The Text Density from the Realization of Taxonomic Relation in English Translation of Surah Al-Baqarah

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Abstract
This research tried to find out the realization of repetition as one of component of taxonomic relation in the Al-Quran. Then, it was analyzed by using logogenesis pattern to find out the text density. This study had been conducted by using qualitative research. The data consist of clauses of Taxonomic Relation that limited to repetition type. The source of the data was taken from surah Al Baqarah in English Quran Translation by Yusuf Ali. The result of study showed the realization of taxonomic relation were realized in logogenetic pattern. From ten most frequent lexicals of repetition, it had found that in surah Al Baqarah, medium is the most dominant. It happened because there were some clausea that contain about certain lexical has function to track the discussion in the previous clause as the warning, command and prohibition. Therefore it was concluded that repetition that realized in Surah Al Baqarah make the text in the level moderate until easy to be understood by reader because the frequency of repetition is dense.

Key words: Surah Al Baqarah; English translation; logogenesis patterns; taxonomic relation; lexical density.
INTRODUCTION

The analysis of the Quran has taken many attentions from many researchers. As the language that used in the Quran cannot be changed and its original meaning should be kept, analysing its language from many aspects is very interesting. It can be analyse from the aspect of meaning and also the language features that used on it.

One of the analyse of Quran was done by Hidayat (2017), he conducted a research by language device which is called as figurative meaning. He found that there are concepts of figurative meaning in Surah’ Yusuf. The use of figurative meaning in the verses of Holy QS.Yusuf highly depends on the context of situation, which is Tenor. Yusuf tends to use Group, Behaviour, Persuade, and Showing Achieving Justice. The types contexts used figurative meaning in Surah Yusuf can be classified into four findings. In conclusion, there are four contextual reasons using Figurative meaning Surah’ Yusuf. They are : the Prophet Joseph was very young and was at the peak of the grandeur of a Youngman, the second reason, the Prophet Yusuf peace be upon him, when it is a foreigne (gharib). This is because if a steal in his hometown of himself later found out he would be embarrass his family and his brothers, the third reason is women who flirt Joseph peace be upon him was a beautiful woman waiting. Zulaikha is the Queen Consort of King. This research tried to track the text through the figurative meaning by presenting the several situations in Surah Yusuf. While this study would try to present interaction or activity which is involves the topic, the participant involve in interaction, and manner in which interaction is made.

Besides, the analysis of Quran can be found on other research that related to the use of taxonomic relation in English. It had found that repetition is the most common element in Al-Quran. Repetition was used to enable readers to keep one or more lexical strings relatively simple when the complex lexical relation is constructed around them (Martin and Rose, 2007). Additionally, the dominantly repetition that had found in Surah Al-Baqarah was used as command, warn, and prohibit the Israel and belief people related to the grace, rewards, and punishment that would be gotten by them from Allah (Lubis, 2019). Another finding of repetition in the Quran was done by Huneety, et al (2017) who showed that repetition is the characteristic of Arabic discourse. They found that the purposes of the repetition in their study is as a rhetorical device that plays a major role in creating emphasis on certain points, attitudes or views.

Therefore, this research tried to find out the realization of repetition as one of the component of taxonomic relation in the Al-Quran. It only specified to Surah Al-Baqarah.
from verse 40-141. It will be taken from the Quran translation by Yusuf Ali. Then, it will analyzed by using logogenesis pattern to find out the density of the text.

Logogenesis is the creation of meaning in the course of the unfolding text (Halliday & Matthiessen, 2014). We can see how the text unfolds when the systemic selection was examined that have been made, together with their structural realization clause by clause or group/phrase by group/phrase. Logogenesis itself comes from the word “logos” which means discourse (Halliday & Matthiessen, 1999).

Logogenesis is concerned with patterns that appear gradually in the course and the gradual appearance of patterns, since it is the creation of meaning in the course of the unfolding of a text. It is certainly, not limited to single texts but is rather a property of texts in general instantiating the system of language. Such patterns have been called emergent patterns and when we focus on grammar we are concerned with patterns of emergent grammar. We shall refer to the version of the system created in the course of the unfolding of a text as an instantial system since it represents a distillation of patterns at the instance pole of the cline of instantiation.

Logogenesis related to the entire meaning potential of a language, all the strata and all the metafunctions (Halliday & Matthiessen, 2014). For example, alliteration in a poem is an example of logogenesis at work at the stratum of phonology. Logogenesis is thus at work throughout the entire system of language. It limits to the lexicogrammatical subsystem, and within this subsystem that had focus on the grammatical part of the lexicogrammatical continuum. It allows us to explore how local grammatical selections accumulate to create logogenetic patterns that become part of the systemic history of an unfolding text (Halliday, 1992). We can identify phases of selections within such logogenetic patterns; and we can then match them up with contextual and semantic structures of a more global nature (or, alternatively, let these emerge as interpretations of the lexicogrammatical logogenetic patterns).

The concept of logogenesis enables us to see how the local, blow by blow selections within clauses and other grammatical units build up to create patterns that extend through whole phases of unfolding text, or, indeed, through the whole of a text. On the one hand, there is a set of lexicogrammatical systems that have evolved specifically as a resource for making it possible to transcend the boundaries of the clause–i.e. the domain of the highest-ranking grammatical unit. These lexicogrammatical systems originate in the textual metafunction and are collectively known as the system of cohesion (Halliday & Hasan, 1976).
Therefore, the interpretation of logogenetics pattern can be seen from the densely, medium, and minor repetition that happen in the text. It allowed us to consistently track the relation of qualities and locations to each element in the lexical strings, despite their structural dispersal across various grammatical categories.

Densely, medium and minor are determined based on how much the information content has been reduced or the percentage of the information that presented in the text. Shortly we can said that the number of words used in a text. In this study, to determine the pattern of the lexical whether it is densely, medium or minor is by the index density of the lexical (Saragih, 2017). It was counted by frequency of repetition divided the range of the lexical that happen in the clause.

\[
\text{Index Density} = \frac{\text{frequency of repetition}}{\text{range}}
\]

The lexical was determined to be densely when the index density of the lexical is 1 until above. While medium was determined by the index density from 0.11 until 0.99 and minor is 0.1 until below. It can be seen in the Table below

<table>
<thead>
<tr>
<th>Logogenesis Pattern</th>
<th>Number of Lexical density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Densely</td>
<td>1 – Above</td>
</tr>
<tr>
<td>Medium</td>
<td>0.11 – 0.99</td>
</tr>
<tr>
<td>Minor</td>
<td>0.1 – Below</td>
</tr>
</tbody>
</table>

**METHOD**

This study had been conducted by using qualititative research. The data of the study were clauses consist of Ideational Taxonomic Relation of Surah Al-Baqarah that limited to repetition type only. The source of the data was taken from surah Al-Baqarah in English Quran Translation by Yusuf Ali that was taken from his book by the title Holy Quran: Text, Translation and Commentary. Surah Al-Baqarah is divided into some sections related to the topic that they have (Farrin, 2010), they are: 1) Verses 1-20, 2)Verses 21- 39, 3) Verses 40-103, 4) Verses 104 – 141, 5) Verses 142 – 152, 6) Verses 153 – 177, 7) Verses 178 – 253, 8) Verses 254 – 283, and 9) Verses 284 – 286.

However, this research only limited to section 3 and 4. It was limited to verse 40-141. The data had been analyzed by using interactive models of Miles, Huberman and Saldana.
The data had analyzed into several phases, they were data collection, data condensation, data display, and data verification/conclusion.

Besides, the truthworthness is very important in qualitative research. It has purpose to support the argument that the inquiry’s findings are worth paying attention to (Lincoln and Guba, 1985). The first this research used Creadibility by using triangulation technique. Miles and Huberman (1984:234) said that triangulation is the probability to find the creadibility of the findings and interpretations. Triangulation is used in this study because this study has more than one theory in discussing the problems. Moreover, the data triangulation is gained from resource and theories. Then, this research aslo used is transferability and confirmability.

RESULT AND DISCUSSION

The process text density that adapted from the taxonomic relation, especially for the repetition type can be seen in the Table 2 that also related to the sum of each logogenesis process that happen in section 3 and section 4.

Table 2 The Result Process of Taxonomic Relation

<table>
<thead>
<tr>
<th>The process of taxonomic relation</th>
<th>Section 3</th>
<th>Section 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Occurrences</td>
<td>Percentages</td>
</tr>
<tr>
<td>Densely</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Medium</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Minor</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

From the Table 2 it can be seen the process of taxonomic relations in section 3 and section 4 of surah Al Baqarah. It was taken from ten repetition that has most frequency. They are densely, medium and minor. For section 3, there are 2 densely with 20%, 7 medium with 70 % from the whole, and there are 1 minor (10%). In section 4, it can be seen that densely was 30 % in 3 occurrences, 70 % is medium from 7 occurrences and 0% of minor pattern.

Both of the sections is dominantly medium in pattern of logogenesis. The pattern was taken from the calculation of index density. The densely was taken if the calculation index density is above 1, the medium pattern if the calculation 0.1-0.99, and the calculation of
minor pattern is under 0.1 From the realization of taxonomic relation in both sections, it only took 10 repetitions that had mostly comes up.

1. Densely

The text is consider to be medium when repetition occurred in clause with the index of density is above 1.

Data 1

55. And remember ye said: "O Moses! We shall never believe in thee until we see Allah manifestly," …
56. ….. So eat and drink of the sustenance provided by Allah, and do no evil nor mischief on the [face of the] earth. ….
57. ….."They were covered with humiliation and misery; they drew on themselves the wrath of Allah. This because they went on rejecting the Signs of Allah …. 
58. ….. who believe in Allah and the Last Day…. 
59. …Perchance ye may fear Allah."
60. … Had it not been for the Grace and Mercy of Allah to you,
61. So We made it an example to their own time and to their posterity, and a lesson to those who fear Allah…. (Ap.4.No. 30)

From the data, the lexical Allah was repeated 35 times in section 3. It is the lexical that comes up mostly in section 3 and section 4. It is a truism that the word Allah can be found often in Quran as the Quran itself was revealed by Allah and the containing of Quran is his command as the guidance for all Muslim. Almost all the surah always related to Allah, however, sometimes it used the pronoun I and We. Therefore the lexical Allah can be found densely in the text of section 3 with the index density was 5.8 with the average range was 2. Besides, it also can be found densely in the section 4 that repeated 31 times with index density was 6.2 with average range was 5.

Data 2

62. And remember Moses said to his people: "Allah commands that ye sacrifice a heifer." …
63. They said: "Beseech on our behalf Thy Lord to make plain to us what [heifer] it is!" 
He said; "He says: The heifer should be neither too old nor too young, but of middling age…
64. … He said: "He says: A fawn-coloured heifer, pure and rich in tone, the admiration of beholders!"
70. They said: "Beseech on our behalf Thy Lord to make plain to us what she is: To us are all heifers alike: We wish indeed for guidance, if Allah wills."

71. He said: "He says: A heifer not trained to till the soil or water the fields; sound and without blemish."…

73. So We said: "Strike the [body] with a piece of the [heifer]."…
(Ap.4.No. 42)

From the data, the lexical heifer was repeated 7 times in section 3 with the average of the range was 3. The lexical heifer has the lexical density 2.3. Therefore this lexical is densely in the text of section 3 that only can be found from the verse 67 until verse 73 in clause 116 until clause 136.

Data 3

124. And remember that Abraham was tried by his Lord with certain commands, which he fulfilled: ….

125. Remember We made the House a place of assembly for men and a place of safety; and take ye the station of Abraham as a place of prayer; and We covenanted with Abraham and Isma'il, …

126. And remember Abraham said: "My Lord, make this a City of Peace, ….

127. And remember Abraham and Isma'il raised the foundations of the House [With this prayer]:…. (Ap.4.No. 26)

From the data, the lexical Abraham is densely in the text of the section 4 of surah Al-Baqarah. It has lexical density 1.5 with the average range was 7. The frequency repetition of the lexical Abraham is 11 times comes up in the section 4. It can be found in the clause 82 until clause 161 in section 4.

2. Medium

The text is consider to be medium when repetition occurred in clause with the index of density is 0.11 until 0.99

Data 4

1. O Children of Israel! call to mind the [special] favour

16. Children of Israel! call to mind the [special] favour

100. We took a covenant from the Children of Israel [to this effect]:

From the data above, it can be seen that the repetition that occur in the first clause of the text, that it happened again in the sixteenth clause. Then it also happen in the 100th clause. this data was categorized into medium because it happen less than 20 number that
enable to keep track about the text. As it has been mention twice, even the next clause has a long gap that more than 20 number it still can keep the text as it has mentioned before. For more data can be seen in appendix 4

Data 5

1. .. 104. O ye of Faith! Say not [to the Messenger] words of ambiguous import,
2. but words of respect; and hearken [to him]:
25. Like unto their word is what those say who know not;
38. So said the people before them words of similar import.

The lexical word occurred four times in the text of section 4 surah al-Baqarah. It happen in clause 1 twice, clause 25, and clause 38. They are classified into medium because it did not happen in each clause. Even it occurred in the first number with different clause they still have gap from number 1 until number 25.

3. Minor

The text is consider to be minor when repetition occurred in clause with the index of density is under 0.1

Data 6

19. slaughtered your sons and let your women-folk live;
122. We gave Jesus the son of Mary Clear [Signs]

From the data above, the gap between the first clause to the next clause that contain of repetition is long. The lexical your son that occurred in the clause 19 was repeated again in the clause 122. Both of this lexical is not related. As the lexical your son in the lexical 19 refers to Israel while the second refers to Jesus. Therefore they are classified as minor because it occurred with range clause that more than 20.

Data 7

5. But Allah will choose for His special Mercy
75. and turn unto us [in Mercy];

The range between these clauses are far. The first occurred in the clause 5 in verse 105 that mercy refers to Allah that will give mercy. While the second happened in the clause 75 in verse 128 that related to the mercy that given to Muslim. Therefore the data above can be classified into minor because it has the sum of lexical density under 1.

<table>
<thead>
<tr>
<th>No</th>
<th>Repetition Word</th>
<th>Frequency</th>
<th>Range</th>
<th>Index Density</th>
<th>Logogenesis Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allah</td>
<td>35</td>
<td>2</td>
<td>5.8</td>
<td>Densely</td>
</tr>
<tr>
<td>2</td>
<td>Faith</td>
<td>13</td>
<td>25</td>
<td>0.52</td>
<td>Medium</td>
</tr>
</tbody>
</table>

Table 3 The Pattern Process of Taxonomic Relation of Surah Al-Baqarah in Section 3
From the Table above, it shows that in section 3, the patterns of logogenesis densely was 20%, medium pattern was 70%, and minor pattern was 10%. Therefore the most dominant pattern in section 3 was medium. It means that the section 3 of surah Al-Baqarah is mostly contains of lexical with medium pattern in the text. However, the pattern of densely also can be found. The process of taxonomic relation in Sura Al Baqarah showed that section 3 of surah Al-Baqarah is in the level medium to be understand because there are many repetitions have index density in range 0.11-0.99.

From the Table above, it can be seen that in section 4 that the pattern of densely was 30%, medium pattern was 70%, and minor pattern was 0%. Therefore, the most dominant pattern in section 4 was same as section 3 which mostly contains of lexical with medium pattern in the text. It means that section 4 also in the level medium to be understand because the process of taxonomic relation that realized was dominated by the medium pattern in range 0.11 up to 0.99.

Table 4 The Pattern Process of Taxonomic Relation of Surah Al-Baqarah in Section 4

<table>
<thead>
<tr>
<th>No</th>
<th>Repetition word</th>
<th>Frequency</th>
<th>Range</th>
<th>Index Density</th>
<th>Logogenesis Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Allah</td>
<td>31</td>
<td>5</td>
<td>6.2</td>
<td>Densely</td>
</tr>
<tr>
<td>2</td>
<td>Lord</td>
<td>13</td>
<td>12</td>
<td>1.08</td>
<td>Densely</td>
</tr>
<tr>
<td>3</td>
<td>Abraham</td>
<td>11</td>
<td>7</td>
<td>1.5</td>
<td>Densely</td>
</tr>
<tr>
<td>4</td>
<td>Faith</td>
<td>10</td>
<td>17</td>
<td>0.5</td>
<td>Medium</td>
</tr>
<tr>
<td>5</td>
<td>People</td>
<td>8</td>
<td>23</td>
<td>0.3</td>
<td>Medium</td>
</tr>
<tr>
<td>6</td>
<td>Jew</td>
<td>6</td>
<td>27</td>
<td>0.2</td>
<td>Medium</td>
</tr>
<tr>
<td>7</td>
<td>Christian</td>
<td>6</td>
<td>27</td>
<td>0.2</td>
<td>Medium</td>
</tr>
<tr>
<td>8</td>
<td>Ismail</td>
<td>5</td>
<td>17</td>
<td>0.4</td>
<td>Medium</td>
</tr>
<tr>
<td>9</td>
<td>Place</td>
<td>5</td>
<td>16</td>
<td>0.3</td>
<td>Medium</td>
</tr>
<tr>
<td>10</td>
<td>Know</td>
<td>5</td>
<td>26</td>
<td>0.19</td>
<td>Medium</td>
</tr>
</tbody>
</table>
The process of taxonomic relation in Surah Al Baqarah showed that section 3 and 4 of surah Al-Baqrarah was dominated by the medium pattern because many repetitions have index density in range 0.11-0.99. However, there are also repetitions have the density above 1 with high frequency which is included into densely. Hence, it can be concluded that section 3 and section 4 are in the level moderate too easy to be understand. It happens because the more densely a text it would be easier to be understand by the reader and the more minor a text it would more difficult the text to be understand.

Further, the realization of taxonomic relation in this study was found that the taxonomic relation is realized in densely, medium and minor from the logogenetics patterns. It was taken from the repetition that has most frequency. In section 3 the most dominant pattern is medium 70% and followed by the densely pattern 20% while the minor pattern only 10%. In section 4 medium is also the most dominant, it is 70% from the whole and followed by the densely pattern 30%. This percentage was taken from the repetition word that most often comes up in text. They are Allah, Faith, people, lord, Moses, heifer, book, covenant, sign, and life. A text will be easier to be understood if the text is dense, in other side, the text will be difficult to be understand if the text is minor in pattern. As it had seen in this study that the section 3 and 4 is dominated by the medium pattern, it means that the text of the Quran has an average level to be understood and it is not difficult to understand.

It is in line with other research about text density, such as Signes and Arroitia (2015), they analysed the lexical density and lexical diversity of the university student written discourse. They found that the academic writing is densely. Through the density of the text that they had analysed, it was found that the students show the progression in doing writing task and it was possible to obtain the reliable measurement of the lexical in two kinds of writing that produce by the same learner. The task that given to the learner is related to the write a letter that consist of recount, autobiographical recount and biographical recount. They argued that texts with a lower density are more easily understood. In their case, the term lower density is similar with minor in this study. Besides, they also said that spoken texts have lower lexical density levels than written texts. It helps the readers or learner to mastery the text easier.

Similar with Sari (2015) she measured the quality of reading materials in English textbook by using the lexical density method in assessing complexity of reading materials of Indonesia’s curriculum– 13 English text book. The academic text that she had tested in the book is related to explanation text, recount text, narrative text, autobiographical text, report.
text and so on. She found that the analysis of lexical density in the reading passages in each level class of Senior High school students has considerably high lexical density index.

In contrast with the study that had conducted by Faniran (2018) she found that the poetry has low lexical density that difficult to understand by the students. The higher the lexical density of a poem or text, the easier it will be for them to comprehend and appreciate; and the more the new or unknown words in a poem, the more difficult the poem will be for students to comprehend and appreciate it. Therefore, it can be said that poetry is minor in pattern.

It is related to Martin and Rose (2007), the predictable pattern of meaning can vary from the simple range of the language resources that might be used to greet someone or when buy something in the shop. Besides, the more complex meaning can be found in the scientific, reports, or political debates. Nevertheless, the complex meaning fall into consistent patterns that make it possible to recognize and predict how the genre is likely to unfold. Therefore, it was found that the measurement of lexical density in al-Quran can be indicated the types of the text that related to the social roles which known as genre.

Genre is a staged, goal oriented and social process. It is stages because in genre it usually takes a few steps to reach the goal, while the goal is used to get things done that gotten by the participation in genres with other people. In Surah Al-Baqarah for section 3 the repetition of heifer is densely in the text. The story about the heifer that presented here guide us to the kind of genre. The repetition of heifer was started from the clause 116 until 137 (see Ap.4.No.42) it was in verse 167-163. This repetition guides us to the story of slaughtering heifer, it was presented below.

<table>
<thead>
<tr>
<th>orientation</th>
<th>And Remember, Moses said to his people</th>
</tr>
</thead>
<tbody>
<tr>
<td>command</td>
<td>Allah commands that ye sacrifice a heifer</td>
</tr>
<tr>
<td>asking clarification</td>
<td>They said, &quot;Makest thou a laughing-stock of us?&quot;</td>
</tr>
<tr>
<td>giving the clarification</td>
<td>He said, &quot;Allah save me from being an ignorant [fool]!!&quot;</td>
</tr>
<tr>
<td>asking clarification</td>
<td>They said, &quot;Beseech on our behalf Thy Lord to make plain to us what [heifer] it is!&quot; He said;</td>
</tr>
<tr>
<td>giving clarification</td>
<td>&quot;He says, The heifer should be neither too old nor too young, but of middling age.</td>
</tr>
<tr>
<td>interpretation</td>
<td>Now do what ye are commanded!&quot;</td>
</tr>
<tr>
<td>Asking clarification</td>
<td>They said, &quot;Beseech on our behalf Thy Lord to make plain to us Her colour.&quot;</td>
</tr>
</tbody>
</table>
giving clarification: He said, "He says: A fawn-coloured heifer, pure and rich in tone, the admiration of beholders!"

asking clarification: They said, "Beseech on our behalf Thy Lord to make plain to us what she is: To us are all heifers alike:

interpretation: We wish indeed for guidance, if Allah wills."

giving clarification: 71. He said, "He says: A heifer not trained to till the soil or water the fields; sound and without blemish."

interpretation: They said, "Now hast thou brought the truth." Then they offered her in sacrifice, but not with good-will. 72. Remember ye slew a man and fell into a dispute among yourselves as to the crime: But Allah was to bring forth what ye did hide. So We said: "Strike the [body] with a piece of the [heifer]."

From the data above, it was not only the repetition heifer that guide the reader but also the repetition Allah (densely), Moses, Lord, people that can be found medium in the text. It is different with Signes and Arroitia (2015) and Sari (2015) that found the text which has genre as recount, explanation, narrative, biographical, report and so on that can be found in the academic text is densely. It is also different with the Faniran (2018) who found that poem text is minor.

Therefore, the process of taxonomic relation is mostly medium. It means that the text is moderate too easy to be understood because it also can find densely pattern. It can be categorized has genre of narrative because the language feature that used is first and third pronoun, agent or experiencer as subject, and used past tense. However, narrative text usually presents the problem that should be resolved by the character which is called as complication, evaluation and resolution in the stages of narrative text. It was different with what had presented in the Al-Quran section 3 and 4 that only presented incidents and interpretations. According to Martin and Rose (2007), the text that purposed to judge the character or behaviour in a story is exemplum text. The stages are orientation, incident, and interpretation. It also deals to the objection to the moral order and foreground modulations of obligation and negative effects. Therefore, section 3 and section 4 can be categorized has the exemplum genre as the characteristics that had presented before.

CONCLUSION

The process of taxonomic relation were realized in logogenetic pattern in section 3 and section 4 of surah Al-Baqarah. From the ten most frequent lexicals of repetition, it had found
that in the section 3 and section 4, Medium is the most dominant. It happen because there are some clause that contain about certain lexical that functioned to track the discussion in the previous clause as the warning, command and prohibition. Therefore it was concluded that repetition that realized in the Quran of Surah Al Baqarah for section 3 and section 4 make the text is in the level moderate until easy to be understood by the reader because the frequency of repetition in the densely patterns.

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