

CHAPTER III

RESEARCH METHODOLOGY

The purpose of this study is to see the difference of hedges used by writers of soft science and hard science in their research articles and also to investigate the function of hedges used by them. Soft Science here can include sociology, psychology, language study, political science, and communication while hard science may involve biology, chemistry, physics, engineering, and medical science. To reach the goals, the writer uses descriptive quantitative and qualitative methods. Quantitative method is used to map out the occurrences of the two corpora of research articles and qualitative method is used to investigate the contextual functions. The writer employs descriptive quantitative method because the study quantifies the qualitative data (the number of hedges used in soft and hard science research articles) and put them into tables. Since the second aim of this research is to define the function of the hedges used in articles, qualitative method is also required here.

Descriptive quantitative is a method for analyzing data by describing the result of the quantitative data. Descriptive method can be paired to both qualitative and quantitative. As people know, quantitative method often deals with counting the number of data, diagrams, formulas and others.

This research is also a qualitative study since it analyzes the function of hedges by finding out the reason why the writer chose to use those hedges and to reveal their intentions in the writing. “Qualitative research is concerned with developing explanations of social phenomena” (Hancock, 2002). It concerns and often relates with interrogative words ‘why’ and ‘how’ to find out information as complete as possible.

3.1 Data Source

The data used in this study were taken from three different reputable journal websites in the internet. They are (1) International Journal of Science and Research (IJSR) with address <https://www.ijsr.net>, (2) International Journal of Communication (IJoC) from University of Southern California with address <http://ijoc.org>, and (3) American Association for the Advancement of Science (AAAS) with address <https://www.aaas.org/science-journals>. The writer chose to take the data from different sources because she wanted to analyze a wider range of the data source as one journal contains only soft science. Another one contains only hard science, and the other contains both soft and hard science. The data from this study were collected from research articles, specifically in social and science domains introduction section. Fifteen soft science research articles and fifteen hard science research articles were taken from IJSR since it encompasses both disciplines. IJoC is a journal of communication which considered as soft science. Therefore the writer took the other fifteen soft science research articles from this journal and the rest were downloaded from AAAS which only covers hard science discipline. The total number of research articles in this study were sixty. They comprised 30 soft science and 30 hard science introduction section research articles.

3.2 Object of the study

The objects of the study are soft and hard science research articles. The total number of research articles was 60 articles-30 soft science articles and 30 hard science articles.

3.3 Procedure of Data Collection

To collect the data, the writer searched articles from three previously mentioned websites and then the writer downloaded them. Next, the writer categorized the data into soft and hard science category. Here below are the specific stages of the process of data collection:

1. Selecting

The writer search and download the PDF of research articles which have not less than 300 words on introduction parts.

2. Refining

The data that have been selected have some reduction of the unnecessary information such as page numbers, header, and footer.

3. Combining the collections of articles

Those research articles then were put altogether in a folder of data.

4. Making them into two corpora of soft science and hard science

Separating the articles based on the two disciplines above.

3.4 Procedure of Data Analysis

After completing the data collection procedure, the next step is to analyze the data. First, the writer opened AntConc application to count the hedges in the research object of the study, which are introductory parts of research articles. The next sub chapter is the explanation of AntConc application and how to use it.

3.4.1 AntConc Application

The writer found that this software is very useful in this study so the writer chose to use it in order to make the process of data analysis easier. This application makes such a shortcut to count particular words appear, in this case are words that show or imply hedges.

AntConc application was created by Laurence Anthony, a professor from Faculty of Science and Engineering at Waseda University, Japan. It is a free application that everyone can download it from the internet. The writer herself has downloaded it from <http://www.laurenceanthony.net/software/antconc/>. It is a freeware corpus analysis toolkit for concordancing and text analyzing which is very suitable to use for this kind of research.

Here are the simple guides on how to use AntConc application. First of all, search 'AntConc' application in the internet and download it. Then, the second step, open the folder where we have downloaded it, and open the application by double click. It does not require installation. We just need to click on the icon and it runs immediately, because it is a stand-alone program. Next, before we start the analyzing process, do not forget to convert the corpus in *plain-text file* or just *text file (.txt)* in order to be a readable format for this application.

Further, the next stage is to load the corpus into the application. First, click menu "File", then choose "Open File(s)" and select the data files that were analyzed and then click "Open" button. The data that have been selected should be shown in the "Corpus Files" box on the left.

Adjusting the need of this study, the writer uses and explains only the concordance option out of all other practicalities. First, click "concordance"

tab above the main text box. Here below is the appearance of concordance column.

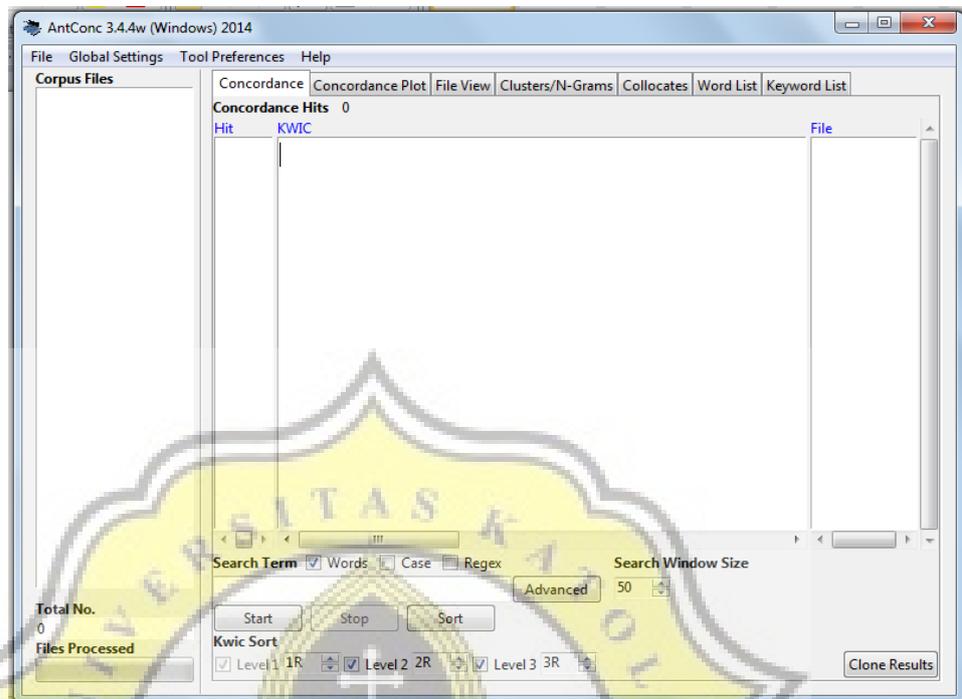


figure 1. AntConc application appearance

To search a word, click on the search box and enter the word that we look for and then click “start” button below the search box. The number or frequency of the result will be shown next to the “Concordance Hits” and the sentences containing the words will be displayed in the main text box as well. The users of this application are able to see and analyze the word used in the context easily because it shows where the words belong to in the sentences. The users can also adjust the number of words before and after the word they look for by changing the number of “Search Window Size” next to the search box. The writer takes an example of a word searched in the study to show the display of AntConc application in a more specific way.

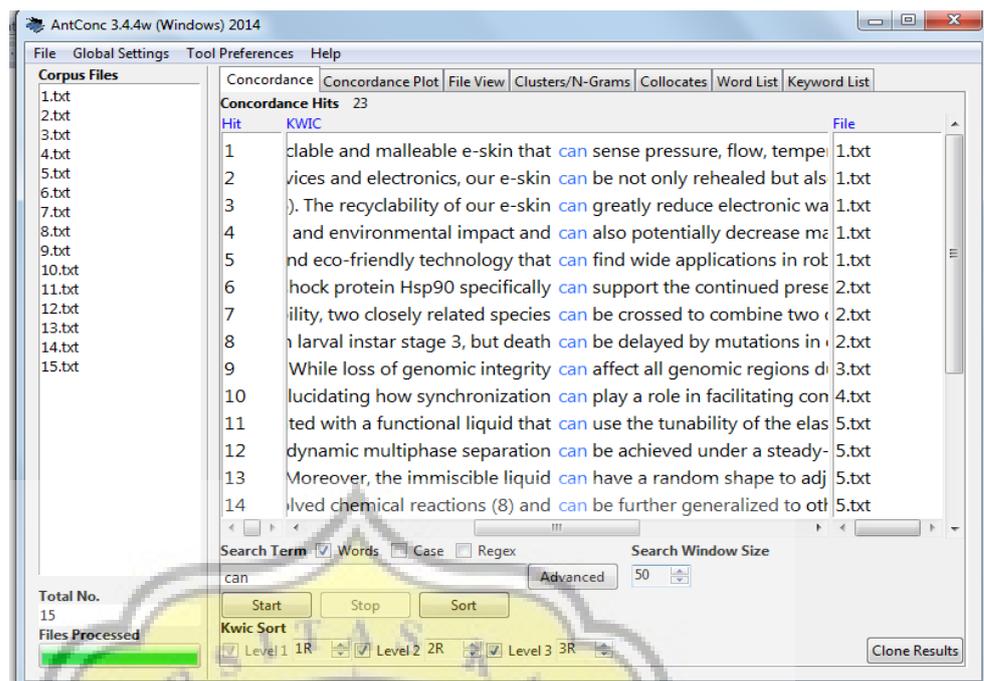


figure 2. AntConc application appearance in concordance

The example above used fifteen files of hard science research articles from the data in this study. It shows that there are twenty three hits of the word “can” in the corpus. All of the sentences containing the words “can” are displayed in the main text box and the writer can see the use of them easily in the sentences and contexts. Here, the writer put number 50 in the “Search Window Size” box as she felt that it is an adequate number of words to see the use of the word contextually and in a full sentence.

After putting the data into the application, the writer found out the number of hedges used in the two corpora of introduction articles. The next step is categorizing the hedges used and tabulating the frequency in tables. Continuing, the writer analyzed the differences in case of frequency and also the use in the contextual use of hedging in the introduction section of articles. The analysis is based on the theory of Ken Hyland (1996).

The validity of the results is an important matter. Therefore, to make sure, the writer did double check on the data analysis and asked for an expert to check whether the data served is valid.

3.5 Drawing Conclusion

After doing the analysis process, the writer obtained the findings on this study and then constructed a conclusion based on those findings that have been found.

