The Development of Grammar Teaching Material Using Error and Contrastive Analysis (A Linguistic Approach in Foreign Language Teaching)

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Abstract

The purpose of this study was to develop an English grammar teaching material for Indonesian learner with a linguistics approach consisting of error and contrastive analysis. This was a research and development study which applied five steps: 1) analysis, 2) design, 3) development, 4) implementation and 5) evaluation. Some experts were involved in validating the teaching material before implemented to the participants. The research data were the student’s test scores in translation and writing test. The teaching materials were delivered during six meetings. Data technique analysis was the paired sample t-test which compared pre-test and post-test score. The results showed that student’s score in translation and writing test increased significantly. There were three advantages of this teaching material which had triggered student’s academic performance, namely easy to learn, composed based on the student’s needs, and implementing linguistics theory.

Keywords: Applied Linguistics, Error analysis, Contrastive Analysis, Indonesian Learner, English Grammar Teaching Material

Introduction

Various studies have been conducted to increase the quality of English language learning process for non-native English speaker (Bui & Balsamo, 2018; Dekeyser, 2018; Amir, 2018; Cadierno & Eskildsen, 2018; Hawkins, 2018). Intrinsically, these studies were conducted to solve student’s or teacher’s problems in learning and teaching process. There are some problems in English language learning like the lack of teacher’s skill in organizing class (Rafique, 2018; Riazi, 2018), the use of ineffective learning method (Yusri, 2018; Calderon & Slakk, 2018; Shih & Reynolds, 2018; Mantasiah & Yusri, 2018), the lack of student’s academic motivation (Romadloni, 2017; Daniel, 2018), and the inadequate learning facilities (Farid & Saifuddin, 2018; Yu, 2018). Dealing with these problems needs different methods depending on the case. Therefore, the teacher should be able to analyze the problems during the learning process and to find a solution related to the problems.

One of the issues in English language learning, especially in Indonesia, is the influence of the first language (L1) in the use of English (L2) that is called interference (Jannah & Setiawan, 2018; Agustia, 2018; Abdullah & Lulita, 2018; Gayo & Widodo, 2018). In teaching grammar, students in Indonesia tend to use the grammar rules of Bahasa in producing English. This problem occurs in writing, translation, speaking and grammar class. It is supported by Cook (2016) who said that a learner had difficulties in learning the second language due to the interference of habits from L1 and L2. To deal with the problem, students must grasp the grammar rule of English meticulously. Therefore, in teaching a particular material, it should be contrasted with the students’ first language. It is called contrastive analysis.
which is one of the approaches in linguistics. McDonough (2017), Litosseliti (2017), Aronoff (2017), Linares & Morton (2017), Aydinli & Ortactepe (2018), Christoffersen (2016) reported that linguistics cannot be ignored in foreign language teaching and learning process. One of the approaches in linguistics which can be implemented in the learning process is the contrastive analysis approach.

In fact, few English textbooks used by Indonesian learners are written by Indonesian speaker, and the teaching approaches are mainly the traditional ones. They do not implement the theories of applied linguistics in composing the English grammar textbooks. Therefore, the textbooks focused only on explaining the grammar rule of English without contrasting with the grammar rule of the Indonesian language (Bahasa). Davies (2004) said that there should be an alternative approach used in composing teaching material. The integration of contrastive analysis approach in composing grammar teaching material makes it possible to solve the student’s problem in foreign language learning. The effectiveness of this approach in foreign language teaching had been proven by some studies (Khalifa, 2018; Pichette & Lesniewska, 2018; Genc, 2018; Munro, 2018; Liu & McCabe, 2018; Fernandez & Banguis, 2018). By comparing the grammar rule of L1 and L2, students could easier grasp the rule of the second language being studied (Richards, 2014; Granger, 2015; Myles & Mitchell, 2014; Qiufang, 2014). Moreover, by using this approach, students could understand or predict their mistakes in writing or in translating L1 to L2 and vice versa (Munro, 2018; Shimanskaya & Slabakova, 2017; Choi, 2017; Liu & McCabe, 2018; Fernandez & Banguis, 2018).

Another approach in linguistics which can be implemented in foreign language teaching is error analysis. This branch of applied linguistics focuses on studying and analyzing the errors made by students who learn their second language and investigating aspects of second language acquisition (Hinkel, 2018; Song, 2018; Pangaribuan et al., 2018). The effectiveness of error analysis approach in foreign language teaching has been proven by some studies like Richard (2015), Saville & Barto (2016), Cook (2016), Song (2018), Lardiere (2017), and they consider this approach as truly pivotal in teaching the second language since student’s weaknesses in studying the second language can be grasped clearly. Therefore, the teaching material should be composed based on the student’s weaknesses.

This study focused on developing a teaching material on English grammar for Indonesian learner by using contrastive and error analysis approaches. The initial step in composing the teaching material was analyzing the mistakes done by students in studying English grammar using error analysis approach. The results of this analysis showed the kind of mistakes made by students and the percentage of mistake categories. The mistakes with the highest percentage would be explained more deeply than other topics. The second step was contrasting the grammar rule of English and Bahasa using contrastive analysis. The results of both analyses were used as the main references to compose the teaching material.

Research Method

This study applied research and development approach using the ADDIE model. ADDIE model has been used by previous researchers who focused to develop learning media or teaching material (Kristanto et all, 2018; Patel et all, 2018; Lee & Kim, 2017; Greer & Hess, 2017; Kamariah et all, 2017). This model consists of 5 steps: 1) analyse, 2) design, 3) development, 4) implementation, and 5) evaluation. The advantage of this model is that it is open to change and correction, and Patel et al. (2018) says that instructional design approaches such as ADDIE may offer implementation scientists and practitioners a flexible and systematic approach for the development studies.

Student’s pre-test data were analyzed using error analysis approach. The result of this analysis was employed to design the teaching material. The method used to explain the grammar concept of English was contrastive analysis approach between English and Bahasa. This study involved some experts in validating the teaching material before implemented. Data collection techniques in this study consisted of observation, interview, and test. An observation was used to collect students’ responses during the learning process, and the translation and writing tests were to assess students’ learning achievement. In translation test, students were asked to translate an essay in Bahasa into English.
and in writing test, students were given a topic to be developed an essay.

The participants were the students of English Literature Department who were studying in the second semester. The total number of participants was 40 students (24 women and 16 men). The participants had been given consent form to participate on this study. This teaching material was delivered in six meetings. Based on the presence list, all students attended the meetings fully. The data analysis technique consisted of descriptive and inferential statistics. Descriptive statistics aimed to describe the students learning achievement level. The learning achievement categorization was based on Arikunto’s (2005) as shown in Table 1.

Table 1.

Categorization of Student’s Academic Performance

<table>
<thead>
<tr>
<th>Learning Achievement</th>
<th>Score</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% - 100%</td>
<td>90-100</td>
<td>Very High</td>
</tr>
<tr>
<td>80% - 89%</td>
<td>80-89</td>
<td>High</td>
</tr>
<tr>
<td>65% - 79%</td>
<td>65-79</td>
<td>Middle</td>
</tr>
<tr>
<td>55% - 64%</td>
<td>55-64</td>
<td>Low</td>
</tr>
<tr>
<td>0% - 54%</td>
<td>0-54</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

Another data analysis technique used in this study was the paired sample t-test which was a part of inferential statistics. It aimed to know whether the teaching material implemented could increase student’s learning achievement significantly both in writing and translation class. Qualitative data which consist of student’s responses and observation result during the learning process was analyzed using a qualitative descriptive approach.

**Finding and Discussion**

*Development of Teaching Material*

One of the approaches used to develop this teaching material was error analysis. The results of student’s pre-test in writing and translation test were analyzed by using this approach. The types of error could be divided into two categories based on where they are found, namely errors at the sentential level and errors at the word level. However, this study focused on describing the errors at the sentential level only. The further information related to the errors that were found in student’s writing and translation result could be seen in below table:

Table 2.

Types of Errors found in Student’s Writing Result

<table>
<thead>
<tr>
<th>Types of Errors</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Errors at Sentential Level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 showed that there were five kinds of error at the sentential level and the errors which had the highest percentage were tense and subject-verb agreement. Present perfect tense was the hardest to be understood by students among other tenses (simple present 13%, simple past 17%, simple future 9%, present continuous 13%, present perfect 48%). The result of the interview with students showed that the Present Perfect Tense had been a problem in every test in both writing and translation. In the use of Bahasa, present perfect tense is not common to be used in the communication process and it is one of the main factors which has caused the problem. It is different from other tenses (simple present, past, future, and continuous) which exist in Bahasa.

Another error was found in subject-verb-agreement. This study showed that students had always faced difficulty in understanding subject-verb agreement (SVA). Interference of Bahasa as the first language was the main factor of this problem as there are differences in the rule of SVA between Bahasa and English. In Bahasa, the verb is not required to agree with the subject in a sentence. In that language, the subjects in the sentences do not influence the verb, whereas, the subjects in the sentences written in English do. For example, in English, if a subject is singular, its verb must also be singular; if a subject is a plural, its verb must also be plural. Also, the concept of intransitive sentence between both languages is different. “Mereka Bahagia” is acceptable in Indonesian language, it does not need a verb, but when it is translated into English, students tend to write “They Happy” which should be written, “They are happy”.

The errors found in student’s writing and translation showed a few differences. The further information could be seen in table 3.

Table 3.  
*Types of Errors found in Student’s Translation Result*

<table>
<thead>
<tr>
<th>Types of Errors</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Errors at Sentential Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tense</td>
<td>55</td>
<td>20.70</td>
</tr>
<tr>
<td>Subject-Verb Agreement</td>
<td>35</td>
<td>13.15</td>
</tr>
</tbody>
</table>
Table 3 showed that the topics which had the biggest percentage of errors were gerunds and to-infinitives and passive voice. Following sentence samples shows that students lack understanding in the structure that they produced inaccurately:

- Develop a learning model is one of the skills which must be owned by the teacher (It should be written “developing”)
- Watch movies is my favourite activity (It should be written “watching”)
- They want visit their hometown (It should be written “to visit”)
- The book is wrote by him (It should be written “the book is written by him”)
- The cake eaten by us (It should be written “the cake is eaten by us”)

The errors showed that students needed a deeper explanation related to the topics. Interference of Bahasa as the first language also had caused the errors. After listing the kinds of error produced by students both in writing and in the translation test, the teacher could grasp the students’ weaknesses and the causes of the errors. Therefore, in the learning process, the teacher explained deeply the topic which was not understood or mastered well by students. It is the main concept of error analysis approach (Song, 2018; Hinkel, 2018; Mayer, 2018). This teaching material had tried to implement the concept and topics which were considered more difficult were explained more deeply than other topics. Therefore it could be concluded that this teaching material was composed based on the student’s need. The error analysis showed that the main factor which has caused the errors is the interference factor. To deal with the problem, a contrastive analysis approach was needed to be implemented in the teaching process. Studies conducted by Rivers, 2018; Sa’diah & Rahmanadia, 2018 found that the effect of the interference factor could be minimized, and students could predict their errors or mistakes by using this approach. This studies also showed that the best language-teaching materials were based on a contrast between the two languages (L1) and (L2), as it would trigger students to grasp the related topic meticulously. This teaching material had tried to implement the concept of contrastive analysis. Therefore, not only did students study the English grammar but also studied the differences and similarities of English and Indonesian language.

The Implementation of Teaching Material

In implementing the developed teaching material, there were some steps to be observed meticulously. Before starting the learning process, students’ learning achievements in translation and writing class were calculated as pre-test data. After analyzing the pre-test data, they were then divided into five groups based on the Arikunto’s categorization which can be seen on the table 4:
Table 4.  
Student’s Pre-Test Score Result

<table>
<thead>
<tr>
<th>Score</th>
<th>Categorization</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>Very High</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-89</td>
<td>High</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>65-79</td>
<td>Moderate</td>
<td>12</td>
<td>30</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>55-64</td>
<td>Low</td>
<td>22</td>
<td>55</td>
<td>24</td>
<td>60</td>
</tr>
<tr>
<td>0-54</td>
<td>Very Low</td>
<td>6</td>
<td>15</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>40</strong></td>
<td><strong>100%</strong></td>
<td><strong>40</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 4 shows that the majority of students were in the low and moderate categories with the percentages of 55% and 30%, respectively. It also indicates that no student got a high score. Generally, the students’ average score was 56.87%, and it was in a low category. A similar trend was shown in the writing pre-test result reporting that the majority of students were in the low category by the percentage of 60.87%. The score was collected before starting the learning process. After attending six-meeting learning activities, student’s learning achievement was re-measured, and the result of the test can be seen in table 5.

Table 5.  
Student’s Post-Test Score Result

<table>
<thead>
<tr>
<th>Score</th>
<th>Categorization</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>Very High</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-89</td>
<td>High</td>
<td>8</td>
<td>20</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td>65-79</td>
<td>Moderate</td>
<td>24</td>
<td>60</td>
<td>32</td>
<td>80</td>
</tr>
<tr>
<td>55-64</td>
<td>Low</td>
<td>8</td>
<td>20</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>0-54</td>
<td>Very Low</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>40</strong></td>
<td><strong>100%</strong></td>
<td><strong>40</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 5 showed that the majority of students were in moderate and high category both in translation and writing test result. The result of the translation test showed that most of the students were in the moderate category (60%). Generally, students average score was 68.5, and there was an increase of 11.63 from the pre-test. The similar trend
was also shown in writing class as 80% of the total of students were in the moderate category. The student’s average score was 71.12. It showed also an increase of 10.25. To evaluate whether there was a significant increase in student’s learning achievement after following six-meetings of lectures delivering this teaching material, the scores were analysed using a paired sample t-test. The analysis result is shown in table 6.

Table 6.

**Paired Samples T-Test of Writing Test Result**

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Test – Pre-Test</td>
<td>10.250</td>
<td>4.378</td>
<td>.692</td>
<td>8.850</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11.650</td>
<td>14.807</td>
<td>39</td>
</tr>
</tbody>
</table>

Table 6 showed that there was an increase of 10.25 after joining six meetings of lectures. Based on Table 5, the significance value (0.00) was lower than 0.05 (significance standard). It means that there was a significant increase in the student’s learning achievement by presenting this teaching material. Moreover, the analysis result showed that the t-table was 14.80 and t-count was 1.680. It proved that the difference between the pre-test and post-test score was significant. Therefore, this teaching material was proved to be effective in increasing student’s learning achievement especially in writing class. The similar result can be seen in the writing result (Table 7).

Table 7.

**Paired Samples T-Test of Translation Test Result**

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Upper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Test – Pre-Test</td>
<td>11.625</td>
<td>4.295</td>
<td>.679</td>
<td>10.251</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.999</td>
<td>17.119</td>
<td>39</td>
</tr>
</tbody>
</table>

Table 7 showed that there was an increase of 11.62. Table 3 showed that before starting the learning process, most students were in a low category, and after attending six meetings (Table 4), the majority of students were in the moderate category. Another data showed that the significant value of the table (0.00) was lower than the significance standard (0.05). It means that there was a significant increase in the student’s translation test result.
Moreover, the analysis result shows that t-table was 17.11 and t-count was 1,680 and it means that student’s pre-test and post-test scores were significantly different.

There were some strengths of this teaching material which had triggered the students’ learning achievement. The first one was that it was composed based on the student's needs. In another word, in designing this teaching material, the weaknesses of students became the main focus. Therefore, it was explained in more detail than other topics. Student’s perspectives became a pivotal data in composing this teaching material. The previous studies conducted by Kauffman et al. (2018), Brookhart (2017), Tinto (2017), Luthans & Doh (2018) showed the similar result regarding the importance of student involvement in arranging teaching material or learning media which had been used in the learning process generally. The involvement of students had influenced positively to the student's academic performance.

The second advantage was that it was easier to be grasped by students meticulously. The use of contrastive analysis approach in composing this teaching material helped students to grasp the grammar rule of English since it was contrasted directly with the learners’ first language. By using this approach, students and teachers could predict the errors that they might produce during the learning process. The previous studies conducted by Pichette & Lesniewska (2018), Genc (2018), and Munro (2018) showed a similar result regarding the positive effect of the use of contrastive analysis approach in foreign language teaching. Aijmer (2017) and Johansson (2008) said that the principle of contrastive analysis was to identify what was required by learners to learn in the target language (TL) and what is not. The identification process showed the familiar characteristic owned by the languages contrasted, and it indicated that the learner might have difficulty in learning the TL. By understanding the difficulties faced by students, a teacher could anticipate them by explaining the topics more meticulously.

The third advantage was that by using delivering teaching material, students were enabled to learn the linguistic aspect of the L1 and L2, as it was composed by using linguistics approach. This advantage was not offered by some textbooks used by English learner, as they did not use linguistic aspects in composing the textbooks. In fact, the previous studies showed that the role of linguistic understanding was truly pivotal in the foreign language learning process. Linguistics cannot be ignored or separated in language teaching (McDonough, 2017; Litosseliti, 2017; Aronoff, 2017) as there are some approaches in linguistics which should be implemented in language teaching processes like the error and contrastive analysis approach.

The findings of this study can be applicable globally as interference problem is not only faced by Indonesian learners but also faced by other English learners from other countries and the problem has been a pivotal issue in teaching English as a foreign language and as a second language. (Chandra & Hayati, 2018; Akbar & Ali, 2018; Ryan & Eric, 2018; Castilo & Yamel, 2018). Therefore, the development of grammar teaching material using error and contrastive analysis can be an alternative approach in dealing with the interference problem faced by students.

**Conclusion**

Composing a grammar teaching material by observing the linguistic aspects of language, like error and contrastive analysis, is one of the approaches which can be implemented in the English teaching to Non-native English speakers globally, as interference problem has been faced by most of English learners from different countries who have different first languages. The effectiveness of this teaching material can be seen based on the scores of the post-tests conducted after attending six meetings of lectures delivering the modified teaching materials. There was a significant increase on the student’s academic performance, especially in writing and translation subject. It was proven through a paired sample t-test analysis result which showed that sig. value (0.00) was lower than 0.05 (significance standard). Three main strengths owned by this teaching materials which had positively influenced the student’s academic performance were that 1) it was developed based on the student’s needs because the use of error
analysis, 2) it was easy to grasp by students because the use of contrastive analysis and 3) it enables students to learn linguistics aspect of the L1 and L2.

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**References**


Brookhart, S. M. (2017). How to give effective feedback to your students. ASCD.


Benjamins Publishing.
Communication (pp. 1-5). Springer, Cham.
Munro, M. J. (2018). How Well Can We Predict Second Language Learners' Pronunciation Difficulties?.
CATESOL Journal, 30(1), 267-281.


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