Investigating Persuasive Metadiscoursal Strategies in the Discussion Sections of Research Articles: A Contrastive Corpus Study

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Abstract

This study investigates the frequency and patterns of persuasive metadiscourse in the discussion sections of 107 research articles indexed by Scopus and the Thai-Journal Citation Index (TCI). Using an adapted version of Hyland's (2005a) metadiscoursal markers, the study examined their roles in enhancing persuasiveness. The results show that Scopus journals use more persuasive metadiscoursal markers than TCI journals, especially in interactive markers (code glosses, transitions, frames, and endophoric markers) except evidentials. Scopus journals feature more hedges, self-mentions, attitude markers, and boosters in interactional markers, while TCI journals favor engagement markers. Persuasive patterns differ between the two corpora. Scopus journals prioritize concise references and empirical evidence, adhering to international standards and theoretical exploration. TCI journals, however, emphasize authors' roles and explanatory content, reflecting regional standards. The study highlights disparities in audience expectations and academic traditions using ethos, pathos, and logos, revealing distinct academic conventions and standards and enriching the understanding of international research practices.

***Keywords*:** Persuasive metadiscoursal markers; audience expectations; academic traditions; Scopus journals; TCI journals

Introduction

Using persuasive techniques in research articles (RAs) can enhance their chances of acceptance in academic publications. Previous studies (Dogan-Ucar & Akbas, 2022; Šandová, 2021) focused on persuasive writing in research abstracts and introductions. However, this study shifts to the discussion section for several reasons. First, argumentation in academic journal publications remains under investigation (Arizavi et al., 2023). Second, the discussion is key to convincing readers of the research's validity and suitability for publication (Flowerdew, 1999). Lastly, discussion writing is often

more difficult, especially for English-published journals (Moreno, 2022). Therefore, the discussion should be persuasive rather than merely objective.

Persuasion is increasingly studied across human science disciplines, primarily from a pragmatic linguistic perspective (Rohr, 2018). All language forms are inherently persuasive (Miller, 2015). Establishing a close relationship between writer and reader is key when achieving a specific rhetorical objective (Izquierdo & Blanco, 2023). Metadiscourse is used to enhance the persuasiveness of text (Hyland, 2017). Given the importance of persuasion, it is essential to explore how it is achieved.

Writing RAs should relate to the "marketization of academic discourse and the promotional nature of research" (Jiang & Hyland, 2023, p. 26), a trend researchers should critically examine. This study utilizes Hyland's (2005a) metadiscoursal markers to understand persuasiveness in RA discussions, highlighting their role in reflecting academic conventions and community expectations within English academic discourse. Hyland's (2005a) model was chosen due to its extensive use in academic writing (Deng et al., 2021) and established categories (Thompson, 2008).

The comparison between Scopus and the Thai-Journal Citation Index (TCI) highlights significant differences in citation frequency and impact. Scopus articles receive an average of 10.4 citations per publication, while TCI articles receive only one, ten times fewer (Kitjaroonchai & Maywald, 2023). This large gap emphasizes the importance of comparing these two corpora. Scopus journals have gained popularity in Thailand, with a 12%–15% annual increase in international publications between 2020 and 2022 (Nguyen & Tuamsuk, 2024). In the era of academic metrics, citation counts directly affect university rankings, making high-quality journal publishing crucial (Paphawasit & Wudhikarn, 2022). This study recommends how TCI can meet Scopus standards by examining the frequency and variation of persuasive metadiscoursal devices across both corpora. Understanding these patterns may reveal how persuasive language in RA discussions works. Comparing the corpora may show whether adopting Scopus-published strategies could enhance the international visibility of regional research. The investigation addresses two research questions:

1. What is the frequency of metadiscoursal markers used in the discussion sections of Scopus and TCI articles?

2. What metadiscoursal patterns appear in the discussion sections of Scopus and TCI articles?

Literature Review

This study applied three theoretical frameworks: metadiacourse, persuasion theory, and contrastive analyses of Scopus and TCI journals.

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Metadiscourse

Hyland (1998) clarified that metadiscourse is a textual feature that helps writers guide readers and project professionalism, which is essential for persuasive writing. Hyland and Tse (2004) noted that a text's meaning stems from how it discusses and represents real-world experiences, making it relatable and persuasive to a specific audience. This study adopted Hyland's (2005a) metadiscoursal framework (see Table 1). A literature review revealed missing items in Hyland's (2005a) list, leading to the inclusion of word lists from Amnuai et al. (2023), Hyland and Jiang (2022), Sirijanchuen (2017), and Cao and Hu (2014). This framework comprises two categories: interactive (transitions, frame markers, endophoric markers, evidentials, code glosses) and interactional (hedges, boosters, attitude markers, engagement markers, self-mentions).

Table 1

Taxonomy of Metadiscourse in Academic Texts

Category	Function	Examples
Interactive resources guide the reader's interpretations.		
Transitions	- Show logical connections: addition, contrast, consequence.	in addition/and/moreover/ furthermore/additionally/also/by the way/but/ however/in contrast/on the contrary/on the other hand/ thus/therefore/ consequently/so that/in order to/ similarly/likewise /equally/in the same way/ admittedly/nevertheless/ correspondingly
Frame markers	- Organize structure: sequence, goals, topic shifts.	first/second/then/next/at the same time/finally/to conclude/ my purpose is/the paper purposes/I argue here/I hope to persuade/to sum up/to summarize/in sum/
Endophoric markers	- Reference earlier materials for clarification.	noted above/see Fig/in section X/earlier/as demonstrated in Excerpt 3
Evidentials	- Cite external sources to strengthen arguments.	according to X/Z states/based on/as Y argued /in Z's study/"..." (X, 2013)/...previous research [1,2,3]

Category	Function	Examples
Code glosses	- Clarify meaning by restating or elaborating.	namely/e.g./such as/in other words/for instance/ i.e./for example/called/ specifically/that means/ indeed/that is/this can be defined as

Interactional resources interact with the reader and reflect the writer's stance.

Category	Function	Examples
Hedges	- Show uncertainty or plausible reasoning.	might/perhaps/possible/ about/ may/ quite/rather/ appear/could be/likely/ tend to/seem to be/ unclear/ expect
Boosters	- Emphasize certainty to strengthen claims.	in fact/definitely/it is clear that/ confirm/clearly/ obviously/ reveal/ evident/ undoubtedly/prove/ sure/ truly
Attitude markers	- Express the writer's view: surprise, agreement, importance, obligation, frustration, etc.	unfortunately/I agree/ prefer/ surprisingly/ hopefully/logical/good/ appropriate/remarkable/ interesting/ amazing/ crucial/critical/useful/ significantly/important/ necessary/ effective/strong/essential/ meaningful/ significant
Engagement markers	- Engage the reader using direct address or imperatives.	consider/note/you can see that/ you/your/you may notice
Self-mentions	- Refer to the author explicitly using first-person pronouns.	I/we /my /me/our/ours/ the researcher

Note. Adapted from Hyland (2005a), Amnuai et al. (2023), Hyland and Jiang (2022), Sirijanchuen (2017), and Cao and Hu (2014).

Persuasion Theory

Metadiscoursal research emphasizes persuasion, aiming to influence others' actions, emotions, intentions, or perspectives through linguistic communication (Lakoff, 1982). A persuasive argument involves language choices, argument structures, and persuasive techniques (Hyland, 2005a). Language choices reflect linguistic styles and themes; argument structures pertain to genre organization; and persuasive techniques—ethos, pathos, and logos—originate from Aristotle.

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Ethos

Ethos appeals to the writer's credibility and trustworthiness (Shen, 2014), persuading the reader of the writer's expertise. Writers establish *ethos* by showcasing credentials, aligning with audience values, or presenting an admirable persona. In metadiscourse, *ethos* involves constructing credibility and authority within the text (Hyland, 2005a). Hedges, boosters, and self-mentions strengthen the writer's authority in discourse (Giordano & Marongiu, 2020).

Pathos

Pathos engages emotions to elicit desired reactions (Aristotle, 1954). It aims to stir readers' emotions to achieve persuasion (Varpio, 2018). Attitude and engagement markers decrease the psychological distance between the writer and the reader, enhancing emotional appeal (AlJazrawi & AlJazrawi, 2021). In metadiscourse, *pathos* strategically evokes emotions to make an argument more persuasive.

Logos

Logos appeals to logic and reason by using rational arguments (Miller & Charney, 2007). It employs logical reasoning and common sense, requiring less formal evidence to persuade (Higgins & Walker, 2012). In metadiscourse, *logos* employs clear, logical arguments, cites data, and follows a coherent structure. Writers employ frame markers and transitions to enhance flow and clarity, helping readers navigate the text (Hyland, 1998, 2005a). Techniques such as signposting and evidence support *logos*, ensuring logical relationships (Hyland & Jiang, 2022).

Contrastive Analyses of Scopus- and TCI-Indexed Journals

Scopus is a globally recognized abstract and citation database curated by independent experts through a continuous review process that evaluates the global impact of journals that are recognized leaders in their fields (Elsevier, n.d.). In contrast, TCI focuses on national journals to assess Thailand's research performance and guide policy and research directions within the country (Thai-Journal Citation Index, n.d.). Although both are qualified platforms, they differ in audience expectations and academic traditions.

In this study, audience expectations refer to readers' anticipations regarding the content. Scopus targets a global audience seeking high-quality, scientifically sound research applicable across international contexts (Pranckutė, 2021). TCI caters to a national audience, focusing on practical, locally relevant research that addresses specific regional issues pertinent to Thailand's academic and policy needs (Jaroongkhongdach et al., 2011). These differing readerships reflect distinct academic traditions.

Academic traditions in this study refer to established conventions that influence scholarly activities within a specific academic community. Scopus journals aim to advance international scientific knowledge, focusing strongly on theoretical contributions (Baas et al., 2020). "Impact" is a key concept in international publications (Aksnes et al., 2019). Scopus journals are selected based on their contribution to global academic discourse and potential to attract a worldwide audience, which Wang (2024) refers to as "discourse influence ability," characterized by the h-index in the Scopus database. TCI journals, however, prioritize practical research for local issues (Jaroongkhongdach et al., 2011), aligning with regional academic concerns (Narongrit et al., 2012). Despite these differences, TCI aims to elevate Thai journals to international standards (Thai-Journal Citation Index, n.d.).

Therefore, understanding the metadiscoursal strategies used in Scopus and TCI journals is crucial for effective RA writing. Writers must align linguistic tools with audience expectations (Deng et al., 2021). Within the same discourse community, writers frequently employ similar attitude markers (Nayernia & Ashouri, 2019). TCI writers tend to use fewer hedges, reflecting less reader engagement (Loan, 2018). Code glosses like "such as" present propositions, followed by supporting details (Worathumrong, 2021), while frame markers in international journals are more theory-driven (Jaroongkhongdach et al., 2011). Scopus journals use boosters to strengthen claims (Yotimart & Abd Aziz, 2017), with native speakers favoring engagement markers in imperatives to emphasize opinions (Çapar & Turan, 2020). Argumentation skills may pose challenges for non-native speakers (Amnuai & Wannaruk, 2013), leading TCI journals to use endophoric markers to downplay personal identity, whereas Scopus journals emphasize authority through self-mentions (Hyland, 2002). Transition markers enhance logical flow in both contexts (Doiz & Lasagabaster, 2022).

Methodology

Corpus Collection

The specialized corpora for this study consist of discussion sections from RAs in Scopus and TCI, focusing on English language-related fields from 2020 to 2024. Metadiscoursal markers are prevalent in academic writing (Yea et al., 2020), particularly in the humanities and social sciences (Hyland & Tse, 2004). Analyzing the markers in these fields provides rich data sources for studying rhetorical strategies and how they guide reader interpretation.

Scopus journals selected were open-access with a CC BY license, emphasizing free and open knowledge sharing. Quartile 1 journals with high H-indexes were chosen for their productivity and citation impact. The TCI database is divided into three tiers: Tier 1, under review for inclusion in the ASEAN Citation Index (ACI); Tier 2, regarded as secondary options; and Tier 3, comprising non-indexed journals excluded from the

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database (Thai-Journal Citation Index, n.d.). Some TCI Tier 1 journals are under review for Scopus inclusion (Thai-Journal Citation Index, 2023), and their status may change. Therefore, Tier 2 journals were selected for the analysis to ensure accessible and stable publication practices.

Discussion sections from both databases were isolated, and 107 RAs were randomly selected (34 from Scopus, 55,384 words, and 73 from TCI, 52,637 words). Token-based analysis, which considers word frequency in a corpus, was used to study— vocabulary distribution and textual patterns (Levshina, 2019). Specialized research often requires smaller corpora to focus on domain-specific vocabulary (Weisser, 2015), with tens of thousands of words sufficient for analyzing key terms in special-language corpora (Ahmad & Rogers, 2001). The data were saved in *.txt* format, excluding tables and figures, and converted to a machine-readable format using AntConc 4.2.4 (Anthony, 2024). Table 2 shows wordform tokens from both corpora.

Table 2

Description of the Corpus

Corpus	Number of Articles	Wordform Tokens
Scopus	34	55,384
TCI	73	52,637
TOTAL	**107**	**108,021**

Corpus Analysis

Hyland's (2005a) adapted metadiscoursal taxonomy was applied, with enhanced reliability assessed through inter-rater agreement. Mackey and Gass (2016) proposed that coding 10% of the data ensures rater reliability; therefore, 25% of texts from Scopus and TCI journals were randomly selected and coded by two raters: the researcher and an assistant professor specializing in English language studies. Reliability was measured in two ways: taxonomy and concordance reliability. Rater training included discussions on the study's objectives, theories, and methodology, focusing on the ten markers and their functions.

To assess taxonomy reliability, 25% of the markers and their functions were randomly selected (excluding examples) and presented in table form. The second rater was provided texts from the two corpora containing these markers. Both raters independently coded the texts based on the markers' functions, yielding an inter-rater reliability coefficient of 0.94, which is acceptable (Graham et al., 2012).

According to Hyland's (2005a) adapted taxonomy, words must serve specific roles. After using AntConc to search for markers, the researcher manually verified the

results. For example, transition markers were included if they related to reasoning (e.g., adding, comparing, drawing conclusions, countering arguments). Markers with external roles were excluded from concordance lines. To assess concordance reliability, 25% of the markers were printed as concordance lines and independently coded by both raters, yielding a reliability coefficient of 0.93, considered acceptable (Graham et al., 2012).

Next, qualitative and quantitative analyses were conducted using Hyland's (2005a) adapted taxonomy. All markers were categorized with AntConc and analyzed according to the taxonomy.

Quantitative Analysis

To address RQ 1, AntConc 4.2.4 was utilized to measure the frequency of metadiscoursal markers in the discussion sections of RAs from Scopus and TCI journals. The analysis followed these steps:

First, the discussion sections were divided into two corpora and imported into AntConc. Word counts for each corpus were calculated to account for varying lengths.

Next, based on Hyland's (2005a) adapted taxonomy, the metadiscourse markers were manually entered into AntConc's search function. Concordance lines for each marker were retrieved to show their usage in context. The raw frequency counts of these markers that occurred were recorded.

Finally, Biber et al.'s (1998) formula was used to normalize the counts [(raw frequency count/total words)*1,000]. The three most frequent markers were highlighted to reveal patterns and differences between Scopus and TCI journals.

Qualitative Analysis

Discourse analysis uncovers language patterns (Canning & Walker, 2024) and examines the persuasive use of metadiscoursal markers in both journal types. The following steps were taken.

Step 1: Each marker's concordance lines were extracted and saved in *.xls* format.

Step 2: The surrounding text was reviewed to understand each marker's broader context.

Step 3: Each marker was categorized by function: pathos (emotional), ethos (credibility), or logos (logical).

Step 4: Markers were analyzed in context to determine their roles in the text's metadiscoursal strategies.

Step 5: Differences in marker use between Scopus and TCI journals were identified.

Step 6: Variations in metadiscoursal strategies were discussed.

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Step 7: Findings were reported with examples, showing how metadiscourse enhances persuasiveness in academic writing.

Results

RQ 1: What is the frequency of metadiscoursal markers used in the discussion sections of Scopus and TCI articles?

Table 3 shows that Scopus journals exhibited a higher frequency of metadiscoursal markers, averaging 40.10 items per 1,000 words, compared to 28.32 items per 1,000 words in TCI journals. This suggests that metadiscoursal markers were more prevalent in Scopus journals.

Regarding **interactive markers**, Scopus journals had 23.24 items (57.96%), whereas TCI journals had 18.37 items (64.87%). For **interactional markers**, Scopus journals had 16.86 items (42.04%), and TCI journals had 9.95 items (35.13%).

Within the **interactive markers** sub-categories, Scopus journals exceeded TCI journals in all areas except for **evidentials** (9.86 vs. 10.89). Specifically, **code glosses** were used at a frequency of 5.53 in Scopus journals compared to 3.17 in TCI; **transition markers** were 4.73 in Scopus and 2.41 in TCI; **frame markers** were 1.97 in Scopus and 1.03 in TCI; and **endophoric markers** were 1.15 in Scopus and 0.87 in TCI.

For **interactional markers**, Scopus journals generally had higher frequencies except for **engagement markers** (0.09 vs. 0.15). Specifically, **hedges** appeared 6.12 times in Scopus and 3.15 in TCI; **self-mentions** were used 5.23 in Scopus compared to 1.33 in TCI; **attitude markers** were 4.98 in Scopus and 4.94 in TCI; and **boosters** were 0.44 times in Scopus and 0.38 in TCI.

Table 3

Metadiscoursal Markers in Scopus and TCI Corpora

Category	Scopus Journals			TCI Journals		
	Total items	**Items per 1,000 words**	**% of total**	**Total items**	**Items per 1,000 words**	**% of total**
Interactive Markers	**1,286**	**23.24**	**57.96**	**966**	**18.37**	**64.87**
Interactional Markers	**933**	**16.86**	**42.04**	**523**	**9.95**	**35.13**
Sub-category *Interactive Markers*						
Evidentials	546	9.86	24.59	573	10.89	38.45
Code glosses	307	5.53	13.79	167	3.17	11.20
Transition markers	262	4.73	11.80	127	2.41	8.51
Frame markers	108	1.97	4.91	53	1.03	3.64

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Category	Scopus Journals			TCI Journals		
	Total items	Items per 1,000 words	% of total	Total items	Items per 1,000 words	% of total
Endophoric markers	63	1.15	2.87	46	0.87	3.07
Interactional Markers						
Hedges	339	6.12	15.26	165	3.15	11.12
Self-mentions	289	5.23	13.04	70	1.33	4.70
Attitude Markers	276	4.98	12.42	260	4.94	17.44
Boosters	24	0.44	1.10	20	0.38	1.34
Engagement Markers	5	0.09	0.22	8	0.15	0.53
Grand Totals	**2,219**	**40.10**	**100**	**1,489**	**28.32**	**100**

RQ 2: What metadiscoursal patterns appear in the discussion sections of Scopus and TCI articles?

The analysis revealed that evidentials were the most frequent, followed by code glosses, transition markers, frame markers, and endophoric markers.

Evidentials

Evidentials were more prevalent in TCI journals than in Scopus journals. According to Table 4, "(author+year)" in Example 1 was predominantly found in Scopus journals (4.33 items), while the verbal realization (a verb that structures) in Example 2 frequently appeared in TCI journals (4.98). For example:

(1) *"The current study also supports the findings of corpus-based research that academic speech consists of a reasonable number of frequently occurring sequences of words **(Biber et al., 2004; Chon & Shin, 2013; Coxhead et al., 2017; Dang, 2018; Simpson-Vlach & Ellis, 2010)** and may be a useful resource for incidental vocabulary learning."*
(SA29)
(2) *"With regard to the results of the pretest and posttest, **Amer (2014), Nalliveettil and Alenazi (2016), and Zhang (2016)** stated that students could improve their listening comprehension because they had an opportunity to practice English listening exercises and activities both inside and outside the classroom."* (TA68)

Table 4

Rank of Evidential Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	... (X, 2013)	240	4.33	1	X (2013)	262	4.98
2	X (2013)	122	2.20	2	... (X, 2013)	146	2.77
3	In X's (2013) study	45	0.81	3	In X's (2013) study	83	1.58

Code Glosses

Code glosses were more common in Scopus journals than in TCI journals. According to Table 5, "e.g." was the most frequently used code gloss, appearing in 1.97 items. Scopus journals often used "e.g." in conjunction with evidential (author+year) (Example 3), while TCI journals preferred using "such as" with 1.12 instances to introduce representative examples.

(3) *"For the captions group, longer time spent on the L2 target words led to higher meaning recognition scores, which also supported findings of reading studies (**e.g.,** Godfroid et al., 2018; Mohamed, 2017; Pellicer-Sánchez, Conklin, & Vilkait ̇e-Lozdien ̇e, 2020)."*
(SA18)

(4) *"Therefore, it is recommended that additional factors **such as** gender, English proficiency, and motivation be explored in future investigations."* (TA1)

Table 5

Rank of Code Gloss Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	e.g.,	109	1.97	1	such as	59	1.12
2	such as	45	0.81	2	For example	29	0.55
3	For example	41	0.74	3	That is	21	0.40

Transition Markers

Transition markers were more prevalent in Scopus than in TCI journals. Table 6 shows that "also" was the most frequently used transition marker in Scopus journals, appearing in 1.57 items. In TCI journals, "also" similarly led but with 0.84 items.

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(5) *"The results of the present study paint a different picture not only with regard to the effect of L2 use with NNS contacts on L2 proficiency improvement, but **also** the ability of intermediate-level sojourners to develop meaningful social relationships—indeed, networks of relationships—using majority L2 use."* (SA23)

(6) *"Not only is irony a rhetorical device, it is **also** a subtle communication strategy used by the speaker to draw attention from the hearer."* (TA5)

Table 6

Rank of Transition Marker Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	Also	87	1.57	1	Also	44	0.84
2	However	74	1.34	2	And	26	0.49
3	But	38	0.69	3	Moreover	15	0.28
					Thus	15	0.28

Frame Markers

Table 7 shows that frame markers were used almost twice as frequently in Scopus journals compared to TCI journals. The markers "first," "second," and "finally" were the most commonly found in both corpora.

The analysis identified two distinct rhetorical patterns in the use of "first" and "second" across both corpora: (1) using ordinal numbers before research questions, objectives, findings, methods, and theories (Examples 7-8) and (2) using adverbs at the beginning of a sentence (Examples 9-11). "Finally" was also found to be an adverb used primarily at the beginning of a sentence to introduce the last point or idea (Examples 9 and 12). Instead of "finally," Scopus journals and TCI journals signified the final idea using "Third" or "Fourth" (Examples 10-11). In TCI journals, "finally" was not used with other frame markers. Instead, it was used independently to represent the last idea (Example 12).

(7) *"The **first** RQ investigated whether interleaved practice is more effective in increasing EFL learners' pragmatic accuracy and fluency than blocked practice."*

(SA26)

(8) *"To answer the **first** research question, TP was featured the most, followed by CP and SP."*
(TA45)

(9) *"**First**, the sample in our study consists of L2 students that represent only Spanish-speaking L2 students from one school district in California. ... **Second**, our manual analysis of syntactic features focused on sentence boundary issues and clause-level features. ... **Finally**, in this study, we analyzed student texts that were produced in an on-demand writing situation."*   (SA4)

(10) *"**First**, to allow a direct comparison of the findings across studies, this study adopted Nation's (2014) suggestions ... **Second**, this study aims to investigate the potential of reading online news for incidental learning of items in core vocabulary lists. ... **Third**, the corpora representing smaller amounts of reading were split from corpora representing the reading amounts in 2.5 and 3.5 years. ... **Fourth**, like previous studies (e.g., Hsu,2019; Nation,2014), this study drew on evidence from the corpus-driven analysis."*   (SA6)

(11) *"**First**, students tended to agree with statements that involved using language learning strategies when communicating with teachers and peers ... **Second**, no difference was found by gender either for language learning strategies or for academic motivation. **Third**, there was a strong positive relationship between language learning strategies and academic motivation."*   (TA50)

(12) *"With regard to the impact of COCA on autonomous learning, the results reveal that it could be a material resource for learning writing, and the students could choose and implement appropriate learning strategies after learning to write via this concordance tool. ... **Finally**, the results showed that the students could examine their own writing weaknesses by themselves after they practiced writing through COCA."*
                                                    (TA2)

Table 7

Rank of Frame Marker Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	First	37	0.67	1	First	14	0.27
2	Second	29	0.52	2	Second	14	0.27
3	Finally	15	0.27	3	Finally	9	0.17

Endophoric Markers

Scopus journals exhibited a higher frequency of endophoric markers compared to TCI journals (1.15 vs. 0.87) (see Table 3). When examining each endophoric marker in Table 8, the "as-structure" markers were most common in Scopus journals (0.23

items) and TCI journals (0.32). These "as-structure" markers usually appeared accompanied by the term "previously" (Examples 13 and 14).

(13) ***"As we mentioned previously***, *the hierarchical system predicts that, as soon as the parser discovers lexical similarity between the L3 and one of the previously acquired languages, the lexical level will be chosen as the sole determiner of the source of influence."*
(SA16)

(14) ***"As previously mentioned***, *the transfer from L1 may play a critical role."*
(TA51)

Table 8

Rank of Endophoric Marker Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	As mentioned in/As discussed/ As can be seen/ As seen in the X/ As Examples/ As demonstrated in Excerpt X	13	0.23	1	As mentioned in /As discussed/ As can be seen/ As seen in the X /As Examples/ As demonstrated in Excerpt X	17	0.32
2	See (Fig/ Table/Also/ Appendix)	12	0.22	2	Table X	11	0.21
3	Section X (In this section /In Section X/In the previous section/This section/In the X Section/In the preceding section)	12	0.22	3	Section X (In this section/In Section X/In the previous section/This section/In the X Section/In the preceding section)	6	0.11

Scopus prioritized hedges, self-mentions, attitude markers, boosters, and engagement markers, whereas TCI journals prioritized attitude markers, hedges, self-mentions, boosters, and engagement markers.

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Hedges

Hedges occurred more frequently in Scopus journals than in TCI journals. According to Table 9, the most commonly used hedge in both corpora was "may" (2.51 in Scopus journals and 1.27 in TCI journals).

Both corpora employed "may" to introduce possibility. In Scopus journals, "may" was used twice in a single sentence to hedge implications and conclusions (Example 15), while in TCI journals, "may" was used once to suggest a potential outcome (Example 16). In Scopus, "may" focused on implications for further validation, while in TCI journals, it highlighted potential teaching concerns and speculative consequences related to changes in the teaching plan.

(15) *"Observing the only significant results in the L1 English group **may imply** that in English, the speed of delivery—in this case, in complaint—**may** be related to achieving a better pragmatic impact."*
    (SA31)

(16) *"The researcher normally teaches two hours per week, but because the teaching plan is three hours per week, the discontinuity in each content **may cause** the students to lose interest and forget the previous lesson."*
    (TA57)

Table 9

Rank of Hedge Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	May	139	2.51	1	May	67	1.27
2	Might	81	1.46	2	Could be	34	0.65
3	Likely	48	0.87	3	Might	29	0.55

Self-Mentions

In Table 10, self-mentions were significantly more prevalent in Scopus journals than TCI journals. "We" was the most frequently used in Scopus journals, appearing 2.70 times. In TCI journals, "the researcher/researchers" appeared often with 0.76 mentions.

In Scopus journals, "we" often indicated actions taken by researchers, such as "We found that...," "We observed...," or "We have interpreted that...". Both inclusive and exclusive uses of "we" were found in both Scopus journals (Examples 17-18) and TCI journals (Examples 19-20), but the exclusive "we" was more common in Scopus journals, with 2.29 mentions compared to 0.39 for inclusive "we." In TCI journals, inclusive "we" appeared more frequently than exclusive "we" (0.24 vs. 0.07).

In TCI journals, "the researcher" and "the researchers" were common self-mentions, unlike in Scopus journals. "The researcher" emphasizes individual responsibility (Example 21), while "the researchers" highlights teamwork and broader studies (Example 22).

(17) *"With this question in mind, **we** <exclusive we> carried out a correlation analysis trying to identify a possible relationship between CoV and the motivational factors."*
(SA5)

(18) *"These findings show that **we** <inclusive we> cannot disregard the influence of ideological forces that social actors carry into multilingual settings."*   (SA8)

(19) *"Through the pre-service teachers' reflective journals and focus group interviews, **we** <exclusive we> could see that various technologies were used to assist in different tasks."*
(TA49)

(20) *"As **we** <inclusive we>know, natives have more places in oral communication teaching in Thailand because the local English teachers have inadequate creativity to make a deal."*
(TA21)

(21) *"In this study, **the researcher** found that English self-efficacy was positively, moderately strong, and significantly correlated with mathematics academic achievement for Grades 3-4 students, and the same correlation among Grades 5-6 students at Pan-Asia International School, Bangkok, Thailand, was weaker."*

(TA9)

(22) *"**The researchers** found that a great deal of participants perceived speaking English when teaching as an essential issue, and they should speak English as often as possible although it is not a university requirement."*   (TA36)

Table 10

Rank of Self-Mention Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	We	149	2.70	1	The researcher /researchers	40	0.76
2	Our	134	2.42	2	We	17	0.32
3	I	4	0.07	3	Our	12	0.23

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Attitude Markers

According to Table 11, "important" was used more frequently in Scopus journals (0.67) than in TCI journals (0.46). In both corpora, "important" emphasized crucial elements. Scopus journals used it in complex sentences with detailed research findings, beginning with "however" for contrast (Example 23). TCI journals employed "important" twice in a single sentence, once in the superlative "the most important elements" and once in the comparative "rated as highly important" (Example 24).

(23) *"However, the fact that linear word order was both significant and the most **important** predictor in all three analyses signals that ADJ+N and N+ADJ combinations had different usage properties in this corpus, raising the question as to whether they should be considered to be different collocations entirely."*

(SA17)

(24) *"These results indicated that the four English skills, especially listening and speaking, are the most **important** elements for communication in hospitality and tourism and reading and writing emails were also rated as highly **important** for tourism employees."*
(TA33)

Table 11

Rank of Attitude Marker Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	Important	37	0.67	1	Effective	29	0.55
2	Strong	20	0.36	2	Important	24	0.46
3	Good	13	0.23	3	Good	18	0.34

Boosters

Boosters appeared slightly more frequently in Scopus journals. "Clearly" was the most frequent marker in both types of journals (0.23 vs. 0.22). In both examples, "clearly" functioned as an adverb with a positive connotation. In Example 25, "understanding more clearly" implied sophisticated analysis and deeper insights. In Example 26, "clearly" emphasized direct and evident observation, as in "We can clearly see."

(25) *"Employing this profiling approach opens options for understanding more **clearly** how and where policy intervention would be best targeted by fully*

engaging with the distinguishing features of the learners in each group."
(SA28)

(26) "*From the results, we can **clearly** see that the strategy of student-generated questioning and its instruction considerably improves both the comprehension of English and English tense usage among undergraduate students of English.*"

(TA39)

Table 12

Rank of Booster Frequencies in Scopus and TCI Journals

Scopus Journals				TCI Journals			
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	Clearly	13	0.23	1	Clearly	12	0.22
2	In fact	7	0.13	2	Evident	4	0.08
3	It is clear that	2	0.04	3	Confirm	1	0.02
					Undoubtedly	1	0.02
					Obviously	1	0.02
					Truly	1	0.02

Engagement Markers

Engagement markers were infrequent in both corpora. In Scopus journals, "note" was most frequently used, with 0.07 occurrences. In TCI journals, "your" was most commonly used, with 0.07 occurrences, but it was not reported in Scopus journals. Scopus authors used the indirect marker "note" at the beginning to immediately draw attention to specific points or observations (Example 27). In TCI journals, the direct marker "your" appeared in the middle of the text, engaging the reader and personalizing the message (Example 28).

(27) "***Note** that the regression coefficients of Maze Word RT were clearly higher than those of Picture Naming RT (β=.436–.453)."*
(SA30)

(28) "*Knowing English increases **your** chances of getting a good job in a multinational company within our home countries or for finding work abroad.*"   (TA20)

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Table 13

Rank of Engagement Marker Frequencies in Scopus and TCI Journals

	Scopus Journals				TCI Journals		
Rank No	Examples	Total items	Items per 1,000 words (Scopus)	Rank No	Examples	Total items	Items per 1,000 words (TCI)
1	Note	4	0.07	1	Your	4	0.07
2	Consider	1	0.02	2	You	3	0.06
3	Your	-	-	3	Note	1	0.02
4	You	-	-	4	Consider	-	-

Discussion

Scopus and TCI journals primarily used **interactive** metadiscoursal over **interactional** markers, with academic norms prioritizing clarity of argument and structure over reader engagement (Geng & Wei, 2023).

In Scopus journals, **evidentials** were employed to enhance **ethos** through (author+year) citations, demonstrating a solid foundation supported by authoritative endorsements through concise references. In native academic English, the responsibility for clarity and understanding rests more with the writer than the reader (Hyland, 2005a). Conversely, TCI journals used **verb realization,** favoring active voice to establish **ethos** by emphasizing authors' roles in narrative arguments (Amnuai et al., 2020). Published context is one factor that influences RA writing (Amnuai & Wannaruk, 2013). Scopus's parenthetical citations reflect a community that values authority, using evidentials with minimal authorship and trusting cited studies to speak for themselves, while TCI's narrative-driven evidentials invite readers into the argument. TCI writers employ evidentials that emphasize a more inclusive and conversational tone, inviting readers to view the cited sources as part of the argument's development. TCI journals utilize narrative-driven evidentials, fostering a scholarly conversation, whereas Scopus journals adopt an economical evidential style, enhancing academic rigor and professionalism.

Scopus journals used **code glosses** to enhance **ethos** for credibility. "E.g.," and citing respected studies demonstrate credibility through association with recognized research. Furthermore, employing code glosses in Scopus journals illustrates the writer's comprehensive understanding of the subject matter, establishing their authority (Hyland, 1998). "E.g.," is preferred in Scopus because it may save space for more in-text citations and aligns with the structured, efficiency-driven style expected in international publications. TCI journals employed **code glosses** to enhance **logos** by providing concrete examples, using "such as" to clarify and support their arguments logically. Code glosses use logos to offer additional explanations (AlJazrawi &

AlJazrawi, 2021). "Such as" was primarily employed in the Thai context to express multiple aspects of a topic, where the main proposition was presented first, followed by related information (Worathumrong, 2021). The frequent use of "such as" in TCI journals might stem from a preference for a more conversational and narrative-focused style, making the writing more approachable and relatable. "Such as" may create a more seamless narrative when writers offer multiple examples.

Transition markers in Scopus and TCI journals are crucial in enhancing **logos**. Using "also" contributes to logical arguments by providing additional information that clarifies connections between ideas in educational contexts (Doiz & Lasagabaster, 2022). "Also" is favored by New Zealand and Thai students for its conciseness and versatility, helping establish both intra-clausal and inter-clausal relationships in discourse (Prommas, 2020). Furthermore, "also" is a standard transition marker used to convey knowledge in academic settings, forming an integral part of the typical linguistic repertoire (Doiz & Lasagabaster, 2022). Therefore, transition markers, particularly "also" in Scopus and TCI journals, underscore their significant role in academic communication by strengthening logical arguments, connecting ideas, and serving as a vital component of the linguistic toolkit in scholarly contexts.

Frame markers enhance **logos** by structuring the text in both corpora. Frame markers are commonly used in RAs to make the text more sequential, elaborate, and discursive (Hyland & Zou, 2020). In Scopus journals, frame markers detail methodologies, while those in TCI journals summarize findings and address research questions, emphasizing clarity and practical implications. Scopus writers aim to contribute to global academic discourse, prioritizing methodological robustness and generalizable research. In this context, frame markers emphasize steps and procedures. Baas et al. (2020) explained that Scopus prioritizes specific scientific quality standards and rigor. Articles by academics in Thailand prioritize practical, experience-based insights, while international publications tend to focus more on theoretical or literature-based research (Jaroongkhongdach et al., 2011). Consequently, submissions to TCI journals typically focus on regional issues, prompting writers to use frame markers that highlight findings and implications most relevant to local stakeholders.

Endophoric markers in both corpora enhance **logos** to support the logical argument (Hyland, 2005a). Scopus and TCI journals primarily employed the "*as-structure*" endophoric marker; however, Scopus frequently included "*we*," creating a more engaging tone. The higher use of person markers, such as "*we*," indicates that the writer explicitly refers to themselves and aims to establish relationships with the reader (Gholami et al., 2014). Scopus journals enhance rational arguments by incorporating endophoric markers and the self-mention "*we*." In TCI journals, the lack of "*we*" and the preference for an impersonal tone, such as "*as previously mentioned,*" reflect a professional distance. This style aligns with traditional expectations of academic writing, with Devlin (2016, p. 34) stating that "killing the pronouns can also strangle the individual voice." Scopus authors also employed complex sentences for detailed

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logical explanations that engage readers, while TCI authors prioritize simplicity and clarity with concise statements. Sarwar et al. (2020) asserted that non-native speakers often produce shorter, more straightforward sentences with less variation in language use.

Hedges in both corpora enhance **ethos**, showing credibility and caution. Scopus journals emphasize the theoretical implications of research, while TCI journals address practical concerns. In Scopus journals, **hedges** are primarily used to discuss broader impacts (see Example 15). This **hedging** type presents more generalized findings, leaving room for future research to support or challenge these conclusions. This reflects Scopus's global role, where international authors take a more analytical approach than Thai journals, which focus on reporting findings (Phongjit & Gampper, 2023). Thus, **hedging** in TCI journals focuses more on practical, localized outcomes (see Example 16), while Scopus journals require more nuanced results and discourage definitive statements. As in Loan (2018), **hedges** were less frequent in TCI journals, revealing less awareness of using **hedging** to evaluate findings and soften claims.

Self-mention, notably "we," appeared more frequently in Scopus journals. The exclusive use of "*we*" highlighted the collective effort of research teams, enhancing **ethos** by showcasing combined expertise and rigorous methodology. Using first-person pronouns *("I," "We")* establishes authority in successful academic writing (Hyland, 2002). As a global platform, Scopus may encourage a more engaging tone, where researchers actively position themselves by using "*we*" to create a sense of shared inquiry, allowing for more explicit **self-mention** through first-person pronouns. **Self-mentions** occur more frequently in international than national articles (Jaroenchaiwat, 2022). TCI journals, conversely, used a mix of "*we*," "the researcher," and "*the researchers*" to present a more nuanced approach to **ethos**. TCI writers used fewer **self-mentions**, preferring formal terms like "*the researcher(s)*" to align with academic norms that avoid first-person pronouns (Yoon, 2021). TCI journals may prioritize formality, making articles less subjective and more aligned with traditions emphasizing objectivity.

Scopus journals employed slightly more **attitude markers** than TCI journals. Scopus journals use "important" to enhance **pathos** by underscoring the significance of predictors in influencing analysis outcomes (see Example 23). In TCI journals, "important" supports **pathos** by emphasizing relevant skills in professional contexts, appealing to readers aiming to enter the industry (see Example 24). **Pathos** in Scopus journals engages intellectual curiosity, while TCI journals directly appeal to readers' emotions. In Example 23, Scopus journals used "important" within subtle argumentation to spark intellectual curiosity, which can emotionally connect with readers who appreciate deep analysis. However, in Example 24, TCI journals used "important" more directly and practically, appealing to relevance and applicability. **Attitude markers** are a key writer-oriented strategy for conveying emotion and establishing a distinct authorial voice in professional communication (Hyland, 2005b).

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Writers often utilize similar **attitude markers** within the same discourse community (Nayernia & Ashouri, 2019). This phenomenon indicates that community members (e.g., in Scopus and TCI) adhere to standard norms when expressing their attitudes, regardless of the genre in which they write.

"Clearly" was primarily used as a **booster** to assert **ethos**, signifying confidence in assumptions, with a slightly higher frequency in Scopus. Scopus journals employed boosters in **theoretical and strategic analyses (see** Example 25), while TCI journals emphasized measurable and observable outcomes (see Example 26). Scopus journals' international academic standards promote the confident use of boosters to highlight theoretical contributions, while TCI journals use them to emphasize **practical and data-driven results**. This pattern aligns with generic conventions (Gotti, 2012) across different cultures and levels of professional expertise (Thabet, 2018). In Scopus and TCI journals, "clearly" functions as an adverb, modifying verbs similarly. The higher use of boosters in international articles results from the greater validity of claims (Yotimart & Abd Aziz, 2017). Boosters are tied to the discourse community, with international articles persuading audiences to accept evidential or implicit truth (Peacock, 2006).

Scopus journals utilized slightly fewer **engagement markers** than TCI. Scopus journals favored the indirect marker "note that," appealing to **pathos** by aiding understanding, while TCI journals used the direct marker "your" to engage **pathos**, strengthening emotional appeal and personal connection. Scopus engagement markers evoked **pathos** through reasoning and evidence, whereas TCI journals leveraged them to enhance the emotional impact. Çapar and Turan (2020) suggest this reflects stylistic differences, with native speakers often using directive structures, such as the imperatives, to emphasize the importance of opinions and facts. Indirect engagement markers in Scopus journals support theory-focused writing for a diverse international audience, while direct engagement markers in TCI journals foster dialogue with readers, reflecting local academic norms.

Conclusion

The metadiscoursal strategies of Scopus and TCI journals reflect different uses of persuasive markers. Scopus journals use concise evidentials, while TCI journals adopt a narrative style. Scopus journals favor code glosses for efficiency, whereas TCI journals create a conversational tone. Both use transition markers to clarify ideas. Frame markers in Scopus journals emphasize methodology, while TCI journals highlight practical implications. Scopus journals prefer logical endophoric markers; TCI journals use impersonal structures. Scopus journals apply hedges to theory, while TCI journals focus on practical outcomes. Scopus journals use "we" to assert author presence; TCI journals mix "we" and "the researcher" to depersonalize. Attitude markers in Scopus journals evoke curiosity, while TCI journals stress practicality. Scopus journals use boosters for theoretical arguments, and TCI journals emphasize practical results.

Finally, Scopus journals use indirect engagement markers for appeal, and TCI journals use direct ones for personal connection.

Implications

Scopus journals emphasize methodological and theoretical discussions through persuasive metadiscourse. Writers need to adapt to audience expectations and academic traditions. Citing multiple credible studies aligns with Scopus's rigorous standards, while strategic transition and frame markers organize arguments and clarify methodology. Directing readers to detailed references aids comprehension. Despite avoiding first-person pronouns, academics should build credibility and use hedges to convey nuance. "We" emphasizes collective research efforts, and boosters like "clearly" assert authority. Indirect markers like "note that" enhance comprehension. TCI editors might consider extended discussions to support the broader use of metadiscourse, similar to Scopus.

Limitations

This study focuses on academic disciplines related to English and compares metadiscoursal strategies in Scopus and TCI journals. Future studies could explore these strategies across fields such as applied sciences, social sciences, and medicine. Lastly, this study does not suggest that TCI journals are inferior to Scopus. TCI authors present well-developed concepts, but those for high-index global journals should refine their writing by understanding metadiscourse.

Author

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Investigating Persuasive Metadiscoursal Strategies in the Discussion Sections of Research Articles: A Contrastive Corpus Study

Appendix

List of All Research Articles for the Analysis

Scopus-Index Journals

SA4	Maamuujav, U., Olson, C. B., & Chung, H. (2021, 2021/09/01/). Syntactic and lexical features of adolescent L2 students' academic writing. *Journal of Second Language Writing, 53*, 100822.
SA5	Huang, T., Steinkrauss, R., & Verspoor, M. (2021, 2021/06/01/). Variability as a predictor in L2 writing proficiency. *Journal of Second Language Writing, 52*, 100787.
SA6	Dang, T. N. Y., & Long, X. (2024). Online news as a resource for incidental learning of core academic words, academic formulas, and general formulas. *TESOL Quarterly, 58*(1), 32–62.
SA8	Martinez Negrette, G. (2024). Don't take our space": Strategies, agency, and resistance in the white space of a dual language program. *TESOL Quarterly, 58*(1), 91–113.
SA16	Jensen, I. N., & Westergaard, M. (2023). Syntax matters: Exploring the effect of linguistic similarity in third language acquisition. *Language Learning, 73*(2), 374–402.
SA17	Edmonds, A., & Gudmestad, A. (2023). Phraseological use and development during a stay abroad: Exploring sensitivity to frequency and cue contingency. *Language Learning, 73*(2), 475–507.
SA18	Wang, A., & Pellicer-Sánchez, A. (2022, 2022/09/01). Incidental vocabulary learning from bilingual subtitled viewing: An eye-tracking study. *Language Learning, 72*(3), 765–805.
SA23	Strawbridge, T. (2023). The relationship between social network typology, L2 proficiency growth, and curriculum design in university study abroad. *Studies in Second Language Acquisition, 45*(5), 1131–1161.
SA26	Zhang, Y. (2023). The effects of interleaved and blocked corpus-based practice on L2 pragmatic development. *Studies in Second Language Acquisition, 45*(4), 812–837.
SA28	Dunn, K., & Iwaniec, J. (2022). Exploring the relationship between second language learning motivation and proficiency: A latent profiling approach. *Studies in Second Language Acquisition, 44*(4), 967–997.
SA29	Dang, T. N. Y., Lu, C., & Webb, S. (2022). Incidental learning of single words and collocations through viewing an academic lecture. *Studies in Second Language Acquisition, 44*(3), 708–736.
SA30	Suzuki, S., & Kormos, J. (2021, 11/13). The multidimensionality of second language oral fluency: Interfacing cognitive fluency and utterance fluency. *Studies in Second Language Acquisition, 45*.
SA31	Morrison, A., & Tavakoli, P. (2023). Task communicative function and oral fluency of L1 and L2 speakers. *The Modern Language Journal, 107*(4), 896–921.

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TCI-Indexed Journals

TA1	Tuengkun, S., & Cedar, P. (2023). Judgments of EFL students on English stress placement. *Journal of English Language and Linguistics*, *4*(2), 100–116.
TA2	Inpanich, P. (2023). The use of COCA to promote Thai EFL public university students' autonomous learning. *Journal of English Language and Linguistics*, *4*(2), 17–28.
TA5	Sae-aia, W. (2021). An analysis of particularized conversational implicatures in Breaking Dawn 1 Movie. *Journal of English Language and Linguistics*, *2*(1), 115–136.
TA9	Balci, M., & Lynch, R. (2022). The relationship of English language usage skills, English reading proficiency and English self-efficacy with mathematics academic achievement of grades 3-4 and grades 5-6 students at Pan-Asia International School, Bangkok, Thailand. *Scholar: Human Sciences*, *14*(2), 42–42.
TA20	Hongwilai, A. (2022, 04/20). English reading development using computer assisted instruction on COVID-19 prevention for grade 10 students of Ummaoprachasan School. *Journal of Asian Language Teaching and Learning*, *3*(1), 53–70.
TA21	Wongsuwan, N., & In-Lom, P. S. (2020). A study of development of English speaking of the second year bachelor of education Myanmar students at Education Faculty, Mahachulalongkornrajavidyalaya University. *Journal of Teaching English*, *1*(1), 9–28.
TA33	Chumphong, O., & Chuai-in, P. (2020). The use of English language in tourism workplaces in Pakmeng Beach Area, Trang Province. *ABAC ODI Journal Vision. Action. Outcome*, *7*(1), 132.
TA36	Ruengwatthakee, P., & Haas, L. (2022). An investigation of Thai pre-service English teachers' perceptions towards using English as the medium of instruction in teaching practicum. *Faculty of Humanities and Social Sciences Thepsatri Rajabhat University Journal*, *13*(1), 165–186.
TA39	Jittisukpong, P. (2023). Developing English reading comprehension ability and use of English tenses through question generating strategy instruction of EFL undergraduate students at Thai-Nichi Institute of Technology, Bangkok. *Journal of Roi Et Rajabhat University*, *17*(3), 3–11.
TA45	Kuan, W.-L. (2022). Students' perception of the CoI-based online flipped approach: Learning Mandarin as a foreign language. *Human Behavior, Development & Society*, *23*(3), 98–107.
TA49	Jantori, P. (2020). Examining digital practices of Thai pre-service EFL teachers through reflective journals. *Human Behavior, Development & Society*, *21*(4), 47–56.
TA50	Valenzuela, R. O., & Thomas, D. (2020). The development of academic English language learning strategies and academic motivation among international university students in Thailand. *Human Behavior, Development & Society*, *21*(3), 98–107.

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TA51	Le, H. T., & Boonmoh, A. (2020). Thai students' production of English Coda clusters: An experiment on sonority with Thai university students taking an English fundamental course. *Human Behavior, Development & Society*, *21*(2), 17–29.
TA57	Kradniam, W., & Yuh Anchunda, H. (2023, 10/30). An enhancement of second year vocational certificate students' reading comprehension ability through KWL, Nakhonsawan Technical college. *Journal of Modern Learning Development*, *8*(10), 521–535.
TA68	Duangin, K., Samarng, C., & Paopukha, E. (2020). Integrating mobile devices with an English listening comprehension class. *Rangsit Journal of Educational Studies*, *7*(2), 40–49.

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