

Psychological Domains and Functions of Discourse Markers Used by Non-native EFL Teachers in Classroom Interactions: Investigating the Role of Teachers' Experience

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Abstract

This study explores the psychological functions and domains of discourse markers used by non-native EFL teachers in pre-intermediate and upper-intermediate classroom interactions. Focusing on teachers' experience levels, it aims to examine how discourse markers facilitate classroom communication, enhance comprehension, and impact interaction dynamics, contributing to the pedagogical effectiveness of experienced and less-experienced teachers alike. The study employed a corpus-driven quantitative descriptive design, using Crible's (2017) annotation model to analyze discourse markers (DMs) in EFL classroom interactions. Ten Iranian teachers (five novice, five experienced) were recorded during sessions, with transcriptions focused on teacher discourse. DMs were identified, coded using taxonomies, and analyzed with AntConc software. Descriptive and inferential statistics, including Chi-square, examined differences in DM use based on teacher experience and proficiency level. The study found no significant difference in discourse marker (DM) usage between novice and experienced Iranian EFL teachers, though novice teachers used more DMs. Sequential and rhetorical markers were most frequent, and both groups employed monitoring, concession, and addition functions most. Despite similar DM frequencies, novice teachers' overuse suggested limited proficiency. The study highlights the role of DMs in structuring classroom discourse and calls for further research on DM usage in non-native contexts to improve teaching effectiveness and learner engagement.

Keywords: Psychological Domains, Discourse Markers, Non-native EFL teachers, EFL Classroom Interactions, Teachers' Experience

INTRODUCTION

The teaching and learning of English as a Foreign Language (EFL) have gained significant global relevance, with many individuals acquiring proficiency in a second or foreign language. Within EFL classrooms, Communicative Competence (CC) has emerged as a central approach, highlighting the importance of discourse and pragmatic knowledge for effective communication. As discourse markers (DMs) play a crucial role in structuring spoken discourse, their use is essential in facilitating cohesive and coherent communication in classroom interactions (Zorluel Özer & Okan, 2018). DMs, such as "well," "you know,"

"so," and "okay," serve not only to connect segments of speech but also to guide participants through the flow of conversation, performing various interactive functions (Fung, 2011; Fung & Carter, 2007).

In the context of EFL teaching, DMs have been extensively studied, particularly in relation to their use by native speakers and language learners (Trillo, 2002; Fung & Carter, 2007; Aşık, 2015; Aşık & Cephe, 2013). However, research examining non-native EFL teachers' use of DMs, particularly within classroom discourse, remains limited. Non-native teachers, especially those at varying levels of teaching experience, may employ DMs differently in terms of both frequency and function. Given the pivotal role that DMs play in classroom communication, investigating how novice and experienced teachers use these markers offers valuable understanding of EFL teaching practices and their impact on learner comprehension and interaction (Walsh, 2011).

While a significant body of research has explored the use of DMs in EFL contexts, much of this work has focused on native speakers or EFL learners (Trillo, 2008; Fung & Carter, 2007; Aşık & Cephe, 2013). Studies have shown that EFL learners tend to use a narrower range of DMs compared to native speakers, often leading to less effective communication (Buysse, 2012). However, there is a noticeable gap in research investigating how non-native EFL teachers use DMs in their classroom discourse. This is particularly important because teachers, especially non-native ones, serve as linguistic models for their students. The DMs teachers use can shape classroom dynamics, influence student participation, and enhance or hinder comprehension (Walsh, 2011). Furthermore, teaching experience may play a significant role in how DMs are employed, with novice and experienced teachers potentially using these markers differently in both frequency and function.

Despite the centrality of teacher talk in classroom interaction, few studies have focused on how non-native EFL teachers utilize DMs, particularly in relation to their teaching experience. This lack of research highlights the need for further investigation into how DMs are employed in classroom settings and how they contribute to the total effectiveness of language teaching. Addressing this gap, the present study aims to explore the types and functions of DMs used by non-native EFL teachers in pre-intermediate and upper-intermediate classrooms. It will also examine whether teaching experience influences the use of these markers, providing understanding of the evolving communicative strategies of teachers at different stages of their careers.

By focusing on Iranian EFL teachers, this study seeks to contribute to a deeper understanding of teacher discourse in non-native contexts, offering practical implications for enhancing communicative competence in EFL classrooms. In doing so, it aims to inform teacher training and professional development, helping educators use DMs more effectively to foster better classroom communication and learning outcomes.

Objectives of the Study

The primary objective of this study is to investigate the use of discourse markers (DMs) by non-native EFL teachers in pre-intermediate and upper-intermediate classroom settings. Specifically, the study aims to identify the types of DMs employed by these teachers and examine whether teaching experience—comparing novice and experienced instructors—affects the frequency and function of these markers. In addition, the study seeks to explore the specific functions that DMs serve in classroom interactions and determine if there are significant differences in the types and functions of DMs used in pre-intermediate and upper-intermediate classes. By addressing these areas, the research will contribute to a deeper understanding of how DMs influence classroom communication and whether teaching experience shapes

the use of these important linguistic tools. In line with the objectives, the following research questions guide the study:

1. Which psychological domains of DMs do Iranian EFL teachers use in EFL classrooms?
2. Which psychological functions of DMs do Iranian EFL teachers use in EFL classrooms?
3. Are there any statistically significant differences between psychological domains of DMs used by novice and experienced Iranian EFL teachers in English classrooms?
4. Are there any statistically significant differences between psychological functions of DMs used by novice and experienced Iranian EFL teachers in English classrooms?
5. Are there any statistically significant differences between the psychological functions of DMs used by novice and experienced EFL teachers in pre-intermediate and upper-intermediate EFL classrooms?
6. Are there any statistically significant differences between the psychological domains of DMs used by novice and experienced EFL teachers in pre-intermediate and upper-intermediate EFL classrooms?

LITERATURE REVIEW

The study of discourse markers (DMs) and their cognitive-pragmatic functions has generated significant interest in the field of linguistics. Cognitive pragmatics, which investigates how individuals comprehend language in context, provides a valuable framework for understanding the role of DMs in signaling relationships between ideas and managing discourse. This literature review delves into the significance of cognitive pragmatics in interpreting DMs, particularly through key theoretical frameworks and the characteristics of DMs.

Cognitive pragmatics focuses on interpreting utterances based on both linguistic and extralinguistic knowledge (Fung, 2011; Christodoulidou, 2014). It addresses how speakers and listeners utilize cognitive resources to infer meaning from context, going beyond what is explicitly stated (House, 2013; González, 2004). In this context, DMs are perceived as essential tools that guide listeners' interpretations of utterances by providing cues about the connections between different parts of discourse (Crible, 2017).

Moreover, DMs serve critical cognitive functions by reducing cognitive effort and facilitating understanding (Aşık, 2015; Aysu, 2017). They play a crucial role in how content is processed, organized, and interpreted, even though they may not alter the propositional content of an utterance. Consequently, the exploration of DMs through the lens of cognitive pragmatics illuminates their impact on effective communication and the structuring of conversations in various discourse contexts (Alghamdi, 2014; Evers-Vermeul et al., 2017).

As research continues to evolve in this area, it is essential to consider the implications of DMs for language learners and educators alike, particularly in EFL settings, where understanding and using DMs effectively can enhance language proficiency and interactional competence (Kapranov, 2020; Hellerman, 2008).

Fraser's Grammatical-Pragmatic Approach

Fraser's (1987, 1990, 1993) work is fundamental in understanding the cognitive pragmatic approach to DMs. Fraser identified DMs as "pragmatic markers" that link utterances but do not alter their propositional content. His grammatical-pragmatic perspective suggests that DMs act as linguistic elements that indicate

a relationship between an utterance and the preceding discourse. Fraser proposed that DMs have a core meaning, which can be contextually enriched, and primarily function to signal the speaker's intended relationship between utterances, thus assisting in discourse coherence.

This differs from Schiffrin's (1987) view, which categorized DMs as non-verbal expressions that connect speech segments. While Schiffrin emphasizes the interactional role of DMs in maintaining coherence, Fraser focuses on their grammatical and functional aspects. Fraser's contribution lies in the distinction between DMs as grammatical elements that provide commentary on discourse, rather than simply linking ideas. Fraser's approach also categorized DMs into three types:

- Basic pragmatic markers: These include expressions that mark the relationship between propositions (e.g., "but," "and").
- Discourse markers: Markers that signal how upcoming discourse relates to previous discourse.
- Commentary pragmatic markers: These provide meta-linguistic commentary, indicating the speaker's stance or viewpoint (e.g., "frankly," "honestly").

Fraser's pragmatic framework underlines the flexibility and multifunctionality of DMs in discourse, as they help establish connections across different levels of communication without altering core propositional meanings.

Relevance Theory and the Role of DMs

Relevance theory, developed by Sperber and Wilson (1986), offers a cognitive pragmatic account of communication, focusing on how individuals interpret language based on the principle of relevance. According to this theory, listeners seek to maximize relevance when processing information—meaning they aim to derive as much cognitive effect (new information or clarification) as possible with minimal processing effort. Hyland (2005) and Ädel (2006) highlight that DMs function within this framework as connectives, aiding speakers and writers in helping their audience interpret information more effectively. DMs act as guides that direct listeners or readers towards the relevant contextual assumptions necessary for understanding an utterance. By signaling how new information fits into the existing discourse, DMs minimize processing effort and help avoid misunderstandings.

Both the relevance theory and coherence-based approaches see DMs as crucial in structuring discourse and guiding interpretation, but relevance theory emphasizes the cognitive mechanisms that make DMs effective. From this perspective, DMs are seen as tools that help speakers achieve optimal relevance by clarifying the relationship between utterances and reducing cognitive load for the listener.

Research on Discourse Markers

Research on discourse markers (DMs) has long focused on their cognitive-pragmatic functions, examining both native and non-native speakers' usage across various discourse types. Early studies highlighted the role of DMs in facilitating communication by enhancing comprehension, coherence, and memory recall, as well as reducing cognitive effort during discourse processing.

Marzban and Khazaei (2007) investigated the effects of explicit DM instruction on EFL learners' listening comprehension. Their results showed that learners who received targeted training in DMs performed significantly better in comprehension tasks, emphasizing that understanding DMs' role enhances language

processing. Similarly, Jung (2003) examined the influence of DMs on Korean ESL learners' academic comprehension, discovering that exposure to DMs in lectures improved students' ability to recall and understand information. These studies collectively demonstrate the cognitive benefits of DMs in language acquisition.

On the other hand, Fuller (2003) and Trillo (2002) explored differences in DM usage between native and non-native speakers. They found that non-native speakers tend to use a narrower range of DMs, often struggling with more complex pragmatic functions—a phenomenon that Trillo termed “pragmatic fossilization.” This difficulty in acquiring a full range of pragmatic DM functions is also highlighted by Hays (1992), who studied Japanese learners of English and found that they frequently omitted DMs where native speakers would have used them, especially for pragmatic functions beyond simple idea linking.

Tagliamonte (2005) further expanded the research by analyzing Canadian teenagers' use of DMs, revealing gender differences in their frequency and type, and positing that DMs play a key role in informal communication, possibly driving linguistic change over time. Alghamdi (2014), focusing on written discourse, found that non-native speakers used fewer DMs in both narrative and argumentative writing, impacting coherence and clarity. These early studies underscore the pivotal role DMs play in structuring discourse, aiding comprehension, and reducing listeners' cognitive load. In particular, they highlight the importance of explicit DM instruction for non-native speakers, who often face challenges in using DMs pragmatically.

Discourse Markers in Non-Native Speaker Communication

A consistent theme in DM research is the restricted use of DMs by non-native speakers, especially in second language acquisition contexts. As noted by Romero Trillo (2002), pragmatic fossilization—a failure to acquire nuanced DM use—is often due to a lack of emphasis on pragmatic competence in language instruction, which typically focuses more on grammatical and semantic accuracy.

Rahimi (2010) added to this conversation by analyzing the use of DMs in expository and argumentative essays by Iranian EFL students. His findings indicated that while DMs were more frequently used in argumentative essays, their overuse or misuse often detracted from writing quality. This suggests that while DMs enhance discourse coherence, there is a fine balance between effective and excessive usage.

Building on this foundational research, recent studies have further illuminated the cognitive and pragmatic roles of DMs in EFL contexts. Rajaeifar (2023) explored how explicit instruction in DMs improved Iranian EFL learners' reading comprehension, reinforcing earlier findings that DMs aid learners in organizing and processing textual information more effectively. Similarly, Okan and Özer (2018) examined DM usage in EFL classrooms through corpus-driven research, revealing that DMs significantly enhanced communication clarity, particularly in listening and speaking tasks.

Alraddadi (2016) examined the impact of teaching structural DMs in classroom settings, showing that learners who received instruction on DMs were better at managing discourse, particularly in written argumentative tasks. Moreover, Nejadansari and Mohammadi (2015) found that DMs used frequently by Iranian university teachers helped scaffold students' learning, aiding the flow and structure of information in classroom interactions.

These recent studies align with previous research but expand the scope by emphasizing the importance of DMs in reducing cognitive load, improving fluency, and fostering intercultural communicative competence,

particularly in cross-cultural EFL environments (Rodriguez & Jafari, 2023). The ongoing research underscores the necessity of explicit DM instruction to aid both cognitive and pragmatic aspects of language learning for non-native speakers.

METHODOLOGY

Study Design

Before outlining the specifics of the study design, it is essential to clarify the model used to frame its logic. There is no universal consensus on defining or categorizing discourse markers (DMs) (Fraser, 1990). However, for this study, Crible's (2017) annotation model was employed to assess and analyze the distribution of DM functions and domains in an English corpus collected from Iranian EFL teachers. This model represents an extensive revision of Crible's (2017) taxonomy, incorporating methodological insights from Crible and Degand's (2019) annotation experiments. The chosen model covers both speech and writing, with high reliability for DM categorization, though annotation remains somewhat subjective (Spooren & Degand, 2010). Unlike earlier models, it offers a two-dimensional framework that decouples functions and domains for a more systematic discourse analysis.

In this study, four psycho-cognitive domains were analyzed, reflecting how DMs operate: (1) the ideational domain (relating to external events), (2) the rhetorical domain (relating to the speaker's attitude or reasoning), (3) the sequential domain (relating to discourse structure), and (4) the interpersonal domain (relating to speaker-hearer interaction). The PDTB guidelines were used to refine these categories further, classifying DMs according to functions such as Addition, Cause, Concession, and Contrast, among others (Prasad et al., 2018). These functions, in turn, were mapped onto their corresponding domains.

A quantitative descriptive design was adopted to analyze the spoken corpus data collected from the teachers. The data were obtained through unobtrusive audio recordings of EFL classroom interactions. Brinton's (1996) Inventory of Discourse Markers in Modern English served as an inclusive criterion for selecting and naming transcribed DMs in the corpus. A total of 33 DMs were identified for this purpose.

The corpus-driven data were analyzed using descriptive and non-parametric statistical tests, including mean, standard deviation (SD), frequency, Chi-square (X^2), and percentage. These analyses provided a detailed picture of DM usage by novice and experienced teachers in pre-intermediate and upper-intermediate EFL classes. The independent variables in this study were the teachers' experience (novice vs. experienced) and the proficiency level of the classroom (pre-intermediate vs. upper-intermediate). The dependent variables included the type, domain, function, and frequency of each DM in the teachers' discourse.

Instruments

This study employed a corpus-driven quantitative descriptive design to examine the discourse markers (DMs) used by non-native EFL teachers in classroom interactions, specifically analyzing the differences in DM usage based on teaching experience. The following instruments were utilized:

1. **Audio Recordings:** Audio recording devices were used to capture the natural discourse of both novice and experienced teachers during classroom interactions. The recordings ensured an accurate

representation of classroom talk, including the sequential flow and contextual usage of discourse markers by teachers.

2. **Transcription and Coding Software:** The audio recordings were transcribed and analyzed using AntConc software, which facilitated the systematic identification and categorization of discourse markers within the transcripts. AntConc's Keyword in Context (KWIC) function enabled a thorough examination of DMs in their surrounding discourse, providing insight into their role in structuring classroom communication.
3. **Annotation Model:** Crible's (2017) annotation model was adapted for this study, allowing the categorization of DMs based on their functional domains, including sequential, rhetorical, ideational, and interpersonal functions. This model provided a framework for identifying and classifying DMs in terms of their psychological functions, which included categories such as monitoring, concession, addition, and specification.
4. **Descriptive and Inferential Statistical Tests:** To analyze DM frequency and distribution across novice and experienced teachers, descriptive statistics (mean, standard deviation, frequency) and inferential tests (Chi-square tests) were applied. These statistical analyses provided quantitative data on DM usage patterns, enabling the study to identify significant differences across teacher experience levels and classroom proficiency levels.

These instruments collectively allowed for a comprehensive analysis of DM usage in EFL classrooms, capturing both the quantitative distribution and qualitative functions of DMs across different teaching contexts. This methodology supports the study's aim to investigate how teacher experience impacts the use of DMs in facilitating classroom interactions, contributing to a deeper understanding of the role of DMs in non-native EFL teaching contexts.

Procedures

Below is a breakdown of the procedural steps followed in the present research:

The researcher first sought consent from the teachers to audio-record their lectures for analysis. Among those who agreed, 5 novice teachers (less than five years of teaching experience) and 5 experienced teachers (more than ten years of teaching experience) were selected. These teachers taught pre-intermediate and upper-intermediate students. Each session was 90 minutes long, but only 75 minutes were recorded to give participants some privacy and avoid making them feel entirely observed. The researcher transcribed the recordings to focus on teachers' discourse, categorizing their speech under psycho-cognitive domains and functions. While classroom interaction is seen as a two-way event, student discourse was excluded from the analysis. Both the researcher and his supervisor independently conducted the transcription process, ensuring intra- and inter-rater reliability for psychological domains and functions.

To capture naturalistic classroom discourse, only one session per week was recorded without informing the participants which session would be recorded. Two audio recorders were placed at the back of the classroom to avoid interference with the class dynamics. The researcher did not intervene in the class sessions, ensuring the data reflected the natural flow of teacher-student interactions. Teachers were unaware that their use of DMs was the focus of the research, ensuring their speech was unaffected by the study's objective. All personal information was anonymized to ensure confidentiality.

The intra-rater reliability score for the psychological domains was 83% ($\kappa = 0.775$), and for the functions, it was 75.6% ($\kappa = 0.72$). The inter-rater reliability between the researcher and the supervisor also yielded high reliability scores ($\kappa = 0.886$ for domains and $\kappa = 0.896$ for functions).

Data Analysis

In this study, a corpus-driven approach was used to investigate the use of discourse markers (DMs) by non-native English teachers in EFL classrooms. The analytical framework integrated both qualitative and quantitative methodologies to answer the research questions regarding the types, frequencies, and functions of DMs. The qualitative analysis was based on Schiffrin's (1987), Müller's (2005), and Brinton's (1996) taxonomies of DMs. These frameworks categorized DMs based on their pragmatic functions, such as topic management, interactional coherence, or structuring discourse. This classification system guided the coding and analysis of DMs in the collected corpus data. Through careful reading and contextual interpretation, each DM was classified according to its functional category.

Quantitative analysis focused on the frequency and distribution of DMs in the corpora. Descriptive statistics were used to examine the number and types of DMs employed by novice and experienced teachers. Inferential statistical tests, such as the Chi-square test, were employed to determine if there were significant differences between the two groups in their use of DMs, considering factors such as teacher experience and the proficiency level of their students. The following steps guided the analysis of the corpus:

1. **Transcription and Data Preparation:** The collected audio recordings of classroom interactions were transcribed. Only teacher discourse was included in the corpus, with students' discourse omitted. The researcher thoroughly checked each transcription to ensure accuracy and coherence.
2. **Identification and Coding of DMs:** The transcriptions were examined twice to identify lexical items functioning as DMs. Each DM was coded based on its functional role in the discourse using Schiffrin, Müller, and Brinton's taxonomies. A separate codebook was developed to track the classification of DMs.
3. **Frequency Analysis Using AntConc:** Once DMs were identified and categorized, AntConc (Version 3.4.4), a corpus analysis tool, was used to analyze the frequency and distribution of DMs in the two teacher groups. The software provided a KWIC (Keyword in Context) view, allowing the researcher to review DMs within their surrounding context for better categorization and differentiation from other lexical bundles.
4. **Statistical Analysis:** After the frequency data was compiled, descriptive statistics summarized the types and frequencies of DMs in each group (novice and experienced teachers). Inferential statistics, such as the Chi-square test, were conducted to examine any significant differences between the two groups, particularly concerning the frequency of DM use in different proficiency levels (pre-intermediate and intermediate classrooms).
5. **Interpretation of Findings:** Finally, the qualitative and quantitative findings were integrated to address the research questions. The researcher interpreted how the use of DMs differed between novice and experienced teachers, how DMs functioned in EFL classroom discourse, and the potential implications for language teaching and learning.

By combining qualitative insights from the functional categorization of DMs and quantitative data on their frequency and usage patterns, this framework allowed for a comprehensive analysis of discourse markers in the EFL classroom context.

RESULTS

Research Question 1

In addressing the first research question, qualitative data were analyzed based on the general lexical size and frequency derived from corpus transcription and the categorization of DMs under psychological domains. The results revealed that the Iranian EFL teachers, both novice and experienced, showed a nearly identical pattern in the use of DMs domains in their spoken language. The transcribed data consisted of 51,471 words for novice teachers and 50,418 words for experienced teachers, with a total of 1,114 DMs and 1,031 DMs identified, respectively (see Tables 3.5 and 3.6). A quick review of these figures reveals that sequential and rhetorical domains were the most frequently used, followed by the ideational and interpersonal domains. This distribution was consistent for both novice and experienced teachers at the pre-intermediate and upper-intermediate levels.

Table 1

Distribution and Frequency of Psychological Domains in Both Proficiency Levels

Domains	NT Frequency (Pre- intermediate)	Absolute (Pre- intermediate)	NT Frequency (Upper- intermediate)	Absolute (Upper- intermediate)	ET Frequency (Pre- intermediate)	Absolute (Pre- intermediate)	ET Frequency (Upper- intermediate)	Absolute (Upper- intermediate)
Sequential	292		290		259		252	
Rhetorical	165		163		154		150	
Ideational	69		67		61		59	
Interpersonal	62		60		49		48	
Total	588		580		523		509	
Mean	117.6		116		104.6		101.8	

P=pre-intermediate, U=upper-intermediate, NT=novice teachers, ET=experienced teachers

As depicted in Table 1, novice and experienced teachers exhibited a similar ranking of DMs usage across psychological domains. However, novice teachers slightly outperformed experienced teachers in the frequency of each domain, especially in sequential and rhetorical domains. While these differences may seem numerically significant, they do not necessarily indicate any advantage or priority for novice teachers over experienced teachers. Rather, these numbers offer a general overview of the distribution of DMs in terms of psychological domains. Further explanations for this distribution will be explored in the discussion section.

Research Question 2

For the second research question, the total number of words and DMs categorized under 14 different functions was analyzed. The data demonstrated that both novice and experienced teachers showed similar patterns in the most to least used DMs functions.

Table 2

Distribution and Frequency of Psychological Functions in Both Proficiency Levels

Functions	NT Frequency (Pre- intermediate)	Absolute (Pre- intermediate)	NT Frequency (Upper- intermediate)	Absolute (Upper- intermediate)	ET Frequency (Pre- intermediate)	Absolute (Pre- intermediate)	ET Frequency (Upper- intermediate)	Absolute (Upper- intermediate)
Monitoring	201		199		146		145	
Concession	83		81		80		79	
Addition	76		75		68		67	
Consequence	57		56		57		55	
Specification	41		39		37		34	
Alternative	39		38		32		31	
Temporal	24		22		29		28	
Cause	22		20		23		21	
Topic	19		18		18		16	
Contrast	8		7		9		9	
Condition	6		6		7		7	
Quoting	6		5		7		6	
Hedging	3		2		5		5	
Disagreeing	3		2		5		4	
Total	588		570		523		507	
Mean	42		40.71		37.35		36.21	

P=pre-intermediate, U=upper-intermediate, NT=novice teachers, ET=experienced teachers

As seen in Table 2, both novice and experienced teachers demonstrated similar ranking in terms of DMs functions, with Monitoring, Concession, Addition, Consequence, and Specification functions being the

most frequently used. Conversely, the least frequent functions were Contrast, Condition, Quoting, Hedging, and Disagreeing.

Although novice teachers used more DMs functions, the difference was not substantial enough to draw any conclusions about their superiority. These figures provide a general understanding of the distribution of DMs functions, and any potential justifications for these trends will be explored in the discussion section.

Research Question 3

Research question addressed whether there any statistically significant differences between psychological domains of DMs used by novice and experienced Iranian EFL teachers in English classrooms. A chi-square (X^2) goodness of fit test revealed no significant difference between novice and experienced teachers in the total number of words and DMs. With an observed chi-square value of 9.867 compared to the critical value of 23.121 at $\alpha = .05$ and $df = 1$, the null hypothesis was not rejected. Hence, there was no statistically significant difference in the psychological domains between the two groups of teachers ($X^2 = 9.867 < \text{critical } X^2 = 23.121$).

Table 3

Distribution of Psychological Domains in Novice and Experienced Teachers' Sample in Pre- and Upper-intermediate Classes

Domains	NT (Total)	Absolute Frequency	ET (Total)	Absolute Frequency	% for NT	% for ET
Sequential	582		511		100.21%	99.02%
Rhetorical	228		304		56.16%	58.90%
Ideational	136		120		23.28%	23.25%
Interpersonal	120		97		20.89%	18.79%
Total	1,168		1,032		100%	100%

While the chi-square test indicated no significant difference in DMs frequency between novice and experienced teachers, a significant difference was observed within the groups. The chi-square values for DMs domain distribution within each group were statistically significant: $X^2 = 11.231$ for novice teachers and $X^2 = 11.101$ for experienced teachers, both higher than the critical value of 9.432 and 9.321, respectively.

Research Question 4

Research question four addressed whether there any statistically significant differences between the psychological functions of discourse markers (DMs) used by novice and experienced Iranian EFL teachers in English classrooms. According to Table 4, no statistically significant differences were found in the psychological functions of DMs between novice and experienced teachers. Although novice teachers used more words and DMs in their classroom talk, the difference was not large enough to achieve statistical significance. A chi-square (X^2) goodness-of-fit test was employed to calculate the distribution of DMs'

psychological functions, yielding an observed chi-square value of 9.431 compared with the critical value of 16.678 at $\alpha = .05$ and $df = 1$. This suggests that there was no significant statistical difference between novice and experienced teachers in terms of the total number of words or the frequency of DMs' psychological functions (see Table 4.4). Thus, the null hypothesis for this question was not rejected, as the chi-square value was much lower than the critical value ($X^2 = 9.431 < \text{critical } X^2 = 16.678$).

Table 4

Distribution of Functions in the Novice and Experienced Teachers' Sample in Pre- and Upper-Intermediate Classes

Functions	Absolute Frequency (NT)	Absolute Frequency (ET)	% (NT)	% (ET)
Monitoring	400	291	69.09	56.50
Concession	164	159	28.32	30.87
Addition	151	135	26.07	26.21
Consequence	113	112	18.97	21.74
Specification	80	71	13.81	13.77
Alternative	77	63	13.29	12.22
Temporal	46	57	7.93	11.06
Cause	42	44	7.24	8.53
Topic	37	34	6.38	6.59
Contrast	15	18	2.58	0.49
Condition	12	14	2.07	2.71
Quoting	11	13	1.89	2.51
Hedging	5	10	0.86	1.98
Disagreeing	5	9	0.86	1.73
Total	1158	1030	100%	100%

The chi-square test showed a statistically significant difference in the psychological functions of DMs within both novice and experienced groups (novice teachers: critical value = 7.768 < $X^2 = 9.872$; experienced teachers: critical value = 7.342 < $X^2 = 9.654$). Thus, the null hypothesis was rejected for the within-group analysis, but no significant difference was observed between novice and experienced teachers.

Research Question 5

Table 5 shows that novice and experienced teachers used similar numbers of words and DMs across both proficiency levels. While both groups used fewer words and DMs in upper-intermediate classes, this difference was not statistically significant. The obtained chi-square value of 8.543 was less than its critical

counterpart (15.543), indicating no significant differences between the groups in the frequency distribution of DMs' psychological domains. Therefore, the null hypothesis was not rejected ($X^2 = 8.543 < \text{critical } X^2 = 15.543$).

The novice teachers in both pre-intermediate and upper-intermediate classes used sequential and rhetorical domains more frequently than ideational and interpersonal ones. However, no significant differences were found in the total number and frequency of these domains between the two proficiency levels. A significant difference, however, was observed within each proficiency level (see Table 4.5), as the chi-square test showed a statistically significant difference among DMs' psychological domains within each group.

Table 5

Distribution of Domains in the Novice and Experienced Teachers' Sample in Pre- and Upper-Intermediate Classes

Domains	Absolute Frequency (NT)	Absolute Frequency (ET)	% (NT)	% (ET)
Sequential	292	290	49.66	49.52
Rhetorical	165	163	28.06	29.44
Ideational	69	67	11.73	11.66
Interpersonal	62	60	10.55	9.36
Total	588	580	100%	100%

Research Question 6

As shown in Table 6, there was no statistically significant difference between novice and experienced teachers regarding the frequency of DMs' psychological functions across proficiency levels. The critical chi-square value of 14.843 exceeded the observed chi-square value of 8.943, leading to the null hypothesis not being rejected ($\text{critical } X^2 = 14.843 > \text{observed } X^2 = 8.943$).

Novice and experienced teachers used more DMs and functions in pre-intermediate classes, but this difference was not statistically significant. However, within each proficiency level, significant differences were found in the frequency distribution of DMs' functions (see Table 6).

Table 6

Distribution of Functions in the Novice and Experienced Teachers' Sample in Pre- and Upper-Intermediate Classes

Functions	Absolute Frequency (NT)	Absolute Frequency (ET)	% (NT)	% (ET)
Monitoring	201	199	34.18	27.91
Concession	83	81	14.11	15.29
Addition	76	75	12.92	13.00

Consequence	57	56	9.69	10.89
Specification	41	39	6.97	7.07
Alternative	39	38	6.63	6.11
Temporal	24	22	4.08	5.54
Cause	22	20	3.74	4.39
Topic	19	18	3.23	3.44
Contrast	8	7	1.36	1.72
Condition	6	6	1.02	1.33
Quoting	6	5	1.02	1.33
Hedging	3	2	0.51	0.95
Disagreeing	3	2	0.51	0.95
Total	588	570	100%	100%

As Table 6 shows, Monitoring, Concession, Addition, and Consequence functions received the highest percentages and frequencies for both novice and experienced teachers, while functions such as Contrast, Condition, Quoting, Hedging, and Disagreeing were used less frequently.

DISCUSSION

In this study, the researcher aimed to explore and justify the findings concerning the psychological domains and functions of discourse markers (DMs) used by Iranian EFL teachers. As outlined earlier, limited studies have comprehensively addressed all constructs and variables investigated in the current study. Nevertheless, efforts were made to synthesize relevant literature to present a broader understanding of these issues.

Psychological domains of DMs Iranian EFL teachers use in EFL classrooms

The results indicated that both novice and experienced Iranian EFL teachers demonstrated similar usage, frequency, and distribution of psychological domains. The domains—Sequential, Rhetorical, Ideational, and Interpersonal—were identified, with Sequential and Rhetorical domains being the most frequently used. This finding aligns with Crible and Degand's (2019) study, which examined DMs in French conversations, presenting similar classifications, albeit with different frequency distributions. In another study, Chapetón Castro (2009) found that DMs fulfilled textual and interpersonal domains in a non-native teacher's EFL classroom discourse. While the number of DMs and distribution varied, the results supported the importance of DMs for coherence and pragmatics in classroom interaction.

In addition, Hays' (1992) study of Japanese native speakers' use of DMs in English interviews also corroborated the findings, where sequential and textual DMs appeared frequently, paralleling the current study's emphasis on Sequential domains.

Which psychological functions of DMs do Iranian EFL teachers use in EFL classrooms?

Regarding DMs' functions, the five most frequent were monitoring, concession, addition, consequence, and specification, whereas topic, contrast, condition, quoting, hedging, and disagreeing occurred less frequently. This result is in line with Crible and Degand's (2019) findings, where similar functions were observed, albeit with different frequency distributions.

Chapetón Castro's (2009) study further supports this, showing that DMs contribute to classroom discourse by fulfilling various textual and interpersonal functions, including alternative, temporal, and cause, which were also seen in the current study. Similarly, Rongrong and Lixun (2015) investigated DMs in Hong Kong EFL classrooms, finding that local teachers used more DMs than native speakers. The top functions in their study—monitoring, concession, addition, consequence, specification—resonate with the functions identified in the current study, suggesting some level of consistency across different EFL contexts.

Chapetón Castro's (2009) study, which also analyzed DMs in EFL classrooms, revealed a similar range of functions. Although the frequency and number of DMs differed, the importance of DMs for maintaining discourse coherence and engagement remained a shared observation.

Differences between psychological domains of DMs used by novice and experienced Iranian EFL teachers in English classrooms?

Existing research shows that experienced teachers generally use a broader range and more sophisticated DMs due to their greater familiarity with classroom dynamics and student needs (Cots & Diaz, 2005; Fung & Carter, 2007). In addition, their higher proficiency and familiarity with cultural and discursal elements (Nathan, Kim, & Grant, 2009) enhance their use of authentic language. Studies by Rezvani and Rasekh (2011) also support the finding that experienced Iranian EFL teachers employ DMs more effectively in facilitating classroom interaction.

However, in contrast to these studies, the current study found that experienced teachers used fewer DMs than their novice counterparts, although the effectiveness of their discourse was not the focus. This finding contradicts prior studies (Yulita, Rukmini, & Widhiyanto, 2021; Zorluel Özer & Okan, 2018), where experienced teachers were shown to use more DMs. It's important to note that both groups of teachers in the present study were non-native, which may explain the discrepancy.

Rongrong and Lixun (2015) also found that local teachers used more DMs, with no significant difference in DMs usage between local and native teachers, although teacher experience was not highlighted as a contributing factor. Kapranov's (2019) study, examining pre-service teachers' use of DMs in Norway, found that novice and experienced teachers employed similar types of DMs, aligning with the current study. However, Kapranov did not discuss differences in the domains or functions of DMs, which were key considerations in the present research.

Differences in Psychological Functions of DMs Used by Novice and Experienced Iranian EFL Teachers

The findings of this study suggest that teachers' experience significantly influences their use of discourse markers (DMs) in English language classrooms. Previous research has shown that teachers adapt their classroom discourse based on various variables, including students' age, proficiency level, and gender (Xin & Shi Biru, 2011; Woodward-Kron & Remedios, 2007). These studies indicate that experience serves as a

critical indicator of discourse quality and quantity (Weinert, 1998; Walsh, 2011). Experienced teachers, in particular, are often more adept at managing DMs flexibly and skillfully to enhance their teaching effectiveness (Vickov & Jakupčević, 2017; Tsui, 2008).

In contrast, novice EFL teachers, characterized by limited experience and language proficiency, typically exhibit restricted patterns in their DM usage. Research by Bardovi-Harlig (2001) highlights that novice teachers often rely on a limited repertoire of DMs, predominantly using basic markers for simple functions such as signaling sequence or elaboration. In the current study, novice Iranian EFL teachers demonstrated limited DM usage across various domains and functions. This observation aligns with findings from prior studies indicating that experienced and native teachers employ a more extensive range of DMs (Rymes, 2016; Riegenbach, 1999; Rahimi & Riasati, 2012).

The need for meta-analytical studies is evident, as they could further elucidate the expected and unexpected patterns in DM usage across different teacher experiences and contexts. While Yıldız (2023) observed that experienced teachers employ a broader range of DMs to enhance discourse coherence and cohesion, the current study found that both novice and experienced teachers in the Iranian context utilized similar psychological functions of DMs quantitatively. However, experienced teachers exhibited less variety in the types of DMs used. This discrepancy suggests that further investigation is warranted to explore the contextual factors contributing to these differences.

Amador et al. (2006) also noted that experienced native speaker teachers utilized a limited number of DMs, which is consistent with the current findings regarding Iranian experienced teachers. The lack of significant differences in DM usage raises questions about the impact of teachers' experience levels on their performance. This study's results resonate with Aşık and Cephe (2013) and Khazae (2012), who found that non-native speakers tend to use a narrower range of DMs compared to native speakers, indicating a potential cultural influence on DM usage.

Generally, while teachers' experience and performance appear interconnected, the present study suggests that factors beyond experience may influence the usage patterns of DMs in EFL contexts, warranting further research to clarify these relationships.

Differences in Psychological Functions of DMs in Pre-Intermediate and Upper-Intermediate EFL Classrooms

Similar to the insights gleaned from the previous section, this study emphasizes the significance of both teachers' experience and learners' proficiency levels in determining the discourse dynamics in language classrooms. Research has consistently highlighted that teachers modify their teaching methodologies and discourse based on learners' proficiency (Paatola, 2002; Nunan, 1993; Maschler, 2009). In this study, the proficiency levels of learners were assigned based on routine assessments, yet these assessments may not fully capture the learners' true proficiency, particularly in a culturally distinct context like Iran.

The findings indicate that novice teachers employed more DMs in pre-intermediate classes compared to their experienced counterparts, although the difference was not statistically significant. Conversely, experienced teachers demonstrated a greater use of functional DMs in pre-intermediate classrooms. This aligns with prior research suggesting that non-native speakers may exhibit limited DM usage, particularly for interactive functions (Khazae, 2012; Liao, 2008).

The limited use of functional DMs by both novice and experienced teachers across proficiency levels raises concerns about cultural immersion and exposure to authentic language. Research indicates that culturally immersed teachers tend to employ DMs more effectively, while the current study suggests that both novice and experienced teachers may lack exposure to authentic English discourse, potentially limiting their DM usage (Doyle, 1981; Hall & Walsh, 2002).

Moreover, studies have shown that L2 learners, particularly at lower proficiency levels, do not utilize DMs to the same extent as native speakers (Fung & Carter, 2007; Hasselgreen, 2004; Muller, 2005; Neary-Sundquist, 2014). The findings of this study corroborate this trend, as both novice and experienced teachers demonstrated similar patterns in their use of DMs across different proficiency levels, reinforcing the notion that authentic exposure is crucial for developing a more extensive and functional use of DMs.

Differences in Psychological Domains of DMs Used by Novice and Experienced EFL Teachers

The results regarding the psychological domains of DMs employed by novice and experienced teachers revealed no statistically significant differences, echoing the findings on their psychological functions. The interrelatedness of these research questions highlights the importance of understanding the broader implications of DM usage in educational contexts. The lack of significant differences in the distribution and frequency of DMs among teachers of varying experience levels suggests that other factors, including cultural context and exposure to authentic language, may play a more decisive role in shaping DM usage patterns.

Furthermore, the literature indicates that proficiency levels significantly impact teachers' language choices and discourse strategies (Hellermann, 2008). The current study contrasts with prior research that identified notable differences in DM usage based on teachers' experience and learner proficiency (Aşık & Cephe, 2013; O'Keeffe, McCarthy, & Carter, 2007). The absence of significant findings in this study could indicate that both novice and experienced teachers lack access to authentic language input, thereby restricting their ability to utilize DMs effectively.

The findings resonate with Vickov and Jakupčević (2017), who reported that non-native teachers exhibited limited DM usage in classroom discourse. The lack of qualitative and quantitative differences in DM usage across proficiency levels raises questions about the communicative outcomes achieved by the participating teachers, suggesting that further research is needed to examine the effectiveness of their DM usage in fulfilling communicative objectives.

In conclusion, this study emphasizes the complex interplay of teachers' experience, learners' proficiency, and the cultural context in shaping DM usage in EFL classrooms. Despite the limitations observed in the current findings, the results underscore the need for continued research to explore the nuanced roles of these factors in language pedagogy, particularly in non-native English-speaking contexts.

CONCLUSION

According to Müller (2005), discourse markers (DMs) contribute to the pragmatic meaning of utterances, playing an essential role in a speaker's pragmatic competence. Schiffrin (2001) explains that DMs reveal not only the linguistic properties, including semantic and pragmatic meanings and functions, but also the organization of social interactions and the cognitive, expressive, social, and textual competence of their

users. The functional and dimensional aspects of DMs are socially and culturally bound, necessitating that language users become more familiar with these facets of language (Lynch, 2005; Lam, 2009; Kasper, 2006). In this study, all teachers and learners were non-native participants without authentic experiences of language learning or teaching abroad. While DMs have been extensively studied, discussions regarding terminology and definable issues remain unresolved.

Nevertheless, there is general agreement that producing coherent discourse is an interactive process that requires speakers to draw upon communicative knowledge and pragmatic resources (Lynch, 2005; Markee, 2004). The predominant focus of previous studies on native (or bilingual) English speakers, who acquire this pragmatic competence during childhood, highlights the need for further exploration of language usage by non-native English teachers.

This study revealed no statistically significant difference between novice and experienced non-native Iranian EFL teachers in terms of the frequency distribution and categorization of DMs' domains and functions. However, novice teachers used a higher number of DMs, while experienced teachers employed a slightly more varied selection. As a Ph.D. candidate finalizing my dissertation, the goal of this exploratory study was to describe the occurrences and frequencies of DMs in EFL classroom interactions, specifically involving non-native speakers as teachers and pre- and upper-intermediate learners. The primary objective was to identify the psychological domains and functions of DMs present in the spoken interactive corpus of a small sample of Iranian EFL teachers with varying teaching experience, focusing solely on teachers' DMs for the transcription process. The findings demonstrated that the occurrence and frequency of DMs were similar within and between group performances.

In addition, while there may be statistical associations between the type of unit and the function of DMs—particularly sequential uses related to larger discourse units such as turns or topics—this study did not systematically analyze their dependent combinations, co-occurrences, or multifunctionality. Instead, it focused on the distribution and frequency of main psycho-cognitive domains (e.g., facts, ideas, structure, exchange) and functions (e.g., “cause,” “contrast,” “monitoring,” or “hedging”), leaving the analysis of their interactions for future research to distinguish between multi-domain and multi-function types.

This small-scale study demonstrated that non-native teachers frequently used DMs to organize classroom discourse and fulfill interpersonal and pragmatic functions. These findings may be beneficial for non-native EFL teachers and practitioners. Increased awareness of the textual functions of DMs could aid practitioners in structuring their lessons, as DMs signal key segments (e.g., frame markers) and perform various organizational functions, such as managing turns in conversation. Furthermore, understanding the pragmatic uses of DMs may help teachers establish better interpersonal relationships in the classroom, creating a more inviting atmosphere for active participation.

Although this exploratory study may not allow for broad generalizations about the discourse characteristics of the non-native speaker community, it raises awareness of the need for further research focused on non-native speakers, particularly in EFL classroom interactions. As Llurda (2004) points out, the transformation of English as an international language has significantly impacted the teaching profession, which should not be overlooked. Further research examining the differences and similarities between native and non-native teachers' discourse, as well as non-native teachers with varying experiences or characteristics, could help identify and characterize these changes.

Research on DMs and classroom interaction is particularly valuable because the functions and contexts of DMs are diverse and integral to understanding discourse. This line of inquiry may shed light on the multifaceted reality in which English is used by both non-native teachers and learners. However, differences in the quantity of DMs used by native and non-native teachers and students in classroom interactions may stem from various factors and methodological issues (Markee, 2004; Sacks, 1992a; Widdowson, 2007).

In summary, the results of this study align with existing research on the distribution and frequency of DMs' domains and functions (Vickov & Jakupčević, 2017; Vickov, 2014; Yangın-Ersanli, 2015) and confirm the prioritization of ESL contexts for DM usage compared to EFL contexts. It is noteworthy that the high frequency of DMs in novice teachers' speech does not necessarily indicate more influential discourse or superiority over experienced teachers, as some novice teachers exhibited repetitive usage of specific DMs or encountered difficulties selecting appropriate DMs for particular speech events.

Implications

This section presents the theoretical, practical, and pedagogical implications of the study. Theoretically, the findings contribute to current frameworks and models in discourse analysis, particularly concerning DMs, by illuminating the importance of psychological domains and functions and their vital role in enhancing the quality of discourse models, both individually and in combination.

Practically and pedagogically, the research findings highlight the multifaceted roles of DMs in classroom interactions as significant indicators of language fluency and proficiency. Consequently, incorporating the study of DMs into English teacher training programs, especially in EFL contexts characterized by a lack of authentic language exposure, is advisable. This inclusion would raise teachers' awareness of the importance of DMs in classroom interactions. However, it underscores the need for further research to inform decisions about the implicit or explicit teaching of DMs in EFL classrooms. Such studies could significantly contribute to developing learners' pragmatic competence.

To encourage teachers to reflect on and monitor their use of DMs during classroom interactions, they could record their lessons, transcribe them, and compile a corpus of their English teaching. Utilizing corpus analysis tools would enable teachers to identify challenges in their use of DMs and facilitate improvements, such as avoiding the overuse of specific DMs and expanding their repertoire of DMs in classroom interactions.

Given the varying usage of DMs, it is recommended that EFL teachers in local schools collaborate through workshops and seminars with experts on DMs from higher education institutions to facilitate professional exchanges and development in this area.

Lastly, examining the use of DMs in classroom interactions necessitates considering related topics, such as deixis, teachers' questioning techniques, and the effective negotiation of meaning through discourse devices that promote coherence and cohesion in classroom interactions.

Further Research

As Müller (2005) asserts, limited knowledge exists regarding DMs' usage by non-native speakers, particularly by non-native EFL teachers. This study, with its limited sample size, underscores the necessity for further investigation to explore additional aspects of DMs, relying on more extensive interactions

between teachers and learners to examine the multifocality and co-occurrence of DMs' domains and functions.

For this study, the emphasis was placed on the frequency and types of selected DM functions and domains, considering how teachers' teaching experience might influence this aspect. Research analyzing classroom interactions through discourse can illuminate two critical areas: first, it may enhance understanding of EFL classroom dynamics, and second, it provides valuable understanding of the language employed by non-native EFL teachers and students.

Further research is necessary to inform decisions regarding the implicit or explicit teaching of DMs in EFL classrooms by introducing diverse methods and tasks serving this objective. Investigating the differences and similarities between native and non-native teachers' discourse could help identify and characterize the changes that Llorca (2005) mentions. A comparative analysis of native and non-native teachers' usage of DMs in EFL contexts seems more logical. In addition, the researcher acknowledges the need for various approaches to discourse annotation to advance this line of inquiry.

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