

Investigating interactive metadiscourse markers in research article discussions published in varied journal levels (local, national, and international)

Mega Fitri Wulandari¹, Safnil Arsyad², Wisma Yunita³

Politeknik Negeri Manado¹
Universitas Bengkulu^{2,3}
email: wulandarimegafitri@polimdo.ac.id¹

Abstract - Interactive metadiscourse markers in the discussion section of a journal play a crucial role in engaging the reader and facilitating a more dynamic interaction. In a discussion journal section, interactive metadiscourse markers may include phrases or expressions that invite the reader to consider alternative viewpoints, respond to the presented ideas, or reflect on the implications of the research findings. This research investigated interactive metadiscourse markers in research article discussion of language teaching within 30 articles published in local, national, and international journals. A mixed-methods approach was adopted and the instrument used in this research was a checklist designed to analyze interactive metadiscourse. The result of the inter-rater agreement of the co-rater and researcher indicated a kappa value of 90.2% (co-rater and researcher respectively) because it shows excellent agreement (above 80%). It shows that the highest frequency used of interactive metadiscourse category is transitions markers in the three-level journals. Evidential markers took the second position in frequency used followed by code glossed in third frequency. Endophoric markers and frame markers are less used by the writers in the article discussions. The research articles published in international reputable journals show the highest number of using interactive metadiscourse devices than the articles published in local and national journals.

Keywords: discussion section, interactive metadiscourse markers, metadiscourse markers

1. Introduction

Nowadays, the publication of research articles extends beyond the realm of scientists. Arsyad (2013) informs that university students such as undergraduate, postgraduate, and doctoral levels are required to publish their research results in the journal. It is the responsibility of the researcher to publish their research result because the knowledge is probably useful or can be developed. Therefore, in writing a research article, the writer should pay attention to the quality and must be as informative as possible. Writing a research article is a challenging task that demands substantial effort. The writer needs much effort to make it informative so they can publish it in accredited or even reputable journals.

Every writer has a different style of using linguistic features in the writing discussion section. The linguistic features here are metadiscourse markers which are used by the writer to show his/her opinion based on the content (Mina & Biria, 2017). Metadiscourse markers are one of the important linguistic features in academic texts. As (Hyland, 2010) points out “metadiscourse emerged as a corrective to earlier views of language which saw it as principally a propositional and expository mode of representation, where the function of communication was to match words to ideas”. Mustafa (2016) defines metadiscourse as related to the relation between authors, who compose texts, and readers, who analyze them. It means that the writers must be critical in presenting information and expect to make distinctions between what is opinion and what is fact competently.

The interactive model of metadiscourse in academic texts adapted from Hyland (2010) has 5 types. They are transition, frame markers, endophoric markers, evidential markers, and code glosses. First is transition markers that can be further classified into three subtypes: addition (*e.g.*, moreover, in addition), comparison (*e.g.*, similarly, in comparison) or contrast (*e.g.*, however, by contrast), and inference (*e.g.*, therefore, consequently). Next frame markers have the function of indicating text boundaries or elements of schematic text structure (Hyland, 1999), used primarily to organize texts for readers. Frame markers can be further classified into four subtypes according to their functions: sequencers, topicalizers, discourse labels, and announcers.

Endophoric markers can we say as road signs of a text, pointing to and emphasizing different parts at different times. There are two types of endophoric markers: the cataphoric and the anaphoric. Evidential markers, Hyland (2005) states that it presents information from other texts, illustrating the source of textual information that originates outside the current text. There are two types of evidential markers: the integral which incorporates a cited source as part of the reporting sentence, and the non-integral which places a cited source within parentheses or via a superscript number leading to a footnote, endnote, or bibliography. Evidential markers put the writer’s position by demonstrating an awareness of prior research and acknowledging allegiance to the academic community (Hyland, 1999). The last type of interactive metadiscourse is code glosses. Code glosses are used to explain, elaborate, or rework propositional meanings Hyland (2007) said that it concerns to clarification of the writer’s communicative purpose. Two subtypes of code glosses can be differentiated its functions: reformulation and exemplification.

The study about this has been conducted by some researchers in different genres and contexts such as comparative metadiscourse studies of the social and the sciences conducted by Estaji & Vafaeimehr (2015). The study examined the differences in the use, type, and frequency of interactional metadiscourse markers in the introduction and conclusion sections of research papers of two disciplines, 21 mechanical engineering (ME) articles, and 21 electrical engineering (EE) articles. They found that metadiscourse markers play a significant part in both ME and EE academic writings as they both took advantage of MDMs in the introduction and conclusion sections of their papers highlighting the significance of interactional functions of language in the academic discourse and boosters were the most frequent metadiscourse markers used in both EE and ME papers.

Sukma and Sujatna (2014) conducted another study on metadiscourse markers. Their study explained the meaning of interpersonal metadiscourse markers applied in Barack Obama’s campaign speeches related to his persuasive strategy. The data were analyzed by using Dafouz’s (2008) theory of interpersonal metadiscourse markers categorization. They found that all interpersonal metadiscourse markers categories; hedges, certainty markers, attributes, attitude markers, and commentaries are used by Obama in his 2012 campaign speeches, and attitude markers and commentaries are used predominantly which shows that Obama tries to build emotional bonds with his audience as his persuasive strategy.

Zakaria *et. al* (2015) also conducted a study about metadiscourse in the academic writing of local and international students at a university in Malaysia. They examined the use of metadiscourse markers

among 50 Malaysian and 50 Arab Pre-University students. The finding of this study indicated that there was a significant difference in the use of metadiscourse markers between Malaysian and Arab Pre-University students. There was a higher percentage of interactive metadiscourse usage than the interactional ones among both groups of students. They also found that the Malaysian pre-university students have a higher frequency in the use of three out of the five subcategories of interactive metadiscourse; i) transition, ii) evidential, and iii) code glosses.

Shi and Han (2014) carried out a study on students from China where Chinese is their mother tongue and they have learned English for at least seven years and are capable of thinking and writing logically with good knowledge of grammar and vocabulary. The study aimed to explore the use of metadiscourse markers in high score writing group (HG) and low score writing group (LG). They found that there was a positive relation between the proper use of metadiscourse markers and writing quality. The students in HG use significantly more interactive resources than those used by students in LG. In conclusion, there is a close relationship between the quality of metadiscourse markers and writing quality which is why teaching metadiscourse is an effective device to improve students' writing proficiency.

Khedri *et al.* (2013) examined interactive metadiscourse markers in academic research article abstracts in two disciplines, those are 60 research article abstracts written in applied linguistics and economics. It aimed to explore how interactive metadiscourse markers are deployed by the writers belonging to different disciplinary communities within the soft sciences while trying to reach the audience by creating a well-organized discourse. The first finding of this study is there was an overall similarity between applied linguistics and economic abstracts regarding the hierarchy of occurrence of IMMs and transition markers acting as the leading category. The second finding is there were strong differences between the two disciplinary communities regarding the use of endophoric markers. The major use of endophoric markers and frame markers was frequently found in applied linguistics abstracts than in Economic abstracts.

The previous studies above have found metadiscourse markers in scientific academic writing at the student's level. These studies provided insightful information about how students utilize these markers to organize their arguments and engage their readers. However, the study about metadiscourse markers in language teaching research articles published in local, national, and international journals is needed to know the metadiscourse markers used by the writers so that they can publish their articles in the local journal, nationally accredited journals, and international reputable journal in the field of language teaching.

2. Method

This research has been conducted by using mixed methods to answer four questions, namely interactive metadiscourse markers are frequently used in research article discussions published in local journals in the field of language teaching, interactive metadiscourse markers are frequently used in research article discussions published in nationally accredited journals in the field of language teaching, interactive metadiscourse markers are frequently used in research article discussions published in International Reputable journal in the field of language teaching, and any differences of interactive metadiscourse markers used by the writers in their article discussions published in three different level journals (local, national, and international) in the field of language teaching. Creswell and Plano (2007) mention that the side steps the issue of paradigms, but they characterize mixed methods research as having a set of guiding philosophical assumptions and a method where qualitative and quantitative will mix at some point in the study.

The corpus of this study was 30 articles and discussions in the field of language teaching chosen based on the need of this research (purposive sampling technique). Purposive sampling is a sampling technique in which researchers rely on their judgment when choosing a population to participate in the study (Sugiyono, 2003). The 30 articles consisted of 10 articles discussions from the local journal (Edu-Ling), 10 articles discussions from the nationally accredited journal (JOALL), and 10 articles from the internationally reputable journal (IJAL) of Language Teaching.

The corpus has been manually analyzed word by word because computer-assisted analysis faces the risk of assuming external reference items as metadiscourse and can damage the validity of the research (Gholami *et al.*, 2014). All the procedures will be carried out separately by another rater, to countercheck as well as to uphold impartiality in the process of detailing the use of metadiscourse markers within the selected corpus.

To gain high reliability and validity of analysis results, the involvement of independent rater/s is needed to identify the linguistic features in the same corpus and make clear clarification about the level of agreement with the result of the researcher's judgment (Crookes, 1986). Then validity and reliability can be reached by the level of agreement. The result of the researcher's analysis and the validation has been compared using Cohen's Kappa coefficient analysis following Kanoksilapatham (2005), if Cohen's value is less than 0.40 – 0.59 or “Fair”, between 0.60 – 0.79 or “Good”, and more than 0.80 is “excellent” the formula is as follow:

$$K = (\Pr_{fo}(a) - \Pr_{fo}(e)) / (1 - \Pr_{fo}(e))$$

Where:

K = Agreement frequency

Pr(a) = The overall probability of the same agreement

Pr(e) = The overall probability of random agreement

To know the strength agreement of the data, the scale value is formulated as follows.

Value of Kappa (K)	Level of Agreement
< 0.20	Very Poor
0.20 – 0.39	Poor
0.40 – 0.59	Fair
0.60 – 0.79	Good
0.80 – 1.00	Excellent

3. Results and Discussion

3.1 Results

These results answer four points of research questions. The first point is frequently used interactive metadiscourse markers in research article discussions published in local journals in the field of language teaching. The second is frequently used interactive metadiscourse markers in research article discussions published in National Accredited Journals in the field of language teaching. The third is the frequent use of interactive metadiscourse markers in research article discussions published in International Reputable Journal in the field of language teaching and the fourth is significant characteristics of interactive metadiscourse markers used by the writers in their article discussions published in three different level journals (Local, National, and International) in the field of language teaching.

The average words of article discussions published in local journals is about 300 to 1200 words. The average words of article discussions published in nationally accredited journals is about 300 to 1000 words. The average words of article discussions published in an international reputable journal are about 2000 to 4000 words. Here is the result of the inter-rater agreement of the co-rater and researcher indicates a kappa value of 90.2% (co-rater and researcher respectively) as shown in Table 1. It shows excellent agreement (above 80%).

Table 1. Result of Inter-Rater Agreement

Interactive Metadiscourse	Agreement	Disagreement	K	Percent
468	444	24	90	90.2%

3.1.1 Frequency of interactive metadiscourse markers in article discussions published in local journals

The results of the checklist on the interactive metadiscourse markers in article discussions published in local journals can be seen in Table 2.

Table 2. Frequency of Interactive Metadiscourse in 10 Discussions

Category	Frequency and Percentage
Transitions	170 (50.9%)
Frame markers	35 (10.5%)
Endophoric markers	37 (11.1%)
Evidentials	52 (15.6%)
Code glosses	40 (11.9%)
Total	334 (100%)

Table 2 shows the frequency and percentage used of interactive metadiscourse markers of research article discussions published in Local Journals. Transitions markers are the most frequently used category, from 10 article discussions, the total of transitions is 170 times or 50.9%, the second is evidential markers which are used 52 times (15.6%), the third is code glosses markers which are used 40 times (11.9%), the fourth is endophoric markers which are used 37 times (11%) and the fifth metadiscourse markers used in article discussions published in local journals is frame markers which are used 35 times (10%) from total 10 article discussions. The examples of metadiscourse markers are as follows.

Example:

“Therefore, the students have not ever listened to the English audio material. They have no idea how the native speakers speak English.” (LJ-02).

“However, writing skill is difficult and it has been a big problem for some EFL students in learning writing.” (LJ-03).

3.1.2 Frequency of interactive metadiscourse markers in article discussions published in a national accredited journals

The results of the checklist on the interactive metadiscourse markers in article discussions published in nationally accredited journals can be seen in Table 3.

Table 3. Frequency of Interactive Metadiscourse in 10 Discussions

Category	Frequency and Percentage
Transitions	112 (52.1%)
Frame markers	22 (10.2%)
Endophoric markers	18 (8.4%)
Evidentials	26 (12.1%)
Code glosses	37 (17.2%)
Total	215 (100%)

Table 3 illustrates the frequency and percentage used of interactive metadiscourse markers of research article discussions published in the National Accredited Journal. It also shows that transitions are the most frequently used category, from 10 article discussions, the total of transitions is 112 times or 52.1% of all data. The second most preferred category is code glosses markers which are used 37 times (17.2%) from a total of 10 article discussions. The third metadiscourse marker used in article discussions published in the National Accredited Journal is evidential markers which are used 26 times (12.11%) from a total of 10 article discussions.

Example:

“As previously mentioned, the main purpose of this research was to find out differences in effectiveness between direct and indirect feedback on students’ writing ability...” (NJ-02).

3.1.3 Frequency of interactive metadiscourse markers in article discussions published in international reputable journals

The results of the checklist on the interactive metadiscourse markers in article discussions published in internationally reputable journals can be seen in Table 4.

Table 4. Frequency of Interactive Metadiscourse in 10 Discussions

Category	Number of Percentages
Transitions	716 (60.6%)
Frame markers	60 (5.1%)
Endophoric markers	73 (6.2%)
Evidentials	240 (20.3%)
Code glosses	92 (7.8%)
Total	1181 (100%)

Table 4 shows the frequency and percentage used of interactive metadiscourse markers of research article discussions published in an international reputable journal. Similar to articles that were published in local and national journals, transitions are also the most frequently used category in these 10 article discussions published in international journals. The total of transitions is 712 times or 60.6% of all data. The second most preferred category is evidential markers which are used 240 times (20.1%) from a total of 10 article discussions. The third metadiscourse marker used in article discussions published in the international reputable journal is code glosses markers which are used 92 times (7.8%) from a total of 10 article discussions.

Example:

“.... theoretical and practical implications under the following main headings: 1) how do the students perceive learner autonomy? 2) How does....” (IJ – 01).

“To sum up, self-regulated learning began to be part of their learning routine along with the series of class meetings this semester.” (IJ – 01).

3.1.4 The difference in the use of interactive metadiscourse markers in article discussions published in three different level journals

By comparing the three groups of different level journals, this study found that the significant use of interactive metadiscourse markers in research article discussions published in three different level journals (local, national, and international) are as follows:

Table 5. Frequency of Interactive Metadiscourse in Three-Level Journals

Category	Frequency and Percentage		
	Local	National	International
Transitions	170 (50.9%)	112 (52.1%)	716 (60.6%)
Frame markers	35 (10.5%)	22 (10.2%)	60 (5.1%)
Endophoric markers	37 (11.1%)	18 (8.4%)	73 (6.2%)
Evidentials	52 (15.6%)	26 (12.1%)	240 (20.3%)
Code glosses	40 (11.9%)	37 (17.2%)	92 (7.8%)
Total	334 (100%)	215 (100%)	1181 (100%)

Table 5 shows the writers who already published their research articles in three different level journals (local, national, and international). These 3 different-level journals have different numbers of words in the discussion section. However, despite the different number of words, transition markers reached 50% above for every level journal. International Reputable Journal showed the highest frequency in using transition markers because it has the highest number of words in the discussion section, followed by articles in local journals and then articles in national journals which have the lowest number of words in the discussion section.

Evidential markers are more dominant in the articles published in international journals. Then the using code glosses markers in articles published in local and national code glosses is more dominant than in articles published in international journals. In contrast with code glosses, Endophoric markers are much used by writers in local journals followed by writers in international journals, and then writers who publish their articles in national journals. On the contrary, frame markers reach the smallest frequency which is under 10% from 10 articles in each three groups of different-level journals. The research articles published in international reputable journals have a greater frequency than articles published in local and national journals.

3.2 Discussion

The first research question in this study is what interactive metadiscourse markers are frequently used in research article discussions published in local journals in the field of language teaching. As indicated in the results section of this study, Transition markers are the dominant category of interactive metadiscourse markers used by the writers who published their articles in local journals in the field of language teaching. Next followed by evidential markers and then code glosses. This study supports the findings of research carried out by Shi and Han (2014) on students from China which was used Chinese as their mother tongue. Shi and Han (2014) found that there was the same pattern of use in sub-categories of interactive metadiscourse which was transitions were very high while evidential markers, frame markers, endophoric markers, and code glosses showed very low scores.

The second research question in this study is what interactive metadiscourse markers are frequently used in research article discussions published in nationally accredited journals in the field of language teaching. Similar to article discussions published in local journals, Transition markers also dominate the category of interactive metadiscourse markers used by the writers who published their articles in nationally accredited journals in the field of language teaching. Next followed by code glosses and then evidential markers. By using the three categories, it means the writers already tried to make readers understand every clause in the text. Then, the writers used code glosses at the second frequency, which shows that the writers were well known for how to explain, elaborate, rework propositional meaning, and clarify their communicative purpose (Hyland, 2007). The writers are also knowledgeable in their research field so they can compare it by using evidential markers.

The third research question in this study is what interactive metadiscourse markers are frequently used in research article discussions published in international reputable journals in the field of language teaching. In the article discussions published in international journals, the first frequent category used is transitions markers, the second is evidential markers and the third is code glosses. This finding was supported by Zakaria *et al.* (2015) who also found that the transition markers, evidential markers, and code glosses took the higher frequency used in Malaysian pre-university students writing. It is the same with the metadiscourse markers frequently used in articles published in local and national journals. However, when researchers back to the quantity of data in the table, it showed very significant differences. The use of transition markers in article discussions published in international journals was higher than in articles published in local journals (total count in IJ= 716) and (total count in LJ= 170).

The last research question in this study is whether were there any differences in interactive metadiscourse markers used by the writers in their article discussions published in three different level journals (local, national, and international) in the field of language teaching. As identified from the results and discussion above, it can be seen that there are significant differences number in using metadiscourse markers devices. One of the possible reasons for this finding is because of the length of the article discussions itself. Journals taken in this study have significant differences in total average words in each journal. In the local journals, the researcher found that the journal was written by some postgraduate students and some lecturers. However, in a national journal, researchers found that the newest articles were written only by postgraduate students. In international journals, the articles are written by postgraduate students and also some experts. Supported by Wei *et al.*, (2016), they stated that writers' linguistic backgrounds, *i.e.*, their native languages have a major influence on the using of metadiscourse markers in their writing. That is why the number of words and the use of metadiscourse markers in local journals show higher frequency than articles in national journals.

Articles published in local journals have more metadiscourse markers than articles that are successfully published in nationally accredited journals. As shown in Table 5 above, the total number of metadiscourse marker devices in local journals is 334 and the total number of metadiscourse marker devices in articles published in nationally accredited journals is only 215. However, articles published in national reputable journals reach the highest number of metadiscourse marker devices. According to Zakaria, *et al.*, (2015), amount of words in the discussion part can impact how much metadiscourse markers devices are used by the writers.

Transition markers used by writers in three different level journals can be further classified into three subtypes: addition (*e.g.*, moreover, in addition, furthermore, by the way, *etc.*), comparison (*e.g.*, similarly, in comparison, *etc.*) or contrast (*e.g.*, however, by contrast, on the other hand, *etc.*), and inference (*e.g.*, therefore, consequently, nevertheless, *etc.*). Using transition markers means that the writer tries to ease the reader's burden of making connections between main and additional information (Wei *et al.*, 2016).

Evidential marker devices are found in the three different level journals. The using of evidential markers in article discussions published in international journals shows the second frequency used by the writers. Evidential markers illustrate present information from other texts and in academic texts they appear in citation form, parentheses, or write it as a footnote, endnote, or bibliography (Hyland, 2005). The using of evidential markers in an article shows that the writer's knowledge about the related research can be demonstrated or compared to their academic writing (Hyland, 1999).

The third interactive metadiscourse category used by the writers is code glosses. Code glosses are used by writers to explain, elaborate, rework propositional meaning, and clarify their communicative purpose (Hyland, 2007). By using code gloss markers, writers could convey meaning by describing, elaborating, paraphrasing, and restating their aforementioned arguments, using phrases, and resorting to punctuation marks.

4. Conclusion

The result revealed to answer the research questions in analyzing the interactive metadiscourse markers in article discussions published in three different level journals. It can be concluded as follows: The highest frequency of interactive metadiscourse markers used by the writers who published their articles and discussions in local journals is transition markers. The highest frequency of interactive metadiscourse markers used by the writers who published their articles and discussions in the national journal is transition markers. The highest frequency of interactive metadiscourse markers used by the writers who published their articles and discussions in international journals is transition markers. There are significant difference numbers in using metadiscourse markers devices in three-level journals. One of the possible reasons for this finding is because of the length of article discussions.

We suggest that in writing a research article discussion, a writer can use metadiscourse markers because it has a role in organizing and producing of written composition. For further research, there is a significant difference number of metadiscourse marker devices in three-level journals. Further research can be conducted in larger-scale studies.

References

- Arsyad, S. (2013). A genre-based analysis of Indonesian research articles in the social sciences and humanities written by Indonesian speakers. *Journal of Multicultural Discourses*, 8(3), 234–254.
<https://doi.org/10.1080/17447143.2013.849711>
- Craswell, J, Plano. C. V. (2007). *Designing and conducting mixed-method research*. Thousand Oaks: Sage.
- Crookes, G. (1986). Towards a validated analysis of scientific text structure. *Applied Linguistics*, 7(1), 57–70.
<https://doi.org/10.1093/applin/7.1.57>
- Dafouz-Milne, E. (2008). The pragmatic role of textual and interpersonal metadiscourse markers in the construction and attainment of persuasion: A cross-linguistic study of newspaper discourse. *Journal of Pragmatics*, 40(1), 95–113. <https://doi.org/10.1016/j.pragma.2007.10.003>
- Estaji, M., & Vafaeimehr, R. (2015). A comparative analysis of interactional metadiscourse markers in the Introduction and Conclusion sections of mechanical and electrical engineering research papers. *Iranian Journal of Language Teaching Research*, 3(1), 37–56.
- Hyland, K. (2010). *Metadiscourse: Mapping Interactions in Academic Writing*. Nordic Journal of English Studies.
- Hyland, K. (1999). Talking to Students: Metadiscourse in Introductory Coursebooks. *English for Specific Purposes*, 18(1), 3–26. [https://doi.org/10.1016/S0889-4906\(97\)00025-2](https://doi.org/10.1016/S0889-4906(97)00025-2)
- Hyland, K. (2005). *Metadiscourse*. London, New York: Continuum.
- Hyland, K. (2007). Genre pedagogy: Language, literacy, and L2 writing instruction. *Journal of Second Language Writing*, 16(3), 148–164. <https://doi.org/10.1016/j.jslw.2007.07.005>
- Kanoksilapatham, B. (2005). *Rhetorical Structure of Biochemistry Research Article*. English for Specific Purposes.
- Khedri, M. et al. (2013). *An Exploration of Interactive Metadiscourse Markers in Academic Research Article Abstracts in Two Disciplines*. Faculty of Modern Languages and Communication, Universiti Putra Malaysia.
- Gholami, M., Tajalli, G., Shokrpour, N. (2014). An investigation of metadiscourse markers in English medical text and their Persian translation based on Hyland's model. *European Journal of English Language and Literature Studies*, 2(2).
- Mina, K.G. and Biria, R. (2017). Exploring interactive and interactional metadiscourse markers in discussion sections of social and medical science articles. *International Journal of Research In English Education*, 2(4).
- Mustafa, O. K. (2016) *The Use of Interactional Metadiscourse: A Comparison of Articles on Turkish Education and Literature*. Mustafa Kemal University.

- Shi, W. and J. Han, 2014. *Research on Writing Samples from the Perspective of Metadiscourse*. English Language Teaching. Available at: <https://doi.org/10.5539/elt.v7n11p151>
- Sugiyono. 2003. *Metode Penelitian Bisnis*. Bandung. Pusat Bahasa Depdiknas.
- Sukma, B. P. and Sujatna, E.T.S. (2014). Interpersonal Metadiscourse Markers in Opinion Articles: A Study of Texts Written by Indonesian Writers. *International Journal of Applied Linguistics & English Literature*, 3(2),16-21.
- Wei *et al.* (2016). Studies on Metadiscourse since the 3rd millennium. *Journal of Education and Practice*, 7(9).
- Zakaria, M. K. *et al.* (2015). Metadiscourse in the academic writing of local and international students at a University in Malaysia. *International Journal of Education and Practice*, 6(4).