and Gardner (1985). The writer used mix method study. Two instruments were used to get the data needed: test of descriptive text and questionnaire. The result showed that the Ha was accepted and the Ho was rejected as the t observed was higher than t table. Students' descriptive writing skill in the experimental class enhanced since they were treated throughout scientific approach. It could be seen from the result of post-test (7.89) which increased significantly from pre-test result (3.697). This study also revealed that students' attitude toward the approach was positive during the treatment. Moreover, this study proved that scientific approach enhanced students' descriptive writing skill in one of junior high schools in Kuningan, Indonesia and gave positive impact to the students.
Keywords: *scientific approach, descriptive text, attitude*

INTRODUCTION

Everyone can write, but not all people can produce a great text. As Lenneberg (1967) in Brown (2000: 334) noted that human beings universally learn to walk and to talk, but that swimming and writing are culturally specific, learned behaviors. As far, Brown (2000: 339) stated that in school, writing is a way of life. It is caused writing is subject that should be mastered by students. So, the teachers want students to write and train it. Students also need to know how to express their idea, feeling, opinion, critical thinking in written text. Without some abilities to express themselves in writing, they don't pass the course (Brown, 2000: 339). Writing is also useful to keep our knowledge. Students often find it useful to write sentences using new language shortly after they have studied it (Harmer, 2001: 79). It relates to learning style of students who are picked up language through writing. Writing is also basic language skill as

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important as speaking, listening, and reading.

Since writing is an important aspect for students to be mastered, teachers should choose an appropriate approach in teaching writing. To make students interesting in writing, teachers need to present material in an interesting way. So, in this study, the writer chooses scientific approach to teach writing.

Scientific approach is implemented in curriculum 2013 (Nuh, 2013). In this approach, the learning process covers three domains, namely: attitudes, knowledge, and skills (Alawiyah, 2013). The outcomes of learning, productive, creative, and innovative students through strengthening of affective attitudes, skills, and integrated knowledge. In the other hand, Syahmadi (2014:37) assumed scientific approach covers attitude, cognitive aspect, and English skills. This approach is the basis in choosing and deciding steps in learning activity. It is started from observing, questioning, experimenting, associating, and communicating. Scientific approach is an approach in teaching-learning process in which learners are given the chance to construct their understanding based on the steps of observing, questioning, experimenting, associating and communicating (Kemdikbud, 2013).

Genre of describing is one of the fundamental functions of any language system (Knapp & Watkins, 2005: 97). According to Djuharie (2009: 153) descriptive text is a text which functioned to describe person, thing, and place, animal specifically. Social function of descriptive text is to describe particular person, place or thing (Gerot & Wignell, 1994: 208). It describes the features of someone, something, or a certain place.

According to Gardner (1985) attitude is thus linked to a person's values and beliefs and promotes or discourages the choices made in all realms of activity, whether academic or informal. He also affirmed the learners' attitudes towards learning another language play a key role in enhancing and motivating them to learn that language. This effects on their performance too. Wenden (1991) classified attitude into three components namely cognitive, behavioral, and emotional.

METHOD

This research used mixed method. As said by Kuhn (1961) in Oyarzo *et al*. (2008), the quantitative research was used to develop and employ mathematical models. The writer used a quasi-experimental design, in which a quasi experiment was the experimental design in which all the elements of the true experiment (it must achieve its results through comparison of at least two groups, it must assign people or subjects to groups randomly, and it must be constructed to the researcher has control over, or is able to evaluate, the timing of the experimental treatment) are present except for the random assignments of people to groups (Gray, *et al*, 2007: 275). Creswell (2009) stated a design defined as quasi experiment when individuals are not randomly assigned. The writer also used qualitative research. It was used to analyze and identified students' attitude.

The population of study was all the students of the seventh grade of one of junior high schools in Kuningan, academic year 2013-2014. Total number of seventh grade students is 387 students, from 11 classes. The sample taken was 76 students from two classes and each class consisted of 38 students.

The writer used test of descriptive text as instrument. Test of descriptive text was carried out as one of the instruments used to find out the enhancement of students' descriptive writing skill. Pre-test was conducted at the beginning of the lesson, while post-test held in the end of the lesson. In both of test students were asked to write descriptive text. The writer instructed the students to make simple descriptive writing skill based on students' interest in pre test, whereas in post test they were initiated to write descriptive text which describes the writer. The writer also used questionnaire in collecting the data to know students' attitude of experimental class who had been given treatment. It was used to identify students' attitude towards the use of scientific approach to enhance students' descriptive writing skill. The questionnaire consisting of ten items of open-closed questions used five level Likert scale from *completely disagree* to *completely agree* and score from one to five (Fraenkel & Wallen, 2009:124).

The writer started it from composing the lesson plan from the beginning until the end of the study. It was used to give the instructional process in enhancing students' descriptive writing skill. At the first meeting, the writer gave pre-test to control class and experiment class. In pre-test, the writer asked students to make a simple descriptive text based on their interest. The pre-test given was to measure students' prior knowledge and ability of writing descriptive. After giving pre-test, the writer gave treatment to experimental class in which the writer used scientific approach to enhance students' descriptive writing skill, while the control class was not. The learning activities within scientific approach started from observing, questioning, experimenting, associating, and communicating. After giving the treatment, the writer gave post-test to control and experimental class to measure their enhancement. The items of pre-test and post-test were same forms; the students were asked to make descriptive writing text. Post test was used to measure whether there were differences between control and experimental class or not. It was also used to see the improvement of experimental class. The writer also used questionnaire in collecting the data to know students' attitude of experimental class who had been given treatment.

The data collected were processed statistically by using certain formulations (*t test formula)* to measure the enhancement of students' descriptive writing skill through scientific approach, analyzed data taken from the result of pre-test and post-test of control and experimental class. The writer also found out test of normality, and homogeneity.

RESULTS AND DISCUSSION

Having data collected, the writer analyzed, identified and classified the data from pre-test and post test of experimental and control class using Liz Hamp-Lyons formative feedback profile (Lyons & Heasley, 2006:211). After checking students' work and classified it based on criteria in formative feedback, score of each student's works scored by divided score gotten and maximum score, timed ten. Then, the result of data gained would be counted throughout t-test formula.

This study has counted the normality and homogeneity test of the sample taken. The writer took the sample from the population through purposive sampling in which every unit was included in the sample. Two classes

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of seventh grade students in one of junior high schools in Kuningan had been chosen by the writer as a sample of this study. Each class consisted of 38 students, so the number of the sample was 76 students. Although the writer used purposive sampling, the writer counted the normality and homogeneity of the sample.

From the data gained of the pre-test, the count of control and experimental class ≤ table. The control class' was 5.21908 and the experimental class' was 1.82234 while table with db = k-3, and α = 0.05 was 7.81472. Normality test of post test also showed that lower than table. The value of in the control class was 3.1935 while experimental class was 0.6606. The data gathered was lower than table in which the value was 7.81472. Both of the tests explained that sample was from normal distribution.

The writer also determined homogeneity test which was used to detect whether the sample used by the writer homogeny or not (Sugiyono, 2011: 275). The writer calculated the test of homogeneity to seek homogeneity of the sample used in this study. The F value gained, and then compared with the F table with level of significance 5%. From the variants got by the writer, variant of pre test in control class was 1.044 and experimental class was 0.702, the writer then divided the highest variant to lowest variant, and the result was 1,487. The value of F table with the level of significance 5% was 1.6928. The result of homogeneity test showed that the sample was homogeny. Because the F counts (1.487) was lower than F table (1.6928), so the sample was homogeny. The result of homogeneity in post test showed that the sample was also homogeny. The F counted was 1.435, while the F table was 1.6928. It explained that the F counted < F table, so the sample was homogeny.

From the data collected, result of pre-test, it was established, there was no significant difference between control and experimental class. It meant both of control and experimental class had the same background knowledge and ability in writing. To make it clear, see the table 1.

Table 1. *Control and Experimental Class' Pre-test Result*

No.	Criteria of Formative Feedback	Control Class	Experimental Class
1.	Communicative quality	82	89
2.	Ideas and organization	73	78
3.	Grammar and vocabulary	54	57
4.	Surface features	64	56
	Total	273	280

The table 1 explained assessment criteria gained by control and experimental class. Based on the table it can be summed up, experimental class got the higher score in communicative quality than control class, 89 and 82. It meant experimental class' works more communicative than control class. The control class' works conveyed the message with difficulty. It was showed from the point which was mostly appeared in communicative quality was two. In the other hand, although the most appeared score in communicative quality of experimental class was two, but there was no one point appeared in experimental class score whereas in the control class, the one point appeared seven times.

Next standard assessment was ideas and organization. It discussed organizational structure of students'

works and how they organized their ideas into paragraph. From the table 4.1 it discussed the experimental class got the higher score than control class. The result was 73 and 78. It meant that experimental class' works more organized than control class' works. Mean score of students' work of control class was two, means their ideas was inadequate and/or poorly organized. The experimental class was also better than control class in grammar and vocabulary criteria. They gained 57 score, while the control class got 54 score. But both of them were still weak in grammatical structures and they were limited and not mastered range of vocabularies.

For the meantime, the control class got the higher score in surface features standard. It explained from the table 4.1 the control class got collected 64 score and the experimental class was 56. It intended the control class better in handwriting, punctuation and spelling.

From the explanation above, it can be summed up the experimental class well again in communicative quality, ideas and organization, and grammar and vocabulary standard, while the control class was better in surface features criteria. Even though experimental was good in three criteria but the result of data computation pre test of both experimental class and control class showed, there was no significant differences between control and experimental class (see appendix 5). The data computation of pre test result explained both of experimental class and control class had the same background knowledge. It discussed from the result of t observed and t table, where the t observed of pre test experimental and control class' result lower than t table. The value of t observed was 0.245 while the t table with the degree of freedom 74 was 2.000 with critical value 0.05. So, it can be terminated, the experimental and control class had the same background knowledge.

From the post-test found that the enhancement of experimental group since it was treated through scientific approach and significance between control and experimental class. This treatment meant to enhance students' descriptive writing skill. In post test, students were asked to describe the writer. The result of post test would be counted using t test formula.

The result of post-test of control and experimental would be discussed at the table 2.

Table 2. *Control and experimental class' post-test result*

No.	Criteria of Formative Feedback	Control Class	Experimental Class
1.	Communicative quality	126	162
2.	Ideas and organization	110	152
3.	Grammar and vocabulary	91	139
4.	Surface features	99	147
	Total	213	300

The table 2 is the result of post test gained by control and experimental class. From the data achieved, the experimental class better in all assessment criteria. For communicative quality the experimental class got 162, while control class 126. From the pre test conducted before the experimental class also well again in this standard. The result of post test showed the great improvement in communicative quality. Most of students at experimental class created a communicative text, and only causes a few difficulties. Some students

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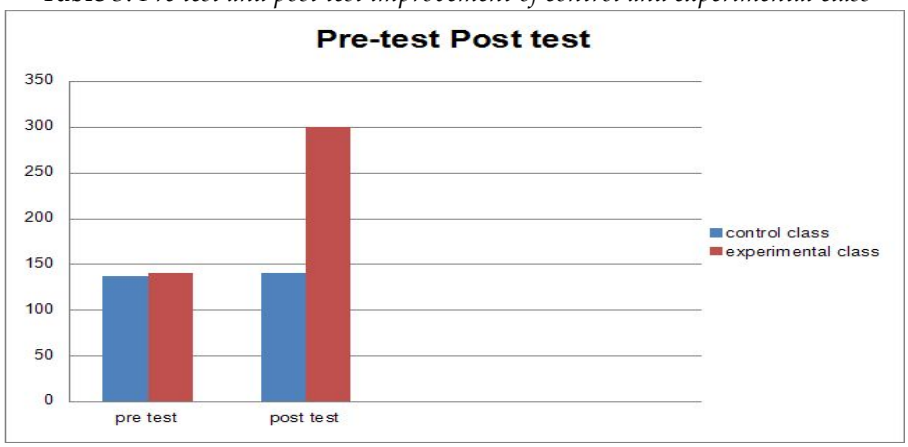
also produced text which pleasure to be read.

The next standard assessment was ideas and organization. In this field, the experimental class improved. They made descriptive text with good organizational structure, some arguments also well presented and relevant, but there were few students who created the text clear but limited organizational structure, and some arguments unsupported. But, overall the students could organize the text and support their ideas in the paragraph.

The result of post test explained, sample in experimental class well enhanced in grammar and vocabulary, and surface features standard. They used an adequate range of vocabulary and grammatical structures. It was better than pre test results in which they were not mastered grammatical structures and limited range of vocabulary. The students in experimental group also just did occasional faults in handwriting, punctuation, and spelling. They could write the word correctly, and used appropriate punctuation.

The experimental class improved their descriptive writing skill from mean of pre test was 3.697 and mean of post test was 7.89. The experimental class showed the significant improvement after they treated through scientific approach. From the result of post test and explanation above, it can be concluded the experimental class well improved in descriptive writing skill wherein sum of pre test result of experimental class was 140.5 increased to 300. The improvement could be seen at the chart below.

Table 3. *Pre test and post test improvement of control and experimental class*



For the statistical computation, it used the null hypothesis (Ho) which reads as follows: Scientific approach does not enhance students' descriptive writing skill of the seventh grade students at one of junior high schools in Kuningan, academic year 2013-2014. The alternate hypothesis (Ha) of this study is as follows: Scientific approach enhanced students' descriptive writing skill of the seventh grade students at one of junior high schools in Kuningan, academic year 2013-2014.

The writer proved hypothesis by computed the result of pre test and post test of experimental class. First, the writer found out mean of pre test and post test of experimental group. Then, the writer counted standard deviation of each test. Next step, the writer computed the standard deviation combined and found out the value of t observed. After the t observed got, the writer

determined the degree of freedom to know the value of t table. The last step was the writer compared t observed and t table. If the t observed higher than t table, so null hypothesis of the research was rejected and Ha was accepted. But if the t table higher than t observed, the null hypothesis was accepted and Ha was rejected.

From the data computation, it explained mean of pre test in experimental class was 3.697, while mean of post test was 7.89. Standard deviation of pre test and post test of experimental class was 0.874 and 0.067. Both of standard deviation values would be calculated through deviation standard combined. The result of deviation standard combined of experimental class was 0.847. This result was used to get the value of t observed. The t observed gained by using t test formula was 22.58, and it would be compared with the value of t table through degree of freedom, in which the degree of freedom was 74 and it is closer to line 60 with the t table value 2.000.

After the t observed and t table gathered, the writer analyzed, the t observed was higher than t table. It meant null hypothesis; scientific approach does not enhance students' descriptive writing skill of the seventh grade students at one of junior high schools in Kuningan, academic year 2013-2014 was rejected. And the alternate hypothesis; scientific approach enhanced students' descriptive writing skill of the seventh grade students at one of junior high school in Kuningan, academic year 2013-2014 was accepted.

From the explanation and calculation done by the writer it can be summed up, the scientific approach enhanced students' descriptive writing skill of seventh grade students at one of junior high schools in Kuningan.

The data of questionnaires were gathered from the students' attitude in experimental class. From the questionnaires' result, the writer has calculated each of attitudes below: Students' Behavioral Attitudes toward the use of scientific approach to enhance students' descriptive writing skill. The statements which present the students' behavioral attitudes toward the use of scientific approach to enhance students' descriptive writing skill are in number 2, 3, 7, and 8. That result is shown in the table 4:

Table 4. *Students' behavioral attitudes toward the use of scientific approach to enhance students' descriptive writing skill*

No	Statements	Opinions				%	Criteria
		SA	A	D	SD		
2.	I always do English tasks given.	16	21	1	0	68.42%	Most of
3.	If I have difficulty in comprehending English lesson, I will ask to the teacher directly.	22	13	3	0	88.42%	Generally
7.	I need certain approach to write descriptive text easier.	9	26	3	0	81.57%	Generally
8.	One of approach used to write descriptive text easily is Scientific approach.	15	21	1	1	85.26%	Generally
	Mean			80.91%			Generally

Students' cognitive attitudes

The statements which present the students' cognitive attitudes toward the use of scientific approach to enhance students' descriptive writing skill are in number 6, 9, and 10. The percentage of each statement is shown in the table below:

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Table 5. *Students' cognitive attitudes toward the use of scientific approach to enhance students' descriptive writing skill*

No	Statements	Opinions				%	Criteria
		SA	A	D	SD		
6.	I have difficulty to express ideas in English written text.	10	17	11	0	73.68 %	Most of
9.	I am easier to elaborate ideas and write descriptive text using scientific approach.	15	19	4	0	83.68%	Generally
10.	Scientific approach is good approach to enhance students' descriptive writing skill and other learning.	21	16	1	0	90%	Generally
	Mean			82.45%			Generally

Students' emotional attitudes

Statements which present the students' emotional attitudes toward the use of scientific approach to enhance students' descriptive writing skill are in number 1, 4, and 5. The result is shown in the table below:

Table 6. *Students' emotional attitudes toward the use of scientific approach to enhance students' descriptive writing skill*

No	Statements	Opinions				%	Criteria
		SA	A	D	SD		
1.	I like learning English.	13	24	1	0	85.78%	Generally
4.	I like English because it is useful for my real life and can be applied in daily life.	16	21	1	0	87.36%	Generally
5	I prefer write English text than read it.	10	15	12	1	71.57%	Most of
	Mean			81.57%			Generally

The data gathered from students' questionnaire sheet explained behavioral, cognitive and emotional attitude of students' during treated through scientific approach. Generally students like English, and 87.36% of students agreed English is useful for their life and can be applied in daily life. Most of students (71.07%) said they prefer writing than reading English text.

In behavioral aspect of attitude, most of students always do English task given. It looked from the percentage counted that was 68.42% students in experimental class did task given. They also would directly ask to teacher when they faced difficulty in learning descriptive text. The percentage showed 88.42% students will ask directly when faced difficulty. In the experimental class, 81.57% students told they needed certain approach to make them easier in writing descriptive text. As 85.26% of respondent in experimental class stated one of approach used to write descriptive text easily was scientific approach.

From the questionnaire administered to students' at experimental class, the writer got data that 73.68% of students felt difficulty in expressing their ideas in English written text. When the writer applied scientific approach at experimental class 83.68% students explained they were easier in writing descriptive text when the writer used that approach. They also stated scientific approach was good approach

to enhance students' descriptive writing skill and other learning. It was looked from percentage which was showed 90% students agreed scientific approach was good approach to apply in learning descriptive text and other learning.

From the data analysis of questionnaire, it can be summed up students at the experimental class gave positive attitude towards the approach used by the writer. Their aspects of attitude showed the positive response and confirmed that scientific approach gave positive impact for them.

From the result above, the use of scientific approach gives some implications for enhancing student's descriptive writing skill, they are: (1) Scientific approach appropriates in teaching writing descriptive text; (2) Using scientific approach helps student in learning, understanding and writing descriptive text; (3) Scientific approach makes teacher easily to create the interesting teaching-learning process of writing descriptive text; (4) The use of Scientific approach makes students construct their understanding about descriptive text actively; (5) It also motivates students to write and express their ideas, imagination, thus their writing skill enhanced; (6) Scientific approach makes students more interested to material taught and they give positive attitudes toward the approach used.

It can also be accomplished scientific approach gave some positive impacts in teaching-learning descriptive text at school. It can be used as an approach in learning genre of text or other learning. Scientific approach also gave positive influence to students. Through this approach students were easier in composing descriptive text and expressing their ideas in English written text. This approach also made teaching learning process more interesting and create positive atmosphere in the classroom. Students would share their own ideas actively and used all their senses in learning processes.

CONCLUSIONS

After having done the study, the writer also proved the hypothesis of this research. After collecting, calculating, analyzing and identifying the data gathered, the writer concluded the alternate hypothesis proposed was accepted, while the null hypothesis was rejected. The alternate hypothesis was read as follows, "Scientific approach enhanced students' descriptive writing skill of seventh grade students in one of junior high schools in Kuningan". So, it can be summed up that scientific approach may enhance students' descriptive writing skill.

From the study completed, the writer knew students faced difficulties in sharing their ideas and opinion in English written text. They actually needed an approach which made them comfort, enjoy in expressing and sharing their ideas freely. This scientific approach was fit for students' needs. This approach helped students at the experimental class in enhancing their descriptive writing skill and make them easier in composing and elaborating ideas through this approach.

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