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The Impact of Teaching Cohesive Conjunction Patterns Extracted from Expository Texts Written by English Proficient Writers on Iranian EFL Learners Conjunction Patterns Usage

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ABSTRACT

Objective: This study investigates whether explicit instruction in cohesive conjunction patterns—derived from authentic English academic texts—can enhance the writing proficiency of Iranian EFL learners.

Methods: A mixed-method design combining corpus analysis and experimental instruction was used. Sixty university students were randomly assigned to an experimental group and a control group. Conjunction patterns were extracted from the British Academic Written English (BAWE) corpus based on Halliday and Hasan's (1976) taxonomy. The control group received standard writing instruction, while the experimental group received targeted training on the identified conjunction patterns. Pre- and post-tests were administered to assess changes in the learners' writing performance.

Results: Students in the experimental group showed significant improvement in their use of varied and rhetorically effective conjunctions, particularly adversative and causal links, while reducing overuse of basic additive forms. Statistical analyses confirmed that these improvements were significant and not attributable to chance. The quality of writing improved not through the sheer number of cohesive devices but through their strategic and context-appropriate use.

Conclusions: Targeted instruction using authentic academic texts meaningfully enhances EFL learners' coherence, analytical depth, and overall writing quality. These findings support integrating corpus-derived models and conjunction-focused instruction into EFL writing curricula to promote more effective academic writing.

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Introduction

Since the 1970s, cohesion has been a central focus in text analysis, particularly in understanding how textual elements work together to produce coherent and meaningful discourse. Cohesion refers to the linguistic ties that connect sentences and clauses, while coherence involves the logical and conceptual flow of ideas. A well-written text requires both cohesive devices and coherent structure. Scholars such as Halliday and Hasan (1976) have categorized cohesive devices into five main types: reference, substitution, ellipsis, conjunction, and lexical cohesion. Among these, conjunctions, used to link ideas across clauses and sentences, are particularly crucial in academic writing.

However, research presents mixed findings on the relationship between the use of cohesive devices and writing quality. While some studies report a strong correlation, others find little to no connection. These inconsistencies are further complicated by varying text types and student proficiency levels. In the context of English as a Foreign Language (EFL), learners often struggle with appropriate use of conjunctions, commonly overusing or misapplying them, which affects the clarity and cohesion of their writing. Comparative studies suggest that cultural and linguistic backgrounds may influence these patterns.

Given these challenges, there is a growing call for more explicit instruction in cohesive device usage, supported by corpus-based approaches. This study builds on prior research by examining the use of conjunctive cohesion in academic writing by Iranian EFL learners. It aims to explore the potential impact of targeted instruction on improving writing proficiency.

The concept of "text" has been defined from various linguistic perspectives, with no universally agreed-upon definition. Halliday and Hasan (1976) described a text as a semantic unit—a unified stretch of authentic spoken or written language—distinguished by texture, the quality that gives it cohesion and coherence. Werlich (1976) emphasized the importance of coherence and completion, while Widdowson (1979) viewed a text as a collection of formal objects linked by cohesive devices. Fowler (1991) noted that texts involve construction principles beyond sentence-level grammar. De Beaugrande and Dressler (1981) proposed seven standards of textuality, including cohesion, coherence, intentionality, acceptability, situationality, intertextuality, and informativity. Halliday and Hasan (1976) highlighted cohesive ties—such as reference, substitution, ellipsis, and conjunction—as essential for creating texture, which unifies a passage into a meaningful whole. Paltridge (2011)

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and Halliday (1989) reinforced that texture is fundamentally a matter of semantic meaning relations that bind a text together.

Researchers have long emphasized the strong connection between writing, learning, and education, noting that writing is not merely a mechanical act but a cognitive process that involves discovery, reflection, and meaning-making (Vygotsky, 1962; Emig, 1977; White, 1988a,b). Rather than rote memorization, modern education prioritizes understanding, application, and exploration—values that align closely with the writing process (Odell, 1980; Elbow, 1981; Zamel, 1982). Writing is also viewed as a central educational tool, supported by classroom dialogue and feedback that foster critical thinking and expression (Sinclair & Coulthard, 1975; Grimshaw, 1990). In this context, essay writing becomes a core academic skill. Since the 1970s, Writing Across the Curriculum (WAC) programs have been developed to integrate writing instruction into various disciplines, enhancing students' writing competence and overall literacy (Fulwiler, 1988; Herrington & Moran, 1992; Leki & Carlson, 1994). These programs operate on the principle of "writing to learn," tailoring writing tasks to disciplinary needs and promoting integrated skills instruction (Reid, 1993; Swales & Feak, 1995). Moreover, recent studies have focused on the linguistic features of academic writing, such as cohesion and topic structure, to further support students in mastering complex academic texts (Hill, 1986; McCarthy, 1987; Graham et al., 2008; MacArthur et al., 2016).

Academic writing refers to any formal writing produced in academic settings, such as research papers, theses, dissertations, journal articles, and conference papers, typically to fulfill institutional or disciplinary requirements. Scholars define it as a discipline-specific, evidence-based form of written expression. Irvin (2010) describes academic writing as an evaluative task that demonstrates knowledge and proficiency in disciplinary thinking and communication. Murray (2005) and Oshima & Hogue (2007) emphasize its formal, structured nature and its adherence to specific conventions. Two defining features are its discipline-specificity, meaning it follows the norms and formats of a particular academic field, and its evidence-based nature, where claims are supported by credible sources. Irvin (2010) further identifies academic writing as both argumentative and analytical: it presents logical, well-supported arguments resembling thoughtful discourse, and it involves analytical processes that answer "how" and "why" questions. Swales and Feak (2012) stress the importance of audience, purpose, and organization, suggesting that effective academic writing is

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shaped by the intended readers, the writer's goals, and coherent structuring. This includes clear style, formal language, proper citation, and thoughtful presentation of ideas.

Corpus linguistics, a rapidly evolving subfield since the creation of the Brown Corpus in 1964, involves the empirical analysis of large, computerized collections of natural language texts—known as corpora—to investigate linguistic phenomena (Meyer, 2002; Biber, Conrad, & Reppen, 1998). These texts, stored electronically, are analyzed using concordancing software to identify patterns and rules in language. Initially used for research across linguistic disciplines, corpora have increasingly influenced language teaching. Leech (1997) notes that corpora have both direct and indirect impacts on classrooms, aiding in the development of reference materials and textbooks, as well as informing syllabus design (Flowerdew, 1993) and test creation (Coniam, 1994; Shillaw, 1994). They have also supported the development of academic and subject-specific wordlists (Coxhead, 2000, 2002; Wang, Liang, & Ge, 2008). Various types of corpora exist—general (e.g., BNC), synchronic (e.g., F-LOB), historical (e.g., ARCHER), learner (e.g., ICLE), and specialized (e.g., MICASE)—each serving different research and pedagogical purposes. Tools like WordSmith (Scott, 2012) enable detailed corpus analysis, making corpus linguistics a foundational resource in both linguistic research and language education.

Over the past three decades, researchers have extensively explored the relationship between the use of cohesive devices, particularly conjunctions, and the quality of writing by non-native English speakers, but their findings vary. Some studies, such as Zhang (2000) on Chinese students and Castro (2004) on Filipino students, found no strong correlation between cohesion and writing quality. In contrast, other research, including Liu and Braine (2005) and Yang and Sun (2012), highlighted a positive link, especially when cohesive devices were used accurately and logically. Bahaziq (2016) noted that conjunctions were especially prominent, with additive (e.g., and, also), adversative (but), and causal (because) types frequently used, though temporal conjunctions were absent. However, Hamed (2014) reported frequent and correct use of temporal conjunctions among Libyan students, while adversative conjunctions posed greater difficulty. Mohammed (2015) emphasized the importance of correct usage over mere presence, arguing that improper use undermines cohesion. He advised teachers to focus on teaching the mechanics of cohesive devices. Despite the central role of cohesion highlighted by Halliday and Hasan (1976), scholars like Brown and Yule (1983) stressed that cohesion alone does not guarantee coherence, which is essential for unified and meaningful

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writing. Thus, both cohesion and coherence are critical for effective writing. Studies across various languages—including Russian (Simmons, 1981), Hindi (Kachroo, 1984), Spanish (Mederos Martín, 1988; Casado Velarde, 1997), Japanese (Oshima, 1988), and Persian (Roberts et al., 2009), further reflect the widespread interest in cohesion across linguistic contexts.

Several researchers have investigated cohesion and cohesive devices across English and Persian texts, examining both similarities and differences in their application. Noor-Mohammadi (1984) conducted a contrastive study on cohesion in English and Persian, laying foundational insights into how these languages utilize cohesive devices differently. Kavoosi-Nejad (1993) explored ellipsis within noun and verb phrases as well as at the sentence level, emphasizing the distinction between ellipsis and substitution. Fazl-Ali (1995), building on Halliday and Hasan's (1976) framework, analyzed ellipsis in Persian stories by Al-e-Ahmad and Daneshvar and found verbal ellipsis to be less frequent.

Shoghosho`ara (1996) focused on conjunctions in Persian children's and adult stories and concluded that all four types of conjunctions (additive, adversative, causal, temporal) were used at both levels. Additive conjunctions were the most frequent overall. Temporal conjunctions were significantly more frequent in children's stories, while causals appeared more often in adults' stories, highlighting the role of audience in language use. Similarly, Mozaffar-Zadeh (1998) concluded that Halliday and Hasan's classification of ellipsis and substitution could be extended to Persian science texts at the guidance level.

In the context of EFL teaching, Tseng and Liou (2006) studied the effects of online conjunction materials and identified common issues such as L1 interference and flawed teaching materials. They stressed the importance of pedagogical strategies to help learners use conjunctions more coherently.

Roberts et al. (2009) examined cohesion and coherence in 16 Iranian stories using Dooley & Levinsohn's (2001) discourse analysis framework. Their study served as a foundational model for conducting discourse analysis in Persian. Rostami Abu-Sa'eedi (2010), meanwhile, found that conjunction use did not significantly distinguish strong from weak student writers, although additive conjunctions were the most frequent across both groups.

Seddigh, Shokr-Pour, and Kafi-Pour (2010) conducted a contrastive analysis of lexical cohesion in English and Persian abstracts using SPSS. They found repetition to be the most frequently used lexical cohesion sub-type in both languages, with no statistically significant differences between them.

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Gonzalez (2011) similarly found repetition to dominate in broadcast discussion corpora, introducing the concept of "associative cohesion" as part of a new integrated model.

San'atifar (2011) compared pro-form substitution in English and Persian, analyzing its forms, functions, and frequency. Sarli and Ishani (2011) applied Halliday and Hasan's (1976, revised 1985) theory of cohesive harmony to a minimal Persian story, concluding that this method could be used to quantitatively assess cohesion and coherence in any type of text. More recent studies have reinforced these findings: Siregar et al. (2023) found reference and conjunctions to be the most used cohesive devices in Indonesian EFL essays; Tabari and Johnson (2023) highlighted that cohesion types vary by genre and impact writing quality differently; and Fitria et al. (2024) demonstrated that instruction based on the Simple View of Writing significantly improves cohesion and coherence in students' work.

In summary, these studies collectively suggest that while cohesive devices like conjunctions and lexical ties play a vital role in textual cohesion across languages, their impact varies depending on context, audience, language structure, and correctness of use. The research also emphasizes the value of both theoretical and pedagogical perspectives in understanding and teaching cohesion effectively.

Material and Methods

This study is a Mixed-methods corpus linguistics one. It combines a corpus-based and an experimental data study. Two types of data were collected and analyzed for better understanding of the effectiveness of teaching conjunction patterns: (1) data from analysis of Iranian learners' and BAWE corpora, and (2) data gathered from experiments. This study starts from collecting data quantitatively and qualitatively via analyzing, describing, and comparing academic expository essays written by Iranian EFL learners and English native speakers. Then, the data needed to answer the research question were collected by conducting a quasi- experimental design, because the characteristics of the participants were close to the purpose of the investigation and the population that this study aimed to generalized to. The participants were randomly divided into one control and one experimental group with homogenous writing abilities. A pretest of writing was designed to describe patterns of cohesive conjunctions used by subjects and evaluate their performance in writing before the treatment. The same test was then administered as a posttest to measure the differences between the results of the two groups after explicit teaching of conjunction

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usage patterns discovered from the sub-part of BAWE corpus. The results of the text analysis are used to confirm the findings of experimental phase of the study.

Participants in the study were 60 intact male and female Persian native speakers, who attended English-related fields at State Universities, Payame Noor Universities and Islamic Azad University branches of Iran. These EFL learners were students in M.A programs and senior students in B.A in the three fields of English Literature, English Language Teaching, and Translation Studies. Before participating them in the study, they had passed courses in essay writing, letter writing and paragraph development in the Iran universities curriculum on English-related fields. With regard to the variable of age, these learners were between 21 and 38 (Mean= 29).

This study employed convenience sampling (Dörnyei, 2007) for engaging EFL students at five universities in Iran as participants. The participants shared geographical proximity and easy accessibility in a certain period (universities located in Isfahan, Shaherkord and Khouzestan province). Based on the results of test scores on the Oxford Quick Placement Test (OQPT) (See Appendix A) they were randomly divided into two relatively homogeneous groups, one as the experimental group and the other one as the control group. The control group consisted of 30 students (Group 2) and the experimental group included 30 individuals (Group 1). The control group adopted conventional instruction while the experimental group received an explicit instruction on conjunctive writing and conjunctions usage patterns. None of the participants knew their work was going to be analyzed as this information could jeopardize the integrity of this study. Only when the text analysis was over, everyone was informed of the process to which every individual consented.

In this study, there was one independent variable called ‘teaching cohesive conjunctions’ as well as a dependent variable named ‘cohesive conjunctions pattern’. In order to collect the required data for investigating the relationships between the variables the following types of materials were developed during the material preparation stage and then used in appropriate stages of data collection procedure.

Three pamphlets were prepared to instruct the experimental and control groups. One pamphlet for control group and two of them for experimental group.

The pamphlet designed for control group consisted of the definition and exemplification of English cohesive conjunctions as is given in English related fields writing textbooks. The pamphlet was

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adapted from the materials published by Learning Development – University of Wollongong, Australia.

Two pamphlets were prepared for explicit teaching of cohesive conjunctions and their patterns of usage to the experimental group. The first one contained 1- definition and exemplification of English cohesive conjunctions (exactly the materials in pamphlet designed for the control group), 2- a more detailed classification of cohesive conjunctions based on the Halliday and Hasan's (1978) taxonomy, and 3- Five authentic essays, extracted from the BAWE corpus, from which conjunction devices were omitted as a practice for provoking conjunction related sensitivity of learners. The five essays were representative of five main types of English expository texts namely; process, cause and effect, problem- solution, compare and contrast, and definition- classification essay. The figure 3.2 displays the first practice**.**

The second pamphlet included 1- the categorized list of all English cohesive conjunctions based on Halliday and Matthiessen's taxonomy (2004) and 2- the five essays in pamphlet number one, extracted from the BAWE corpus, without any omission in which the cohesive conjunction devices were identified and boldfaced. In addition, frequencies of different devices in every essay were analyzed and displayed by means of a corresponding table. First and second pamphlets were delivered to experimental group chronologically.

In the first step of the analysis, raw frequencies of conjunction devices were obtained from both corpora. In the second step, as the raw frequencies in corpora with different sizes lead to incomparable results, these raw frequencies were normalized per 1,000 words

In order to find out the observed differences and similarities in the use of conjunction devices, the pattern, between the Iranian EFL learners' control and experimental groups' corpus before the treatment and the BAWE corpus as a standard pattern the normalized frequencies were compared. After the treatment, to investigate the effect of teaching English conjunctions patterns a 2 × 2 mixed ANOVA was conducted. The A 2 × 2 mixed ANOVA test is a common statistical procedure that examines the possible differences between two corpora and put to the test the significance of their frequencies statistically.

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Results

The results of the text analysis for discovering the cohesive conjunction items in the both control an experimental group were raw and relative frequencies displayed by forthcoming tables. The raw and relative frequencies of the main types of conjunctions are depicted in Table 1.

Table 1. Frequency of Conjunction Devices in control and experiment group

Corpus	Raw frequencies	Normalized frequencies per100
Control group	725	63.6
Experimental group	789	64.8

As Table 1 shows, the total raw frequency of conjunction devices in texts written by control group is 725 cases out of 11386 words with a normalized frequency of 63.6. The total raw frequency of these devices in experimental group's corpus is 789 cases with the normalized frequency of 64.8 out of 12178 words which is 1.2 percent more frequent than the normalized frequency of devices in the texts written by control group.

The Table 2 presents the normalized frequency (per 1,000 words) of five categories of conjunction devices used in the pretest writings of a control group and an experimental group. The purpose is to compare how each group used different types of conjunctions before any instructional intervention or treatment.

Table 2. The pattern of conjunction devices in control and experimental group pretest writings

Conjunction Devices	Raw Frequencies		Normalized Frequencies (Per1000)		Percentage Of Total Devices	
	Control Group	Experimental Group	Control Group	Experimental Group	Control Group	Experimental Group
Additive	563	618	49.4	50.7	%77.6	%78.3
Adversative	67	62	5.9	5.1	%9.2	%7.8
Causal	59	69	5.2	5.7	%8.1	%8.7
Temporal	31	35	2.7	2.9	%4.3	%4.4
Continuative	5	5	. 4	. 4	%.7	%.6
Total	725	789	63.6	64.8	%100	%100

The analysis of conjunction usage revealed that additive conjunctions were the most frequently used in both the experimental and control groups, accounting for the majority of conjunction use. The experimental group used slightly more additive conjunctions (50.7%) than the control group (49.4%). Adversative conjunctions were used more by the control group (5.9%) compared to the

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experimental group (5.1%). Causal conjunctions showed a slight preference in the experimental group (5.7%) over the control group (5.2%). Temporal conjunctions had low overall frequencies, with the experimental group marginally ahead (2.9% vs. 2.7%). Continuative conjunctions were the least used and appeared equally in both groups (0.4%). Overall, total conjunction usage was slightly higher in the experimental group (64.8%) than in the control group (63.6%), indicating generally similar patterns of conjunction use between the two groups.

Table 3. Conjunction Devices in English BAWE Corpus

Conjunction devices	Raw frequencies	Normalized frequencies (per1000)	Percentage Of Total Devices
Additive	6739	39.2	%74
Adversative	1165	6.8	%12.8
Causal	836	4.9	%9.1
Temporal	313	1.8	%3.4
Continuative	55	.3	%.6
total	9108	52.7	%100

The data shows a clear dominance of additive conjunctions, with a frequency of 39.2 per 1000 words, making them by far the most commonly used type. This means that approximately four out of every 100 words are additive connectors indicating a strong tendency in the texts to build or extend ideas without introducing contrast or causality. Adversative conjunctions, which signal contrast or opposition appear at a rate of 6.8 per 1000 words. Causal conjunctions occur less frequently (4.9 per 1000 words), showing that cause-effect relationships are acknowledged but are not central to the text's structure. Temporal conjunctions (1.8 per 1000 words), which denote time relationships are relatively rare, suggesting that the discourse may be less narrative and more focused on presenting ideas rather than sequencing events. Continuative conjunctions are the least used at 0.3 per 1000 words.

The comparison between BAWE and EFL student writing reveals clear differences in the use of conjunction devices, reflecting variations in writing proficiency and style. Overall, EFL learners use more conjunctions than proficient writers, with totals of 63.6 (control) and 64.8 (experimental) per 1000 words compared to 52.7 in the BAWE corpus. This suggests a potential overuse or less strategic deployment of conjunctions by student writers, likely as a way to link ideas but without the refined control characteristic of more advanced academic writing.

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Additive conjunctions are the most dominant type across all groups, but EFL learners use them significantly more (49.4 and 50.7) than the BAWE writers (39.2). This indicates a strong reliance on basic additive links possibly at the expense of more varied or nuanced cohesive strategies.

In contrast, adversative conjunctions, which introduce contrast are more frequent in the BAWE corpus (6.8) than in EFL learners' texts (5.9 and 5.1). This suggests that proficient writers employ more argumentative and critical structures, a key feature of mature academic writing.

Causal conjunctions show relatively similar usage across all groups—5.2 (control), 5.7 (experimental), and 4.9 (BAWE)—indicating that expressing cause-effect relationships may be a fairly stable feature even among less experienced writers.

Temporal conjunctions are used slightly more by EFL learners (2.7 and 2.9) than by BAWE writers (1.8), suggesting that EFL learners writing may include more narrative elements or sequence-based linking, whereas proficient writing emphasizes logical structure over chronology.

Lastly, continuative conjunctions are rare in all corpora, with slightly lower use in BAWE (0.3). These informal, discourse-managing devices are generally minimized in formal academic writing, reinforcing their limited role across the board.

Based on the posttest data for conjunction device usage among EFL learners in the control and experimental groups, here's a breakdown and comparison of patterns, with raw frequencies, normalized frequencies per 1,000 words and percentages (Table4).

Table 4. The Pattern of Conjunctive Devices in Control and Experimental Group Posttest Writings

Conjunction devices	Raw frequencies		Normalized frequencies (per1000)		Percentage of total devices	
	Control group	Experimental group	Control group	Experimental group	Control group	Experimental group
Additive	614	506	53.9	41.5	%79.9	%70.5
Adversative	58	89	5.1	7.3	%7.5	%12.4
Causal	63	75	5.5	6.1	%8.2	%10.4
Temporal	29	43	2.5	3.5	%3.8	%6
Continuative	4	5	. 3	. 4	%.5	%.7
total	768	718	67.3	58.8	%100	%100

According to the results presented in Table 4 control group continued to rely heavily on additive conjunctions, while the experimental group reduced their use. This suggests that after intervention, the experimental group may have learned to rely less on basic connectors and instead used a wider range of conjunctions to improve writing quality. The experimental group made greater use of

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adversative conjunctions after the intervention, possibly reflecting better understanding of contrast and argumentation. The control group slightly declined, suggesting no improvement in this area. Both groups improved slightly, but the experimental group showed a bit more growth. This may indicate improved ability to express cause and effect relationships, especially in the experimental group. The experimental group showed better use of time-related connectors after the intervention, possibly helping with chronological or procedural writing. The control group's use slightly declined. There was no significant change in this category for either group, likely due to its lower relevance in academic writing or lack of emphasis during instruction.

The following figure represents a holistic pattern of conjunctive devices in both experimental and control group before and after the instructions.

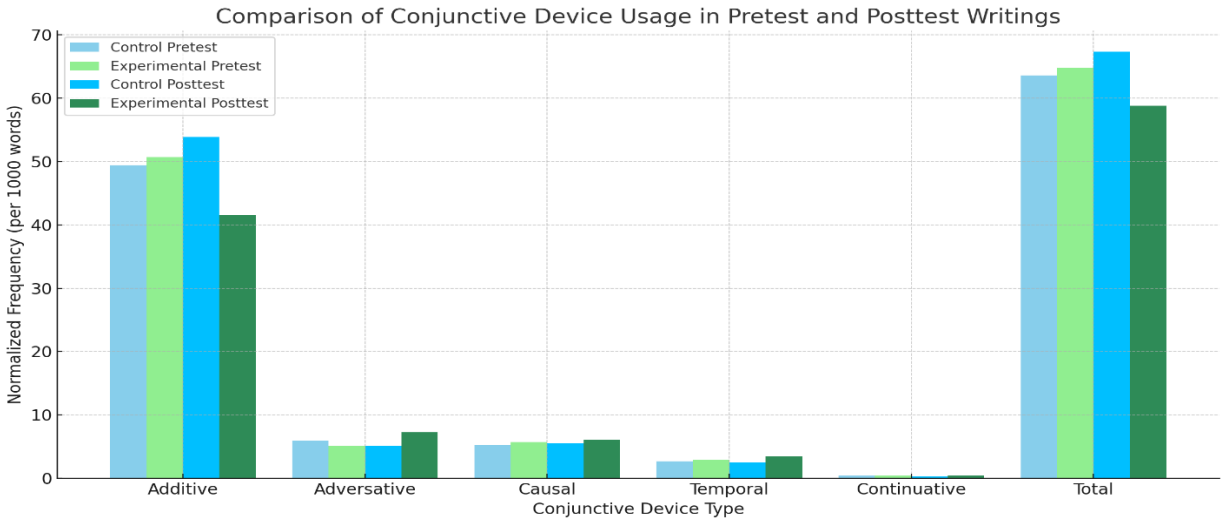


Figure 1. Comparison of the pattern of conjunctive devices in Iranian EFL learners' pretest and posttest writings.

Finally, a 2 × 2 mixed ANOVA was conducted to examine the effect of treatment on EFL learners' use of conjunction devices. The within-subjects factor was Time (Pretest vs. Posttest), and the between-subjects factor was Group (Control vs. Experimental). There was no significant main effect of Time, F (1, 58) = 2.87, p = .095, η^2 = .047, or Group, F(1, 58) = 0.42, p = .520, η^2 = .007. However, there was a significant Group × Time interaction, F (1, 58) = 18.43, p < .001, η^2 = .241, indicating that the experimental group's conjunction usage pattern changed significantly differently from the control group after the treatment.

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Obviously, the results show that EFL learners frequently rely on additive conjunctions and other linking devices, often in an attempt to create cohesion in their writing. However, this tendency can lead to repetitive and less effective expression, indicating a limited understanding of how to vary and strategically use these devices. In contrast, proficient academic writers—such as those represented in the BAWE corpus—employ fewer conjunctions overall but make greater use of adversative devices. This reflects a more critical, formal, and analytically structured writing style. These differences suggest that writing proficiency is not about using more conjunctions, but about using them deliberately to enhance clarity, argumentation, and rhetorical precision.

Discussion

The findings of this study underscore important distinctions in the use of cohesive conjunction devices between Iranian EFL learners and proficient English writers, as well as the positive impact of targeted instruction. While both the control and experimental groups initially relied heavily on additive conjunctions to achieve cohesion, the posttest results indicate a notable shift in the experimental group's writing. Following instruction, these learners demonstrated a more balanced and strategic use of conjunction types—particularly an increased use of adversative and causal connectors—reflecting improved rhetorical awareness and a developing ability to construct more nuanced arguments (Halliday & Hasan, 1976).

The comparison with the BAWE corpus further revealed that proficient writers tend to use conjunctions more selectively and with greater rhetorical precision, particularly favoring adversative devices to introduce contrast and argumentation (Hyland, 2005). In contrast, EFL learners, though using conjunctions more frequently, often relied on simpler, additive forms, suggesting a more basic approach to cohesion.

Importantly, the significant Group × Time interaction effect found in the ANOVA analysis confirms that instruction based on conjunction patterns from proficient texts can meaningfully influence EFL learners' writing practices. This supports the pedagogical value of exposing learners to authentic academic models and explicitly teaching cohesive strategies, particularly those that enhance logical progression, contrast, and argumentative depth (Zamel, 1983).

In general, this study highlights that writing proficiency is not merely a function of how often cohesive devices are used, but how effectively and purposefully they are employed. Future

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instructional programs should therefore emphasize not just the presence of conjunctions, but their rhetorical function and strategic deployment to foster clearer, more sophisticated academic writing This study carries several important implications for EFL writing instruction. First, explicit teaching of cohesive devices can help learners expand their use of conjunctions and apply them more purposefully, resulting in clearer and more effective writing. Exposure to model texts written by proficient writers further supports this development, as learners can internalize more advanced cohesion strategies beyond simple additive links. Therefore, writing curricula should include focused instruction on the rhetorical functions of various conjunction types, especially adversative and causal forms, to promote more nuanced and argumentative writing. Finally, assessments of writing proficiency should move beyond measuring frequency of use and instead evaluate how strategically learners use cohesive devices to structure their ideas and arguments.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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