Roles of Quantifiers in Argumentative Writing and Classroom Activities in Corpus-Based Approaches

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This research identifies the high frequencies of quantifiers in argumentative writing, which is a popular mode in English proficiency tests, by keyword analyses and reveals their roles as rhetorical devices in argumentation by focusing on particular collocation in actual contexts. The results of small-scale discourse analyses show that different quantifiers carry different hidden messages under the surface, balancing degree of agreement or commitment. This study advocates a classroom activity of quantifiers by a concordancer, suggesting the importance of contextualization, and argues for different-level persuasive texts from TOEFL model essays and American LOCNESS, not only for test preparation but also for familiarity with argumentation through reading.

1. Backgrounds

Quantifiers, which occur in such common phrases as not all, have not received proper attention in teaching. My survey of six authorized high school writing textbooks in Japan showed that quantifiers were not taught categorically. Instead they were considered separately in argumentation as partial negation (not everyone) or pronominal idioms (some people like this, others don't like) and frequently included in entrance examinations for high schools and universities. This situation also implies that learners tend to memorize them based on context in gap-filling exercises.

Learning the hidden messages of these phrases out of context is unreasonable; in argumentation when the writer employs such a partial negation as not all, alternative expression (i.e., some) should be available because they want to make a statement, using the negation. Quantifiers might bear rhetorical importance, but their actual use in a particular genre like persuasive prose has not been clarified.

Persuasive writing is a more difficult register than explanatory or descriptive writing, according to Schultz (1991). Despite the difficulity of argumentative prose, such English proficiency tests as TOEFL and IELTS require test-takers to write argumentative essays. Universities that offer programs for studying abroad rely on such scores to evaluate applicants. For such students, it is beneficial to become familiar with argumentation by learning such rhetorical techniques as quantifiers.

This research will first describe the actual use of quantifiers in argumentative writing by focusing on one of the most frequent collocations in a corpus-based approach and conducting a small-scale discourse analysis. Then I will suggest a classroom activity with quantifiers that exploits a concordancer for contextualization.

2. Research questions

This research will answer the following questions.

(1) What roles do quantifiers play in argumentative prose?
(2) What are the pedagogical implications and suggestions?

3. Corpus methodology and data

As datasets of argumentative essays, TOEFL model essays (henceforth, TOEFL, 313 texts, 97,329 words) and American LOCNESS (208 texts, 168,343 words) were used. Keyword analysis identified statistically frequent words in argumentative prose; two word lists from a target corpus of interest and a reference corpus, mostly various English registers or genres were used to furnish keywords with significantly higher or lower log-likelihood ratios (LL, henceforth) in a target corpus than in a reference corpus, which was FROWN, a collection of American written English (1,239,686 words).

The keywords were classified into word classes, and adjectival keywords were chosen to observe the quantifiers. The collocations were investigated
using G-scores to see the strength of the word combinations and analyzed from concordance lines into actual contexts.

4. Results

4.1 Frequent adjectival keywords in argumentation

The results of keyword analyses showed that quantifiers and comparatives were dominant in adjectival keywords, as seen in Table 1.

<table>
<thead>
<tr>
<th>N</th>
<th>Keywords</th>
<th>Freq.</th>
<th>RC Freq.</th>
<th>LL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Important</td>
<td>294</td>
<td>426</td>
<td>631.99</td>
</tr>
<tr>
<td>2</td>
<td>Many</td>
<td>312</td>
<td>1,000</td>
<td>347.37</td>
</tr>
<tr>
<td>3</td>
<td>Good</td>
<td>269</td>
<td>788</td>
<td>330.13</td>
</tr>
<tr>
<td>4</td>
<td>Better</td>
<td>161</td>
<td>349</td>
<td>260.61</td>
</tr>
<tr>
<td>5</td>
<td>Different</td>
<td>168</td>
<td>388</td>
<td>257.95</td>
</tr>
<tr>
<td>6</td>
<td>Easier</td>
<td>67</td>
<td>47</td>
<td>203.75</td>
</tr>
<tr>
<td>7</td>
<td>Other</td>
<td>331</td>
<td>1,648</td>
<td>197.03</td>
</tr>
<tr>
<td>8</td>
<td>Convenient</td>
<td>44</td>
<td>12</td>
<td>174.23</td>
</tr>
<tr>
<td>9</td>
<td>Able</td>
<td>100</td>
<td>229</td>
<td>154.61</td>
</tr>
<tr>
<td>10</td>
<td>Enjoyable</td>
<td>26</td>
<td>4</td>
<td>113.31</td>
</tr>
</tbody>
</table>

The top 10 included quantifiers (*many, other*), comparatives (*better, easier*), and quasi-comparatives—adjectives that resemble comparatives (*different*). As TOEFL, quantifiers, comparatives, and quasi-comparatives are characteristic of argumentation in American LOCNESS, as seen in Table 2.

<table>
<thead>
<tr>
<th>N</th>
<th>Keywords</th>
<th>Freq.</th>
<th>RC Freq.</th>
<th>LL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Many</td>
<td>552</td>
<td>1,000</td>
<td>515.63</td>
</tr>
<tr>
<td>2</td>
<td>Ethnic</td>
<td>115</td>
<td>53</td>
<td>292.61</td>
</tr>
<tr>
<td>3</td>
<td>More</td>
<td>629</td>
<td>2,284</td>
<td>214.67</td>
</tr>
<tr>
<td>4</td>
<td>Criminal</td>
<td>57</td>
<td>43</td>
<td>116.44</td>
</tr>
<tr>
<td>5</td>
<td>Homeless</td>
<td>39</td>
<td>13</td>
<td>110.51</td>
</tr>
<tr>
<td>6</td>
<td>Equal</td>
<td>69</td>
<td>82</td>
<td>105.8</td>
</tr>
<tr>
<td>7</td>
<td>Able</td>
<td>113</td>
<td>229</td>
<td>104.4</td>
</tr>
<tr>
<td>8</td>
<td>Violent</td>
<td>52</td>
<td>43</td>
<td>101.01</td>
</tr>
<tr>
<td>9</td>
<td>Other</td>
<td>404</td>
<td>1,648</td>
<td>100.24</td>
</tr>
<tr>
<td>10</td>
<td>Adoptive</td>
<td>27</td>
<td>4</td>
<td>91.88</td>
</tr>
</tbody>
</table>

In particular, *many* in both lists displayed strikingly higher frequencies than the rest and much higher LL ratios (347.37 in TOEFL, 515.63 in American LOCNESS) than *other* (197.03 in TOEFL, 100.24 in American LOCNESS). Overall, quantifiers as well as comparatives are important in argumentative writing.

4.2 Quantifiers as a rhetorical device

Different quantifiers have different connotations when they modify nouns in actual contexts. I would like to consider a collocation of quantifiers and *people or person*, for example, which occurred as a collocate with most quantifiers, as in *many people* with higher G-scores of 189.130 than *many ways* (86.300).

*Many people* was used for generalization, which was denied later by the writer.

(1) *Many people* have dreams of becoming self-employed or starting their own business, but I don’t understand this. (Lougheed 2004)

Their likely occurring positions are in the subject position, *to/for* phrases as experiencers, or in *there* constructions. They favor private verbs—*feel, argue*, for example. *More people* did not have this connotation but implied changes:

(2) In the past, many people lived far from hospitals or clinics. Now hospitals, clinics, and health centers have been built in many parts of the world. *More people* have the opportunity to visit a doctor or nurse before they become very sick. (Lougheed 2004)

*Most people* made an interesting contrast with *many people*, which the writer used for genuine generalization. It was often followed by supporting evidence:

(3) *Most people* use TV as a way to pursue their interests. People who play sports usually like to watch sports on TV. People who like to cook watch cooking shows. (Lougheed 2004)

*Some people* is neutral in this respect. The statement including *some people* served as an example with a neutral stance:

(4) *Some people* believe that television has destroyed communication among friends and family. In my opinion, however, the opposite is true. (Lougheed 2004)

This presupposes the opposing case expressed by *other people* or *other*. There were possibilities of denial as well as affirmation. Universal quantifiers in *every person* and *all people* supported writer assertions rather than just quantification:

(5) Lastly, I want to mention that *every person* should have the opportunity to acquire higher education. (Lougheed 2004)
Each person emphasized individuality:

(6) I have a lot of different people to learn from. Each person has different experiences and a different point of view. (Lougheed 2004)

In fact, one of the most frequent collocates with each was individual. Partial negation worked as a controller of the writer’s commitments. Probably, the writer uses this, where she/he can use another expression such as some to emphasize the negation:

(7) While not all people need every new product or service that is advertised, they are wise enough to make decisions for themselves about what they need. (Lougheed, 2004)

Quantifiers, which are a statistically frequent category in argumentation, implicitly convey rhetorical meanings that teachers and learners might not know. Since argumentative writing is required in popular English proficiency tests, test-takers should become familiar with persuasive kinds of rhetoric and raise their awareness of the key features in actual contexts.

5. Suggestion for computer-assisted classroom activities

To raise learners’ awareness of quantifiers, I suggest a computer-assisted classroom activity for upper-intermediate or advanced students in CALL or in reading classes (For Data-Driven Learning, see Johns 1991, 1997; Gavioli & Aston 2001; Fligelstone 1993; Flowerdew 1996). A necessary tool is AntConc, a free software tool downloadable from http://www.antlab.sci.waseda.ac.jp/software.html.

Before class, students must install AntConc in their PCs and get a dataset of TOEFL model essays that must be deleted after class due to copyright concerns. In class, students choose a text file by clicking on the down-drop menu and entering a target phrase, many people, for example. Then they will have concordance lines, as shown in Figure 2, where target items are in the center of each line. Then the students find many people in the subject position and specify a verb like believe. They click on and widen a specific concordance line into the whole text.

Students can learn how these quantifiers are used in actual contexts.

6. Benefits from using different-level texts

Due to their different readability, it is good to use TOEFL first to introduce argumentation, followed by American LOCNESS. The STTR (Standardized Type/Token Ratios) was 50.58 in TOEFL with 56.81 words in American LOCNESS; there were more recurrent words in TOEFL, but a greater variety of words in American LOCNESS. The average length of the TOEFL texts was 311 words and paragraphs of 67.82 words. The average length of the American LOCNESS texts was 813 words and paragraphs of 95.92 words. Thus, TOEFL had shorter texts with shorter paragraphs than American LOCNESS.

Moreover, TOEFL had typical textual patterns, as in the high school textbooks, which usually start with a thesis statement, followed by reasoning paragraphs, and counter arguments, if any. The concluding paragraph comes in the end. American LOCNESS, on the other hand, had more difficult vocabulary in longer paragraphs. It is suitable to use American LOCNESS as a follow-up assignment, as in (8), or for advanced students to confirm the knowledge from TOEFL.
(8) Access the American LOCNESS by AntConc and enter most people in the Search Term Box, and press the Start Key. Find a concordance line which begins with most people are opposed to... and click on it for wider texts. Read the whole paragraph including it and write specific, supporting examples to the statement expressed by most people.

Since neither require background or special knowledge, as other argumentative writing such as editorials and academic writing, learning persuasive prose for the first time is easy in these data sets.

7. Conclusion

There seems to be a cluster of quantifiers about degree of agreement in argumentation. See Figure 3.

many people — some people — most people  
Low degree of agreement  
High

Figure 3. A clan of degree of agreement

Although quantifiers are such basic words, but learners might well not notice connotation or semantic prosody (for semantic prosody, see Hoey, 1991; Leech 1974; Sinclair, 1991; Patrington, 1998). Corpus-driven learning gives students the chance to find patterns and meanings and to learn subtle usages in actual contexts, since they can switch concordance lines into the whole text.

TOEFL offers teaching material with clear, concise, and logical development and plain vocabulary in compact paragraphs. It should be used not only for test preparation but also for the initial learning of argumentation.

8. Limitations and further studies

TOEFL model essays are not freely available; there are not so many and few texts from TOEFL textbooks. Permission must be obtained from the copyright owners to use them. We must also examine in more detail the readability of TOEFL and American LOCNESS to recognize quantifier behavior in other registers and to research such a corpus-based approach to quantifiers.

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