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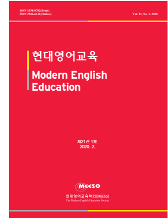

Understanding the Development of EFL Undergraduate Students' Research Writing: An Investigation of the Use of Metadiscourse

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ABSTRACT

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Metadiscourse, as a key component of academic writing, communicates the writer's stance and engages the reader in the text. Despite much research on metadiscoursal realizations in EFL writing, little attention has been given to how EFL students' metadiscourse use changes over time as their academic literacy develops. The present study is, therefore, designed to document EFL students' metadiscourse in alignment with their semester-long learning of research papers. The researchers recruited 31 EFL college students and collected two research papers from each—one submitted in the 7th week and the other in the 16th week of the semester. With a focus on research paper introductions, the student papers were analyzed in both quantitative and qualitative ways. The findings indicate that there are general patterns identified in the overall frequency of metadiscourse, which is contingent on genre constraints. In terms of the students' developmental changes, the number of metadiscourse use did not significantly increase, but the ways they employed metadiscourse changed over time. And their writing development was found to reflect the degree to which they situated themselves in academic discourse. The present study discusses how metadiscourse can be incorporated into writing instruction to help EFL students' build an academic identity.

I. INTRODUCTION

In academic discourse, writing is considered a form of inquiry. This involves, as a first step, identifying a debatable question for which there are not prepackaged answers. The writer is expected to take a stance on the issue and provide reasonable evidence in anticipation of alternative views or possible confrontations with the reader. Greene (2014) particularly contends that writing a researched argument is akin to engaging in an ongoing dialogue in written form—"not only between author and reader but between the text and everything that has been said or written beforehand" (p. 29). That is, in order to advance a conversation with the reader, the writer should understand and reflect on previous conversations that have

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existed about the issue at hand. And based on the previously stated arguments, the writer invites readers into a conversation, wherein the writer asks for attention to the issue that he or she thinks is important. The writer-reader interaction is thus undoubtedly encouraged in academic writing.

A writer-reader interaction is crucial for effective communication in text, and it is believed to manifest through metadiscourse. Dealing with the interpersonal dimension of discourse, metadiscourse has generally been understood as a linguistic resource through which to negotiate propositional content in ways that the reader finds coherent and convincing (Hyland, 2004, 2005; Thompson, 2001). Metadiscourse concerns itself with the ways of "[managing] information flow to reflect the writer's understanding of readers' knowledge and [establishing] a suitable relationship" with the reader to express the writer's stance in a persuasive way (Hyland, 2004, pp.138-139). Hyland (2005) further adds that appropriate use of metadiscourse, i.e., a writer's interpersonal accommodations, will eventually guide readers towards the writer's preferred interpretations. Several researchers have suggested their own classification systems for metadiscourse (Crismore, Markkanen, & Steffensen, 1993; Hyland, 1998; Lautamatti, 1978; Vande Kopple, 1985), but they all are known as consisting of two dimensions: the interactive (for textual cohesion) and the interactional (for reader engagement).

What is worth noting in recent studies is that EFL writing of good quality is characterized by both frequency and diversity of metadiscourse in use (Y. H. Choi & M. S. Ko, 2005; M. H. Huh & I. Lee, 2016; Intaraprawat & Steffensen, 1995; Li & Wharton, 2012). A conclusion reached from their analysis is that a greater inclusion of metadiscourse is characteristic of advanced EFL students' writing, and a variety of metadiscoursal representations in writing tends to elicit a rater's positive evaluation. Metadiscourse use is thus recognized as something for teachers to teach and for students to practice for rhetorical sophistication. Instead of leaving metadiscourse as a "pervasive yet 'hidden' dimensions of persuasive writing" (Lee & Deakin, 2016, p. 32), it is suggested that EFL students be provided with a range of linguistic devices that can be used to support their arguments and build a relationship with the reader. In a similar vein, Smith (1986) contends that a pattern of text structuring in a way that addresses a reader's presence is one of the powerful rhetorical strategies shown in the writing of experienced writers, and that an increasing attempt for reader engagement is a sign of writing development. In particular, an investigation of developmental changes in Asian EFL students' metadiscourse use is worth more attention, because, according to Hinds (1987), those from Asian countries (e.g., China, Korea, Japan, etc.) are not familiar with audience-centeredness in writing due to the influence of their L1, which is considered a reader-responsible language.[1]

Metadiscourse provides insights into understanding EFL students' writing development, delineating the process of them gradually taking charge of effective communication. Along with the writer's attempt to use overt textual clues to achieve coherence, the degree of reader involvement, once attenuated, will become pronounced. It is interesting to note, however, that most of related studies have adopted a methodology of comparing two groups of different levels to map out EFL students' writing development (Intaraprawat & Steffensen, 1995; Lee & Deakin, 2016; Ryshina-Pankova, 2011; Wu, 2007). A general assumption underlying these studies is that students' performance in the intermediate group will approximate to that in the advanced group, as their writing improves. The advanced group is set as a benchmark to emulate. This comparative method may suggest a way of describing students' writing development, but given that academic writing is a highly situated practice (Lea & Street, 1999), we, for the present study, take a diachronic perspective of looking at writing development by tracking the same group of students over a period of time. This perspective is based on the assumption that all developmental trajectories "can be similar, but not identical" (Larsen-Freeman, 2011, p. 56), and thus can take different forms in association with varying social, institutional, cultural environments at play.

The present study aims to investigate Korean EFL undergraduate students' writing development by documenting their use of metadiscourse in research writing. With a focus on the introduction of two research papers submitted at two different times, the study explores the overall frequency and actual implementation of metadiscourse in student writing, and examines what changes are made in their metadiscourse use as their understanding of academic discourse develops. Based on the findings of the study, a pedagogical discussion will be followed regarding how metadiscourse can be approached in EFL writing instruction.

II. MAPPING OUT EFL STUDENTS' WRITING DEVELOPMENT THROUGH METADISCOURSE USE

1. Metadiscourse: An Interpersonal Dimension of Discourse

As interpersonal resources, metadiscourse is viewed as an effective device to coherently organize a text and persuasively convey the writer's stance to the reader (Hyland, 2000). It has been allegedly argued that metadiscourse addresses non-propositional contents; that is, it is not related to what is expressed in propositional content, but how and

[1] In a reader-responsible background, readers are expected to piece together the information that constitutes a writer's logic and to explore cohesion in the discourse on their own (see also Qi & Liu, 2007; Wang, 2003). On the other hand, English is writer-responsible language, which means that ambiguous or unclear statements are attributed to a writer's lack of effort for effective communication (Hinds, 1987).

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how effectively it is represented in language (Crismore et al., 1983; Hyland & Tse, 2004). In light of Halliday's (1994) scheme of the three function of language, it can be said that metadiscourse does not perform an ideational function (concerned with representations of the world), but an interpersonal function (concerned with interpersonal relations) as well as a textual function (concerned with a logical textual organization). Despite some debates regarding what aspects of text are addressed by metadiscourse, most researchers have agreed that metadiscourse "refers to discourse about discourse" (Paltridge & Starfield, 2007, p. 89).

As more and more researchers engage in metadiscourse research, they suggest their own classification systems for metadiscourse (Crismore et al., 1993; Hyland, 1998; Lautamatti, 1978; Vande Kopple, 1985). Although they are more or less similar, some functional overlaps, which probably result from the vagueness of taxanomy, create confusion when attempting to identify the textual role of metadiscourse. One that is widely used, however, is Hyland's (2005) classification system, wherein metadiscourse consists of two dimensions: the interactive and the interactional.

The interactive dimension serves the function of organizing a text in accordance with the readers' needs, interests, and knowledge, so that they find the text coherent and persuasive. This dimension includes transitions, frame markers, endophoric markers, evidentials, and code glosses. Transitions are concerned with syntactic cohesion for enhancing pragmatic connections between ideas (e.g., *and, in addition, but, similarly*). Frame markers are indicative of text boundaries "to sequence, to label text stages, to announce discourse goal, and to indicate topic shifts" (Hyland, 2004, p. 138) (e.g., *first, my purpose is, to summarize*). Endophoric markers are references to other parts of the text (e.g., see Figure 1, noted above). Evidentials refer to the outside source of information that provides support for a writer's claim (e.g., *according to X, X states that*). Code glosses are a device for restating previously said information or contributing additional information (e.g., *that is, is referred to, for example*).

On the other hand, the interactional dimension deals with the evaluative aspect of interaction, not only constructing the writer's stance but also inviting readers to respond to it. Hedges, boosters, attitude markers, self-mentions, and engagement markers belong to this dimension. Hedges signal the subjectivity of the writer's position that is open to negotiation (e.g., *might, possibly*). Boosters strengthen the force of proposition by expressing the writer's certainty (e.g., *in fact, clearly, obvious*). Attitude markers indicate "the writer's affective, rather than epistemic, attitude to propositions," which convey "surprise, agreement, importance, obligation, frustration, and so on" (Hyland, 2005, p. 53) (e.g., *agree, remarkable, surprisingly*). Self-mentions are related to author presence that is often represented by first-person pronouns and possessive adjectives (e.g., *I, me, mine, we*). Lastly, engagement markers encourage reader participation through reader pronouns, interjections, questions, directives, and so on (e.g., *you, should, note that*).

2. Understanding Academic Writing Development Through Metadiscourse Use

As a key component of academic writing, constructing a persuasive argument is often discussed beyond the ideational dimension of texts. Metadiscourse, as textual elements that address the interactive and interactional dimensions of discourse, has thus been recognized as a feature integral to successful academic writing (Hyland, 2004; Lee & Deakin, 2016; Li & Wharton, 2012). Ramage, Bean and Johnson (2009) state that a successful academic writer is expected to appeal to the reader's logic and emotion through a flexible degree of alignment with the reader and the context in which a text is written. In particular, an understanding of rhetorical context is necessary for appropriate use of metadiscourse in writing. As has been pointed out, metadiscoursal realizations are to vary in accordance with the expectations of discourses such as academic disciplines (Haggan, 2004; Hyland, 2005), genres (Afros & Schryer, 2009; Freddi, 2005), and cultures (Suárez-Tejerina, 2005; Vold, 2006). It is, therefore, the ways in which a writer constructs an interpersonal discourse and realizes it in text that EFL writers should develop to better function in a discourse community.

In terms of the relationship between metadiscourse use and successful EFL writing, the conclusion reached from several empirical analyses is that high-rated essays, as compared to low-rated essays, contain greater instances of metadiscourse realized in a range of lexico-grammatical representations (J. H. Byun, 2016; M. H. Huh & I. Lee, 2016; Intaraprawat & Steffensen, 1995; Lee & Deakin, 2016; Wu, 2007). A comparison of two different levels of EFL groups has been one of the most adopted methodological choice for exploring how rhetorical sophistication can be achieved by metadiscourse use. In Intaraprawat and Steffensen's (1995) study, the difference between six good and six poor EFL essays was in the density of metadiscourse features, with the good essays containing proportionally more and a great variety of metadiscourse features in type. Wu's (2007) study that reaches a similar conclusion also draws on contrastive data consisting of 27 Singaporean students' essays (15 high-rated and 12 low-rated essays). Adopting the engagement system of the appraisal framework, Wu (2007) found that the students of high-rated essays seemed to have a good handle of engagement resources to create dialogic potential, whereas low-rated essays are composed of either bare assertion of no value of engagement or assertive statements with certain engagement features that "[leaves] little negotiation space for an alternative view" (p. 261). J. H. Byun's (2016) study is worth noting since the findings of the study demonstrate that little use of metadiscourse is not always the unique feature of novice writing. Comparing the research article abstracts written by 91 Korean novice writers with those by 91 experienced writers, she found that the novice group

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displayed a lower rate in using connectives, hedges, and self-mentions than the counterpart. Interestingly, however, it was found that the abstracts of Korean novice writers were rather characterized by frequent use of evidentials, boosters, and engagement markers. The density of evidentials and boosters in novice abstracts reflects their *strenuous* effort to highlight the justification of their argument.

One thing to note is that studies of this kind, including the studies above and others, delineate EFL writing development by juxtaposing written work of different student groups representing different levels of writing competence. A comparison between two or three groups of different levels of language/writing proficiency provides a benchmark: Writing from a more advanced group would be the standard criteria for determining a desirable amount of use and appropriate implementation of metadiscourse. Pedagogical suggestions for EFL writing instruction are made on the basis of the distribution of interpersonal aspects in successful essays. However, this comparative method relies only on the snapshot of a trend at a point in time, and has thus a hidden pitfall: It does not capture *a moment of changes* being made to students. Sternglass (1997) contends that writing development includes an understanding of "how individual students adapt and adjust themselves to the fluctuating currents in their own lives and the shifting requests made of them" (p. 12). That is, writing development should be discussed concerning the changes in students' perception, engagement, and practice in response to instructional approaches and course work demanded of them.

A suggested way of studying EFL writing from a developmental perspective is to schematize students' learning trajectories, wherein we can see how their learned knowledge transfers or transforms from one task to another, or from one context to another (see also S. Jwa, 2019). Dochy (1992) also states that an understanding of learner development helps establish teacher expectations for student learning and devise suitable teaching strategies accordingly. So far, several L2 development studies tend to associate writing development with L2 proficiency, focusing on linguistics measures (e.g., complexity, accuracy, and fluency) as a developmental construct (see Skehan, 1989, for more information). Of course, a good control of written language forms is conducive to gaining reader acceptance of a writer's arguments, but the present study is based on a different assumption: A writer's mindful awareness of readers is represented in the use of metadiscourse (Hyland, 2005; Thompson, 2001).

Unfortunately, relatively little attention has been paid to how EFL students' metadiscourse use change over time as they gradually become situated in and adapted to academic discourse—at the stage in their linguistic and rhetorical development. The present study thus attempts to document the developmental changes in Korean EFL students' metadiscoure use by tracking their learning trajectories over the semester. Through an examination of EFL college students' research papers, the study analyzes the students' metadiscourse use in both quantitative and qualitative ways, and further sees if and how their developmental changes are represented in metadiscourse use. The two research questions guiding this study are as follows:

1) What metadiscourse features are often found in EFL students' research paper introductions?
2) Do EFL students' use of metadiscourse change over time in alignment with the development of their research writing, and how?

III. METHOD

1. Context of Study

Thirty-one EFL participants were recruited from two sections of a same writing course at a major research university in the U.S. They were mostly juniors or seniors, who had already decided on their major, and their majors were diverse including Economics, Business, Communication, Computer Science, Engineering, Mathematics, Education, History, etc. Coming directly from EFL countries such as China, Korea, and Thailand, they were not exposed to English in an immersion environment when young, and they all stated that knowledge of English had been learned through textbook study before coming to the U.S.

The course they took was entitled "Writing, Research, and Inquiry," a course designed to cultivate skills and knowledge essential to conducting research. This course is at the most upper level in the writing course sequence offered in the writing program, and only those who completed two first-year composition courses are allowed to enroll. It was thus assumed that the student participants had practiced general skills addressed in first-year composition courses, i.e., reading critically, writing persuasively, using correct English grammar, and presenting ideas in a coherent way. One of the researchers, an ESL writing instructor at the time of research, taught the two sections of this course, and in the course, she guided students through step-by-step procedures through which they can write a research paper. The course was focused on teaching how to generate research questions, engage a range of scholarly and non-scholarly sources, structure effective arguments, and change writing styles for varied audiences, genres, and purposes. Especially when teaching research paper introductions, she introduced Swales's (1990) concept of moves/steps to help students create a research space in their paper. In his CARS model, it is noted that research paper introductions are composed of three general moves, including Move 1 for establishing a territory, Move 2 for establishing a niche, and Move 3 for occupying the niche. Move 1 demonstrates a general area of research that a researcher thinks important, interesting, or worthy of attention and reviews previous literature that are relevant to his or her study. The focus of Move 2 is to introduce where previous research has been inadequate, providing the rationale for the study to be conducted. In Move

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3, the researcher announces the purpose and key findings of his or her study. The course required students to submit two research papers for credit—one in the 7th week and the other in the 16th week of the semester. Each paper should be 8-10 pages long including references.

2. Data Collection and Analysis

Data were taken from two research papers gathered from 31 undergraduate EFL students. In total, there were 62 papers. Paper 1 was written as soon as students became familiar with essential concepts and processes involved in conducting research. In the first half of class, class activities were focused on defining core concepts and having students complete exercises in Swales and Feak's (2004) book to help enhance their awareness of genre moves and academic discourse. Paper 2 was written almost at the end of the semester, after a series of in-class discussions, two individual conferencing, and one research paper presentation at which they received oral feedback from the instructor. In addition, the students were asked to bring research articles from their own field to analyze textual features specific to a discipline. It was made sure that Paper 2 was written at the stage where the students' understanding of the research paper genre was at its maximum. For the purpose of the study, we investigated only the final draft of Paper 1 and Paper 2, and it should be noted that the final draft is the one revised based on the feedback the instructor gave to their first draft.

Once the data were collected, we began to manually code the introduction section of the papers, taking Hyland's (2005) classification as an analytic framework (see Table 1). We first independently marked all types of metadiscourse (both interactional and interactive) in 13 randomly selected student papers (almost 20% of the entire set of papers), and assessed inter-rater agreement with Cohen's kappa, which was a mean of .90. For some areas where our judgment of metadiscourse diverged, we discussed until we had a shared understanding of it and established common standards by practice. We then coded the rest of the papers and discussed whenever necessary.

In order to answer two research questions, descriptive statistics were calculated for the frequency of metadiscourse features that appeared in Paper 1 and Paper 2. Based on the statistical analysis of the data, we first attempted to identity metadiscourse features that frequently appear in Korean EFL students' research paper introductions. A subsequent analytic focus was on the difference in number of metadiscourse use across two sets of papers to map out developmental changes over time. In order to triangulate, an in-depth investigation was carried out to identify an instance of metadiscourse in context for qualitative analysis. That is, academic writing development was noted in the changes not only in number of metadiscourse use (through quantitative analysis), but also in function of metadiscourse use (through qualitative analysis). Through an exploration of varying functions of metadiscourse use, we were allowed to make an inference about the rationale behind the increase, decrease, or the same amount of use.

TABLE 1
Analytic Framework of Metadiscourse (Hyland, 2005, p. 49)

Category	Function	Examples
Interactive	**Help to guide the reader through the text**	**Resources**
Transitions	Express relations between main clauses	*in addition; but; thus; and*
Frame markers	Refer to discourse acts, sequences or stages	*finally; to conclude; my purpose is*
Endophoric markers	Refer to information in other parts of the text	*noted above; see Fig; in section 2*
Evidentials	Refer to information from other texts	*according to X; Z states*
Code glosses	Elaborate propositional meanings	*namely; e.g.; such as; in other words*
Interactional	**Involve the reader in the text**	**Resources**
Hedges	Withhold commitment and open dialogue	*might; perhaps; possible; about*
Boosters	Emphasize certainty or close dialogue	*in fact; definitely; it is clear that*
Attitude markers	Express writer's attitude to proposition	*unfortunately; I agree; surprisingly*
Self mentions	Explicit reference to authors(s)	*I; we; my; me; our*
Engagement markers	Explicitly build relationship with reader	*consider; note; you can see that*

IV. FINDINGS

1. Overall Frequency of Metadiscourse Devices

A few patterns are identified that feature in all EFL students' research paper introductions (see Figure 1). The metadiscourse features that exhibit a high density in student papers include transitions, evidentials, code glosses, hedges, and attitude markers, whereas the features such as frame markers, endophoric markers, self-mentions, and engagement markers are not heavily used. First of all, such features as self-mentions and engagement markers are hardly found and specific to only a few students. Only four students demonstrated ownership of their research by using the first person pronoun I or my when offering an explanation of their research objective, but the rest of them never used self-mentions in their papers. According to Hyland (2001), self-mentions are indicative of a sense of authorship, and thus rare appearance of self-mentions in student papers may be attributed to the students' limited exposure to the genre of research articles, or lack of involvement in research itself. As for engagement markers, the presence of readers was not identified, and even downplayed. The second person pronoun (*you*, *your*, inclusive *we*) is found to appear in only five students' papers, and it seems to be a sign of their habitual writing practice. The introduction is written for the purpose of attracting readers into a research space, and such purpose can be achieved by either creating a sense of authority or credibility or scaffolding the reader's knowledge (Swales, 1990); however, in these students' paper, neither establishing an authorial identity by self-mentions (see Lee & Deakin, 2016) nor creating a "dialogic space" by engagement markers

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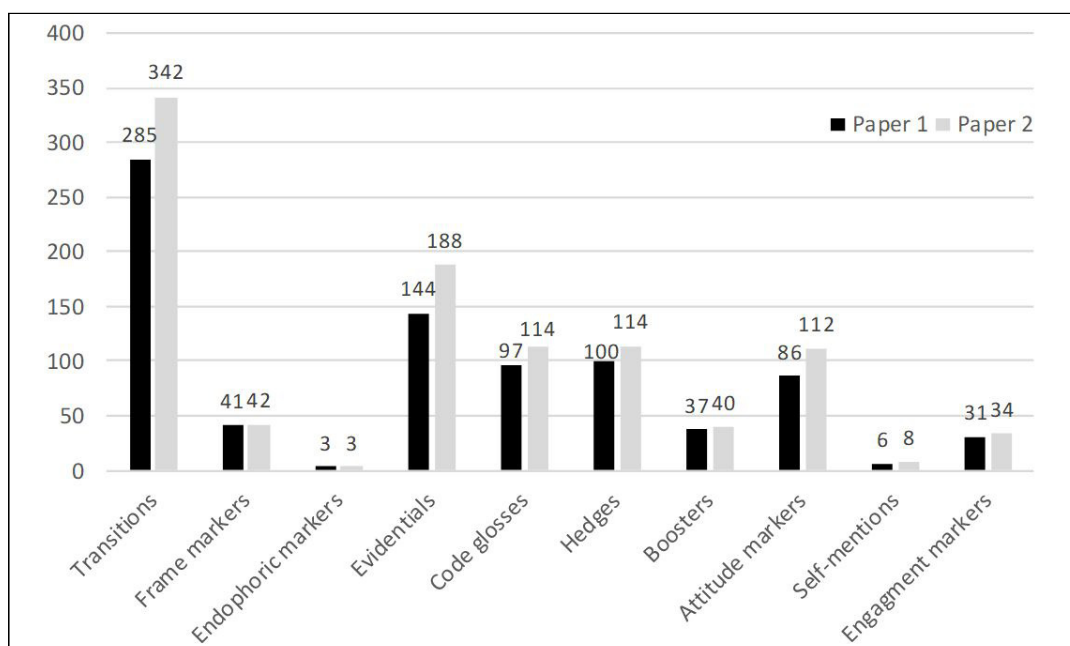

FIGURE 1 Total Number of Metadiscourse Use in Papers 1 and 2

(Wu, 2007, p. 257) was not an option available.

Second, some metadiscourse features are contingent on genre constraints and do not seem closely related to the development of linguistic resources. In both Paper 1 and Paper 2, for example, frame markers were exclusively used for Move 3 only, announcing the objective of a research project (e.g., "The purpose of this paper is to examine whether attractive images in the ads . . .") or labelling text organization (e.g., "Thus the following discussion will focus on how the general public feels about . . ."). For Move 1 and Move 2, none of frame markers were used. The instructor explained that the frame markers in the student papers were mostly set phrases they learned in class for the construction of Move 3. Considering the genre requirement for the introduction, it is of no surprise that evidentials and code glosses appear more frequently than other features. The appearance of these two features are relevant to the function of the introduction—the function of explaining the significance of the topic and announcing a main claim. Evidentials are necessary to demonstrate critical concerns of an area of research as required in Move 1 in the CARS model, and code glosses appear to scaffold the reader's knowledge when new concepts are first introduced. In the same sense, endophoric markers are not as much needed in the introduction as in other parts of a research paper.

Lastly, the relationship between hedges, boosters, and attitude markers is worth noting. As shown in Figure 1, the number of hedges and attitude markers is more than twice higher than that of boosters. The students may not be comfortable creating a confident voice or conveying complete commitment to text content (see also Lee & Deakin, 2016), but still have found a way to reveal their stance by utilizing a variety of hedging or attitudinal devices. This result is consistent with previous literature that the most frequent one of interactional metadiscourse devices is hedges (Hyland & Tse, 2004). Some researchers suggest that EFL students tend to employ more hedges—especially certainty markers—than L1 counterparts (Allison, 1995; Hu, Brown, & Brown, 1982). A close look at text further shows that use of hedges mostly, but not exclusively, aligns with the writer's interpretation of research findings cited in the paper (e.g., "People in the education field suggest that parents need to prohibit children from using social media because some deceptive issues may hurt these immature children."), whereas boosters are often used to highlight the validity of his or her research (e.g., "By investigating real cases and studies, it is proven that presenting oneself deceptively on social media is caused by . . ."). Attitude markers, as compared to hedges and boosters, are spread out throughout the text either to problematize a situation (e.g., "The result is so terrible that it creates a high level of pollution . . ."), signal the importance of topic (e.g., "Gambling addiction has been a universally concerned issue that needs to be tackled."), or justify the rationale for research (e.g., "Therefore, this research on the impact of OBOR on the world' economy is very timely and necessary"). Overall, these three features, in coordination with each other, mark the writer's involvement with text content, and construct his or her personal projection towards readers.

2. Developmental Changes in the Use of Metadiscourse

Although the data reveal an overall increase in the students' use of metadiscourse in Paper 2, the difference between Paper 1 and Paper 2 is not as striking as we thought it would be. A thorough qualitative analysis, however, helps identify a change in the use of metadiscourse.

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Our qualitative analysis was focused on identifying the function of metadiscourse, and associating it with rhetorical moves/steps of the introduction. That is, the analytic focus was exactly where in the introduction metadiscourse features were used and for what purpose. Of all metadiscourse features in use, we found developmental changes in the students' use of transitions, evidentials, attitude markers, and hedges. Table 2 demonstrates descriptive statistics calculated for the average number of these four features used per person.

TABLE 2
Use of Metadiscourse per Person in Paper 1 and Paper 2

	Transitions	Evidentials	Hedges	Attitude markers
	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
Paper 1 (n = 31)	9.19 (3.83)	4.64 (2.87)	3.23 (2.51)	2.77 (1.94)
Paper 2 (n = 31)	11.03 (4.64)	6.06 (3.38)	3.68 (3.14)	3.61 (2.71)

First, as shown in Table 2, a high density of transitions characterizes both Paper 1 and Paper 2, but a development change here is related to the emergence of a new set of transition markers available only in Paper 2. As indicated in Table 3, use of transitions for comparison is noted in Paper 2, and this finding shows that comparing previous research findings was recognized by the students as integral to grounding their research. For Paper 1, due to the students' lack of practice and familiarity with genre moves, several students failed to employ all the available steps for Move 1 and Move 2. In their Paper 1, their work for Move 1 was centered around claiming importance of research topic and describing a general understanding of the issue. On the other hand, for Paper 2, it is apparently shown that the students created additional steps for Move 1 in which they discussed key sources of previous research, and compared and contrasted research findings. For Move 2, most students, in Paper 1, simply noted a dearth of research in the area of their interest, a common practice of so-called 'gap identification.' As they became familiar with the field they were studying, the rationale for doing research also became diverse: pointing out where previous literature has been inadequate or unclear and highlighting the significance of their research to be conducted. Overall, transitions were far more heavily employed in Paper 2 (n = 342) than in Paper 1 (n = 285) as shown in Figure 1. What is more interesting is that an increased use of transitions for comparison indicates the students' concerted attempts to engage with previous literature, which is, according to Swales and Feak (2004), a conventional way of presenting oneself as a competent researcher immersed in the practices of a disciplinary field. Although the transitions for comparison, especially the ones that are related to research studies, are only about one-fifth of all (n = 342) that appears in Paper 2, dealing with conflicting research findings contributes to a disciplinary informed text (Hyland, 2004), in which the writer displays sufficient cues to secure an identity that is knowledgeable.

Second, the increase of evidentials is remarkable (see Table 2), a sign of development that signals the students' growing awareness of academic discourse. In order to link one's own research to a line of discipline-specific conversation, it is essential to understand the current state of knowledge and develop a research problem around the gap identified in previous research. According to Mulkay (1991, as cited in Hyland, 2005), evidentials are integral to persuasion as they demonstrate connections to prior research through similarity, as well as the novelty of the writer's argument by emphasizing divergence; thus, the increasing use of evidentials indicates the students' awareness of rhetorical approach to intertextuality. In the data, the students' use of evidentials seems to have improved not only in quantity but in quality as well. In Paper 1, for the construction of Move 1, 17 students (54%) relied on a mix of scholarly and non-scholarly sources to describe an area of research, but for Paper 2, except 8 students, the rest of the students (74%), with recourse to scholarly sources, focused on showing where prior research has been inadequate.

TABLE 3
Transitions Used in Paper 1 and Paper 2

Transitions that appear in both Paper 1 and Paper 2			Transitions that appear only in Paper 1	Transitions that appear only in Paper 2	
nevertheless	*as a result*	*also*	*whereas*	*regardless*	*besides*
because	*on the other hand*	*but*		*on the contrary*	*consequently*
results in	*due to*	*while*		*consequently*	*in contrast*
meanwhile	*despite*	*thus*		*different from*	*thereby*
since	*additionally*	*and*		*similarly*	*as such*
at the same time	*even though/ although*	*as*		*similar to the studies mentioned above*	*similar to their hypothesis*
therefore	*furthermore*	*so*			
however	*moreover*	*yet*			
leads to	*instead*	*after*			

The students' deep involvement in literature is also reflected in the use of attitude markers. As stated above, the way they review prior research shifted from a general description of research area to a critical evaluation of research findings, and attitude markers were used in alignment with their revelation of critical stance. In particular, the students made substantial use of attitude markers for their research justification in Move 2, accounting for 30.3% of all the attitude markers in Paper 2 (n = 112), whereas the number of attitude markers for Move 2 accounts for only 12.8% of all in Paper 1 (n = 86).

1) Student C
Move 2 in Paper 1: While many scholars debate on the significance of different media on a second language development, few recognized the cultural influences on the media to instruct. Cultural influence, especially about the concept of face, would diminish the strengths that should have had by using a second language to teach.

Move 2 in Paper 2: Despite this horrific data, the number of abnormal students on campus are keeping increasing. Moreover, it is significant to recognize that most abnormal students are having mental illness that substantially

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interface their normal activities.

2) Student J
Move 2 in Paper 1: However, although robotics is not taking over humans with its design limitations, it has brought disruptive impact into current employment structure that is hard to calm down. An alarm about "robot apocalypse", referring to a fear of technology advance, may be overblown, but the public is not taking account seriously of the current impact brought by the AI revolution.

Move 2 in Paper 2: Especially China, a country with a huge scale of population, it is worth deep consideration on how to face and solve possible effects on economic growth brought from the aging population. It is therefore necessary to compare the population aging situation between Japan and China to see whether China could learn from the elder-care system in Japan.

Four excerpts above were part of Move 2 from Students C's and J's Paper 1 and Paper 2 respectively. In those excerpts, Students C and J made a rhetorical turn to their research project through explicit judgements of prior research. A writer's stance in all four cases is clearly expressed, but through the use of attitude markers, as shown in the excerpts from Paper 2, their attempt to elicit shared reactions from the audience became more explicit (see Dueñas, 2010). Hyland (2005) also adds that expressing affective attitudes is seen as a way of "[sucking] readers into a conspiracy of agreement," as well as "[establishing] a link with the disciplinary community" (pp. 149-150). In student papers, attitude markers seem concerned with the construction of all three moves, and are thus found in several parts of the introduction, not exclusively limited to a single portion. However, relatively more attitude markers are found in Paper 2 with regards to Move 2, constituting a high degree of 'evaluativeness.' In Move 2, authors in general are expected to express a clear stance, be it positive or negative, towards the collective views, opinions, and perspectives agreed upon by many other researchers. And there is no doubt that such practice in Move 2 requires deep involvement with literature, through which one's disciplinary positioning is determined. As the students started to gain a better understanding of underlying norms, beliefs, and values of a community of scholars, they were provided more leverage to display their stance in the expression of attitudinal evaluation.

It may be ironical to note the concurrent increase in both attitude markers and hedges since these two features—one is self-projective and the other is self-evasive—could cancel out the effect from each other. Attitude markers exhibit a writer's affective attitude towards a proposition; on the other hand, hedges are rather supposed to lessen the weight given to an assertion. In the data, these two features are not commonly shown to appear together in the same clauses. Rather, serving different purposes, they add a sense of subjectivity to a position they hold (Hyland, 2005). On a functional note, a wide array of hedging devices in the data is used to qualify the probability of a writer's comment being true. According to Hyland (1996), hedging functions can be categorized, from a broader perspective, into two groups: content-oriented and reader-oriented. Content-oriented hedges are further divided into accuracy-oriented (including attribute-oriented and reliability-oriented) and writer-oriented hedges. Content-oriented hedges are to either increase the degree of precision of the proposition in describing real-world phenomena (attribute-oriented) or to signal the writer's assessment of the propositional validity (reliability-oriented). Writer-oriented hedges avoid the consequences of possible oppositions by limiting the author's presence and his or her commitment to propositions. On the other hand, reader-oriented hedges "acknowledge personal responsibility for the validity of propositional content" and invites readers to a dialogue to "avoid unacceptable over-confidence" (p. 439).

TABLE 4
Types and Number of Hedges Used in Paper 1 and Paper 2

Types of hedges	Excerpts from student papers	Paper 1 (*n* = 100)	Paper 2 (*n* = 114)
Attribute-oriented	While the definition of a product is quite self-explanatory, understanding the concept of branding is essential to answering the about which is more important. Motivation generally divides into two aspects, one is external motivation and another is internal motivation.	40 (40%)	30 (26.3%)
Reliability-oriented	. . . parents need to prohibit children from using social media because some deceptive issues may hurt these immature children.	25 (25%)	28 (24.6%)
Writer-oriented	This result implies that their personalities dete1rmine that they are more possible to be liars than those whose personalities are absent in this category.	28 (28%)	51 (44.7%)
Reader-oriented	To my knowledge, there is no previous study that has focused on this topic. I think the best possible way to come up with the solution of the moral code of robots is to consider them as human-like robots.	7 (7%)	6 (5.3%)

A quite interesting shift, noted in Table 4, is that the students' use of hedges shows a transition in function from being attribute-oriented to writer-oriented. There is a shift in the writer's attempt from seeking prfcrecision in expressing the state of affairs (attribute-oriented) to finding ways for self-protection from potential criticism (writer-oriented). Such a transition in functional use of hedges can be accounted for by the shift in focus in the students' construction of Move 1. As stated above, in Paper 1, the students' practice for Move 1 is characterized by 1) a description of daily life examples, 2) an introduction of key terms, and 3) a discussion of issues related to their research. As they relied on and synthesized mostly non-scholarly sources such as newspapers, magazine articles, and web-based information, they made a hedged

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comment on the propositional truth, which is realized in a variety of linguistic realizations (e.g., *generally, partially, considering the case, quite, may, possible,* etc.). After a series of workshops and one-on-one conferencing with the instructor, for Paper 2, several remarkable changes were identified, one of which is incorporating scholarly sources such as journal articles, books and anthologies. In the data, more writer-oriented hedges were employed in an attempt to interpret the findings or to discuss implications of research. This is risk-taking, considering that the students are novice academic writers, and that there are always alternative perspectives in terms of how a proposition is to be understood. Examples of writer-oriented hedges in Paper 2 are as follows: “An inference that is made from this study is,” “It might be suggested,” “This can be viewed,” “This implies,” “This suggests,” “It would mean,” etc.

V. DISCUSSION AND CONCLUSION

The present study is designed to examine the overall frequency of metadiscourse features in EFL students’ research paper introductions, as well as developmental changes in their use of metadiscourse. The frequency of metadiscourse seems to be contingent on genre constraints; that is, the EFL students used metadiscourse in keeping with the role that the genre of introduction plays in a research paper. It may well be that the use of evidentials, code glosses, and frame markers are common in the research paper introduction, since these three features are used in parallel with the ways a text unfolds in the introduction, all of which are to place one’s own research within academic discourse. What is interesting to us is that the students’ academic writing development is not reflected in a statistically significant increase in the number of metadiscourse use; instead, the ways in which they use some of metadiscourse features change over time in alignment with their academic literacy development. The data show that the students’ metadiscourse use—in both interactive (transitions and evidentials) and interactional (hedges and attitude markers) dimensions—improved both in number and in function, organizing text in ways they find more coherent and convincing. Such developmental changes are worth noting given that the course instructor did not explicitly teach metadiscourse as a linguistic repertoire for writing a research paper.

It has been widely accepted that successful EFL writing contains great instances of metadiscourse (Intaraprawat & Steffensen, 1995; Lee & Deakin, 2016; Wu, 2007); that is, the frequency and diversity of metadiscourse can be “positive predictors of overall writing quality” (M. H. Huh & I. Lee, 2016, p. 116). This view holds partly true with the findings of the study and partly not when we look at the issue from a developmental perspective. The study shows that EFL students’ writing development does not necessarily lead to a frequent use of metadiscourse, but is rather more concerned with *patterns of metadiscourse use.* All the EFL students were trained in the understanding of the genre of research paper over the course of the semester, but the developmental changes in connection to metadiscourse manifest not in number of use but in patterns of use. Such a change is not viewed as pertaining to an increasing awareness of the reader, nor an increasing degree of reader involvement. Rather, the different patterns of metadiscourse use seem to result from the shift in the EFL writer’s intersubjective positioning towards the reader, i.e., the writer’s development of researcher identity and a corresponding change in his or her orientations towards the reader.

The EFL students’ writing development is characterized by the notion of academic discourse socialization, a process of becoming familiar with what is seen as a core set of values, practices, genres, and knowledge of academic discourse (Prior, 1998; Spack, 1997). As they gained entry to academic discourse, they gained an awareness of what participant positioning is considered acceptable and legitimate within the territory of the discourse. Casanave (2002) suggests that writing in an academic setting is equivalent to a game-like practice, which involves “the uncomfortable process of actual trial and error practice and of gradually garnering awareness of patterns across conflicting behaviors and practice from more expert participants, whose own knowledge may remain largely tacit” (p. 24). In encounters with genre-related practices, students are socialized into having an identity that subscribes to the rules governing the discourse community. In a similar vein, in the data, the EFL students’ awareness of the reader became context-bound, which means that their discipline-specific understanding was pronounced as they addressed the role of audience not as a layman interested in acquiring knowledge, but as a colleague constructing knowledge together.

All the four metadiscourse features (transitions, evidentials, attitude markers, and hedges) that are found in the study to be the sign of development point to the students’ commitment to the genre, and by extension, the academic discourse they became engaged in. As compared to metadiscourse realizations in Paper 1, the students’ use of metadiscourse in Paper 2 bears more resemblance to that of expert writers, constructing their identity as a competent player who knows how to play *the game*. This may be a result of continuous training in class. For Paper 1, most of class was spent on equipping students with all the necessary textual “gadgets” for writing a research paper, which includes paper organization, genre moves/steps, academic writing style, etc. On the other hand, in the second half of the class, for Paper 2, the class was focused on heightening an awareness of the rhetorical dimension of the genre of research paper, including the purpose of genre, writer-reader positioning, and reader expectations (see Tardy, 2009). In classroom activities and two one-on-one conferences, the instructor may have guided students toward an orientation to language use for positioning oneself as a researcher. It is quite challenging for students to position themselves on a par with experienced researchers in the field, but the instructor’s sustained effort for helping students have a sense of agency and ownership over their

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research did not fall through, as shown in the result of this study.

Overall, the present study underscores the need to understand shifting patterns of metadiscourse use as a sign of writing development as EFL students gradually engage with academic discourse. An extensive map of how one's positioning toward readers gives impact on metadiscourse use would inform curriculum developments and provide students with practical assistance. It should be acknowledged that the findings of the study are not generalizable due to the small number of participants. And as Larsen-Freeman (2011) warns, developmental changes should be understood in light of context-specific affordances and constraints. We assume that EFL students' developmental changes could be reflected in the use of other metadiscourse features that are not discussed in this paper, if other parts of the research paper—beyond the introduction—were included for analysis. A years-long longitudinal observation appears to be apt to more accurately describe EFL students' leaning trajectories in terms of how they form an academic identity. Taking the present study as a basis of analysis, it is suggested that research be designed to do qualitative analysis of an EFL college student's transition to a graduate school and then to see how he or she forges a connection between academic development and metadiscourse use. We believe that a longitudinal investigation—with more students and with a broader scope of analysis—would lead to a fuller understanding of the relationship between EFL students' academic development and their metadiscourse use.

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