Metadiscourse in research papers of English Literature and Biology

LAM Christopher

City University of Hong Kong

Author Note

This research paper aims to address the individual plan of the joint proposal, which targets to find out the difference in metadiscourse usage in research papers of English Literature and Biology, which ultimately deduce the different writing styles in a university setting.

Abstract

This paper aims to investigate the metadiscourse of research paper in English Literature and Biology. In the process of investigation, both the usage of interactive and interactional metadiscourse in the two disciplines will be compared. To do this comparison, a total of 4 excerpts from research papers of these two disciplines, 2 from English Literature and 2 from Biology will be utilized. The frequency of each category in both of interactive and interactional metadiscourse will be counted, and will be sum up for observation in a bigger picture. Then, the analysis of results will first take a wider scope, after that smaller components like individual categories in the two metadiscourse dimensions will be investigated and discussed, in order to deduce the implication behind the findings. The goal of this study is to discover various features of different disciplines in academic writing, and ultimately find out how language works differently at universities.

Keywords: metadiscourse, interactive, interactional, language, disciplines

Metadiscourse in research papers of English Literature and Biology

Not only metadiscourse is a tool to help writers to organize their texts, it is also applied to study research articles of different academic disciplines. By investigating the metadiscourse in a text of a certain discipline, patterns can be observed and the organizational features of that discipline can be observed. In different academic disciplines, the method for the presentation of knowledge varies, so as the way to organize discourse structure in a text or article. This paper investigates two vastly different academic disciplines, English Literature and Biology, which the former is expected to be more subjective and the latter is probably more logical and analytical. The aim of the paper is to compare the frequency between both interactive and interaction dimension of metadiscourse in English Literature and Biology, according to the metadiscourse model by Hyland (2005), and account for the results acquired from the chosen texts of the two disciplines in order to understand how language works differently at a University.

Literature Review

First of all, the model of metadiscourse in Hyland (2005), which categorized metadiscourse into "interactive" and "interactional", will be used in the following parts in this paper. According to that Hyland's model of metadiscourse, there are two dimensions for metadiscourse, which is the interactive and interactional dimension. Hyland (2005) stated the use of the two dimensions. For the interactive dimension, it is to "shape and constrain a text to meet the needs of particular readers, setting out arguments so that they will recover the writer's preferred interpretations and goals". In other words, the interactive dimension is more neutral and is meant to "guide readers through the text". Then, the interactional dimension of metadiscourse "concern the ways writers conduct interaction by intruding and commenting on

their message", this indicates that the interactional dimension functions to "involve readers through the text", making it a more stylistic dimension compared to the interactive dimension.

Now after recalling the metadiscourse model by Hyland (2005), it is time to briefly mention the categories in both interactive and interactional metadiscourse. Each category of metadiscourse have its own function, which can help us further analyze the findings that we obtained from the research papers of the two different disciplines.

First and foremost, from Hyland (2005), the categories in the interactive dimension are: transitions, frame markers, endophoric markers, evidentials and code glosses. Transitions are used to "express relations between main clause", such as causative relationships. Frame markers "refer to discourse acts, sequences or stages". Then, endophoric markers and evidentials are both references to information, but the former is internal reference and the latter refers to external sources. Last, code glosses can "elaborate propositional meanings".

Next, Hyland (2005) also listed the functions of the categories in interactional dimension. There are also 5 categories: hedges, boosters, attitude markers, self-mentions and engagement markers. Hedges are to "withhold commitment and open dialogue", boosters are to "emphasize certainty or close dialogue", also attitude markers exists to "express writer's attitude to propositions". Self-mentions are to "refer to the writer explicitly" and engagement markers is to "build relationship with readers explicitly".

Another research to be brought out is Khajavy, Gholam Hassan & Firoozian Pooresfahani, Ailin & Vahidnia, Fateme (2012). The research is a prior example of metadiscourse investigation between two vastly different academic disciplines, applied linguistics and engineering, and it provides insights for this research paper. Khajavy et al. (2012) has marked the frequency of interactive and interactional metadiscourse of several up-to-date readings from the two

disciplines, and one result obtained from the study is that "both applied linguistic and engineering authors use logical (frame) markers more than other interactive features". The study then draws out the implication that "in both disciplines, author draw more to features to guide the reader through the text than to features that involve the reader in the text". Another result from the interactional sector shows that linguistics writers use attitude markers most frequently, and engineering authors use hedges the most. Although the pairs of subject investigated is slightly different from mine, it gives certain expectations to my following investigation, and the results in this prior study can be a good reference to my results as well.

Method

In order to study the metadiscourse of English Literature and Biology, 2 research papers from each of the disciplines are chosen, and excerpts of each paper are taken out for metadiscourse analyses. In the selection of the chosen paper, certain criterions are taken into account. First, more recent sources are preferably chosen, amongst the 4 papers that were found, 2 of them are published at 2018 and the most dated one is published at 2015. Besides, reliability of papers are also concerned. The source texts utilized in this paper is mainly found at reliable sources, such as sources from City University's scholars who published all 2 of the Biology papers that are chosen for this paper. Another reliable source used is the European Journal of English Language and Literature Studies, where we found all 2 of the English Literature papers. Choosing all papers in a discipline from one source ensures the uniformity of the papers, which is essential for our results to be more accurate.

All of the excerpts from the chosen texts are from the part of analysis or discussion, where the authors would attempt to summarize the information they discovered in the paper's

investigation. To facilitate fair comparison, the length of the excerpts are all around 80-100 words. From the excerpts, the frequency of interactive and interactional metadiscourse will be counted, by adding up the appearance of different categories in a dimension of metadiscourse. After the counting process, the frequency of interactive and interactional metadiscourse in the two disciplines will be analyzed in both wide and narrow point of view.

Research Papers used

English Literature: Jaslm (2016) and Fatima, Jamil, Hanif (2015) are used. Jaslm (2016) focuses on the dark side of adaptation of Shakespeare's plays, and Fatima et al. (2015) is an analysis on Conrad's "Heart of Darkness".

Biology: Lu et al. (2018) and Ma et al. (2018) are used. Lu et al. (2018) is a research on bioinspired multilegged soft millirobot and Ma et al. (2018) concerns the relation between blood pressure and pulse wave velocity for human arteries.

See original excerpts at appendix below.

Results and discussion

As mentioned, 4 excerpts from papers of English Literature and Biology are analyzed, and the number of interactive and interactional metadiscourse are counted. Despite the limited length of the excerpts, several patterns can still be observed in the results.

To start with, we should see the bigger picture first. For the interactive dimension of metadiscourse, two excerpts of the English Literature papers add up to give 6 features, and similarly, the two excerpts of Biology papers contains 6 items in the interactive metadiscourse as well. This shows that the two disciplines use interactive metadiscourse with similar frequency. It

means that in even in two greatly different subjects, tools to guide readers through the text is

essentially as to have readers understand the text. But then, for the interactional dimension,

disparity occurs between the two disciplines. In the excerpts of Biology, only 3 of the features

that belongs to the interactional metadiscourse is found, but in English Literature excerpts, 5 of

them were found. The higher frequency of interactional metadiscourse in English Literature

indicates a higher tendency for the discipline's writings to involve readers in the text, and it is

not the most important aspect in Biology to engage readers emotionally, as this discipline is more

analytically and objectively interpreted.

Also, by adding up the number of interactive and interactional metadiscourse used in

each of English Literature and Biology, in overall Biology papers use less metadiscourse feature

than that of English Literature. As mentioned above, guiding readers through the text is equally

important in two disciplines, but English Literature requires more involvement of readers due to

its subjectivity in its analysis, causing the difference in the total usage of metadiscourse.

Subsequently, a smaller focus will be taken to analyze the results. To commence with, 5

categories in both interactive and interactional dimension will be broken down, and the

frequency of each of the items will be checked. In the interactive dimension of metadiscourse,

frame markers, endophoric markers and evidentials are not existent in all of the excerpts, so the

focus of this discussion will fall on transitions, and code glosses. Regardless of English

Literature and Biology, the use of transitions is extensive. In 6 of the interactive items found in

English Literature excerpts, transitions like "and", "though" appeared for 5 times, and transitions

also takes up 4 out of 6 items in Biology excerpts, which is a huge proportion. This shows that

when authors are presenting their idea, there is a need to express relations between multiple

clauses to increasing reader's understanding of the text, and more importantly to deliver writer's

intended meaning to the readers. Next, code glosses took up 3 out of 12 places in 4 excerpts of the two disciplines. Code glosses are often used in giving examples, its function, which is to "elaborate propositional meanings" (Hyland, 2005), is always important in academic writing especially when a writer wants to explain something in an explicit way. This explains why code glosses appears in the excerpts even with limited word count.

Next is to investigate the interactional dimension of metadiscourse in the two disciplines. In a wider picture, writings of English Literature does seems to have more usage of interactional metadiscourse in most categories than that of Biology, but when we analyze the issue in an in-depth manner, the cause of the difference is the frequent use of engagement markers in English Literature writings. Out of all 5 interactional features in English Literature excerpts, engagement markers took up 3 of the places. When engagement markers are excluded from the frequency count, the amount of interactional metadiscourse in Biology excerpts are higher than that of English Literature. From this, it shows that writings of English Literature tends to convey their own judgments to readers and is always open to discuss due to its subjective nature. On the other hand, excerpts of Biology contains no engagement markers at all.

Boosters took up 3 out of 8 places in interactional metadiscourse in the 4 excerpts combined, and is the most common feature alongside engagement markers. It is also the most common feature of interactional dimension in the discipline of Biology, which took up 2 out of 3 places. Boosters in scientific research like Biology are probably used to sound more certain, or to show the extent or compare the results that the authors have obtained.

The last item of interactional metadiscourse shown in Biology excerpts is a self-mention, that can appear when authors ought to present an idea, or what they and their team have

discovered or achieved in a research. In my perspective, the chance of using self-mention in both disciplines are equivalent, therefore its significance is limited.

Last, hedging and attitude markers has very limited appearance in the results obtained, as there are no attitude markers found and only 1 hedges is found in English Literature excerpts. Therefore, no conclusions can be drawn on whether English Literature or Biology paper use more of those, but these two features hold certain significance in academic writing.

Conclusion

In this research, the metadiscourse features in research papers of English Literature and Biology are compared and analyzed, and some patterns in the usage on metadiscourse in both disciplines are observed despite the limited word count of the excerpts. First, it is observed that the two disciplines uses the interactive dimension of metadiscourse in similar frequencies, while transitions took up a huge portion of the interactive sector, as author seek to make sense of the content they wrote. Another finding is that the interactional dimension is used more in English Literature writings, but surprisingly the difference is mainly from the extensive use of engagement markers that "build relationship with readers explicitly" (Hyland, 2005), which is essential for English Literature writings. Other finding includes the use of code glosses (interactive) and boosters (interactional) in both academic disciplines. To sum up, based on the differences observed between the use of metadiscourse in two academic disciplines, language indeed does work differently at universities.

References

Fatima, A., Jamil A., Hanif S. (2015). Othering of Africans In European Literature: A Postcolonial Analysis of Conrad's "Heart of Darkness". 3. 40-45.

Hyland, K. (2005). Metadiscourse : Exploring interaction in writing (Continuum discourse series). London ; New York: Continuum.

Jasim, Azeez. (2016). ADAPTATION OF SHAKESPEARE'S PLAYS INTO FILMS: THE DARK SIDE. 4. 35-39.

Khajavy, Gholam Hassan & Firoozian Pooresfahani, Ailin & Vahidnia, Fateme. (2012). A Contrastive Study of Metadiscourse Elements in Research Articles Written by Iranian Applied Linguistics and Engineering Writers in English. English Linguistics Research. 1. 10.5430/elr.v1n1p88.

Lu, H., Zhang, M., Yang, Y., Huang, Q., Fukuda, T., Wang, Z., & Shen, Y. (2018). A bioinspired multilegged soft millirobot that functions in both dry and wet conditions. *Nature Communications*, *9*, [3944]. DOI: 10.1038/s41467-018-06491-9

Ma, Y., Choi, J., Hourlier-Fargette, A., Xue, Y., Chung, H. U., Lee, J. Y., ... Huang, Y. (2018). Relation between blood pressure and pulse wave velocity for human arteries. *Proceedings of the National Academy of Sciences of the United States of America*, *115*(44), 11144-11149. DOI: 10.1073/pnas.1814392115

Appendix A

Excerpts from English Literature Paper
*Red words indicates metadiscourse features

Jaslm A.(2016)

In the light of moral masochism, we have seen how the characters burden themselves with pain and misery in a dark desire to expiate their sins. The guilty mother committed a suicide instead of being punished by her son is a representative example of this form. A man character is beaten, insulted bound and humiliated for and by a woman. We have also seen him completely submissive by a woman. In a reference to the feminine masochism, the man has been shown gaining intensive sexual desire from these behaviours. But also the films contain different scenes favouring a form of sexual excitation in a reference to Freud's erotogenic form of masochism. Some certain affective processes such as giving a slap, a serious way of pointing a gun at the paramour…

Fatima et al. (2015)

It may be said that in Heart of Darkness, the narrator is talking about a story in which the very humanity of black people is called into question. They are represented as exotic others, inferiors and uncivilized. Though he did not originate the image of Africa which we find in his book, it was and is the dominant image of Africa in the Western imagination and Conrad merely brought the peculiar gifts of his own mind to bear on it. It is the categorization which is made by Westerner's, through which they represent themselves as superiors and Africans as inferiors. Conrad has socially categorized people in his novel which led to his conformity to racism. His ignorance of not completely "giving the natives human status" leads him to social categorization.

Appendix B

Excerpts from Biology Papers

Ma et al. (2018)

   Another important clinical application of PWV is to determine the arterial stiffness (equivalent tangent modulus) of the artery wall as the elastic properties of arteries are affected by aging and cardiovascular diseases, therefore providing useful prognostic information. The blood pressure P is shown in Fig. 4C versus the PWV. In the range of human blood pressure (5kPato~20kPa), the pressure−PWV relation is used to determine the material parameters in the Hughes + MK Equations (Eqs. 1a and 1b) as $E0 = 145kPa$ and $ζ =0.117kPa−1$, which yields good agreement between the MK + Hughes Equations and the present model. However, for the same range of PWV, Fig. 4D shows that the MK + Hughes Equations significantly underestimate the equivalent tangent modulus by a factor of ~3 compared with the present model.

Lu et al. (2018)

   The locomotion of our robot is regulated in a remote fashion by magnetic field dynamically. Different to the conventional magnetic driven approach, we employ both magnetic torque and pulling force as sources to drive the robot, leading to better adaptability to various surroundings. Under the trigger of external magnetic field, our robot can achieve a combined multiple locomotion, i.e., the combination of DFW locomotion and a CIP locomotion. In addition, the flexible legs can store and release elastic energy during locomotion, which not only reduces energy cost, but also serves as a damper to improve the stability and increase over-obstacle ability. More interestingly, the leg's locomotion in one gait cycle exhibits a high similarity to that of human walking.