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Comprehending Grammar Analysis in a Cohesive Manner Through the Use of Tree Diagram Structures: A Case Study of Secondary School EFL Students in Omdurman (2022-2023)

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Abstract: ***This study investigates the issue of comprehending grammar analysis cohesively using tree diagram structures in English language teaching among EFL secondary school students. The researcher hypothesizes that secondary school students face several problems when practicing English grammar analysis. Several possible and diverse techniques can be suggested to enable the students to perform well in practicing English grammar analysis and overcoming their problems. The researcher used both descriptive and experimental methods. The findings indicate that grammar analysis is often a neglected field compared to other areas of English language study, with most emphasis placed on teaching grammar analysis. As a result, the researcher reached several important findings: In teaching grammar analysis, teachers mainly focus on more controlled types of grammar analysis activities, and students have less freedom in expressing their ideas and feelings through these activities. Students experience difficulties in English grammar analysis, especially when expressing ideas cohesively. Teachers should not arrange special secondary classes solely for practicing grammar analysis; instead, they should help students allocate adequate time for practicing grammar analysis in the classroom. A lack of practice since lower grades and inadequate time provided to students during writing exercises lead to a focus on grammar rules and mechanics rather than content and organization of ideas in teaching grammar. Consequently, students cannot effectively use the components of grammar analysis to produce cohesive work. Based on the results of this study, the researcher recommends that English language teachers' pay considerable attention to the components of grammar analysis to enhance students' grammar analysis abilities from the early stages of their education.***

Keywords: EFL Secondary School Students, Grammar Analysis Techniques, Learning Strategies, Discourse Analysis, Language Proficiency

1.Introduction

Writing in a second language (L2) has long been recognized as one of the most complex skills to master, as it demands simultaneous control over grammar, coherence, and discourse organization (Silva, 1993). Generally, L2 writing is viewed as a difficult task because learners are required not only to produce grammatically accurate sentences but also to construct extended discourse that aligns with the standards of native speakers (Hyland, 2003). In this context, learners must gain a comprehensive understanding of the components of effective writing, including grammatical structures and cohesive devices, to meet the academic and communicative demands of English as a Foreign Language (EFL) environment.

The role of grammar in academic writing is foundational. Accurate grammatical structures allow learners to present ideas clearly, while cohesive strategies ensure the flow of meaning across sentences and paragraphs (Celce-Murcia & Larsen-Freeman, 1999). Within the framework of discourse analysis, cohesion and coherence have been identified as essential features of well-structured writing. The influential work of Halliday and Hasan (1976) highlighted cohesion as the “semantic ties” that hold a text together, paving the way for decades of research on discourse cohesion and coherence. Later studies (Schiffrin, 1986; Fraser, 1998) expanded on this by classifying discourse markers and examining their functions in enhancing textual connectivity.

Despite this recognition, research indicates that many EFL learners continue to face challenges in integrating grammar with cohesive strategies in their writing. Rahimi (2012) demonstrated that the use of discourse markers significantly improves communicative appropriateness and textual fluency, yet many learners remain unaware of how to apply them effectively. This issue is particularly salient among secondary-level learners, who often struggle not only with generating and organizing ideas but also with managing the mechanics of cohesion, such as reference, substitution, ellipsis, and conjunction (Halliday & Hasan, 1976; Hyland, 2005).

One promising pedagogical tool for addressing this gap is the use of tree diagram structures. Tree diagrams, rooted in transformational-generative grammar (Chomsky, 1965), provide a visual method for analyzing sentence structures, making the abstract rules of grammar more tangible for learners. By decomposing sentences into hierarchical components, tree diagrams enable learners to see the interrelations between grammatical units, thus fostering deeper comprehension of syntax and its role in meaning-making (Radford, 2004). Furthermore, when tree diagram analysis is applied to extended discourse, it can guide learners in connecting grammatical accuracy with cohesive strategies, promoting both micro-level sentence clarity and macro-level textual flow.

Previous studies have underscored the importance of visual and structural approaches to grammar instruction. For example, Celce-Murcia (2002) emphasized that grammar teaching should move beyond rule memorization and engage learners in understanding how grammar functions within discourse. Similarly, Thornbury (1999) argued that visual representations, such as diagrams, enhance learners' ability to internalize grammatical structures. However, the integration of tree diagrams specifically as a tool to bridge grammar analysis with cohesive discourse construction has received limited empirical attention, particularly in EFL secondary school contexts.

In the Sudanese EFL setting, these challenges become even more pronounced. Many secondary-level students possess partial grammatical knowledge but lack the skills to apply this knowledge in cohesive and coherent writing (Ali, 2018). Teachers, moreover, often prioritize sentence-level accuracy over discourse-level cohesion due to time and curriculum constraints, leaving students unprepared to meet academic writing demands (Ahmed, 2020). Consequently, students' writing frequently suffers from fragmentation, limited fluency, and weak textual organization.

Given this gap, the present study argues that tree diagram structures can serve as an effective pedagogical bridge between grammar analysis and cohesive writing. By offering learners a systematic and visualized approach, tree diagrams have the potential to enhance not only grammatical accuracy but also discourse-level organization.

The justification for this study stems from the need to address persistent difficulties in grammar and cohesion among EFL secondary school learners, particularly in contexts where exposure to English is limited and instruction is often grammar-centered but decontextualized (Rahimi, 2012; Hyland, 2003). While much of the previous literature has examined discourse markers, cohesion, and coherence in advanced EFL or ESL contexts (Halliday & Hasan, 1976; Fraser, 1998), fewer studies have focused on practical strategies that integrate grammar analysis with cohesive writing practices for learners at the secondary level.

Therefore, the general aim of this study is to investigate the effectiveness of using tree diagram structures as a pedagogical tool for comprehending grammar in a cohesive manner. Specifically, the study seeks to determine whether tree diagram analysis can support EFL secondary learners in producing grammatically accurate, coherent, and cohesive written discourse.

2.Materials and Methods

This study was conducted in 2020 and employed a mixed-methods design that integrated both qualitative and quantitative approaches. The rationale for adopting these two complementary methods was to ensure a comprehensive investigation of the research problem, as both approaches allow for refinement and adjustment of ideas throughout the research process.

2.1 Participants and Design

The qualitative component of the study focused on a single group of thirty male students enrolled in a secondary school. This experimental group was selected to examine how the use of tree diagram structures could enhance their understanding of grammar in a cohesive manner. The analysis of students' responses provided descriptive insights into their grammatical competence and cohesion in writing.

The quantitative component involved thirty English language teachers drawn from different secondary schools. A structured questionnaire was developed and administered to collect data regarding their perceptions, experiences, and professional judgments on the integration of grammar analysis and cohesion in teaching practices.

2.2 Data Collection Instruments

Two primary instruments were utilized:

Student Tests (Pre-test and Post-test): These were designed to measure the effectiveness of tree diagram structures in improving students' comprehension of grammar and cohesion.

Teacher Questionnaire: A survey instrument aimed at gathering teachers' perspectives on the role of grammar and cohesion in students' writing development.

2.3 Reliability of the Instruments

To ensure reliability, the study employed the test-retest method. The questionnaire was distributed to thirty teachers on two different occasions, while the same group of thirty students completed both pre-test and post-test assessments. The scores were then correlated using the Spearman Rank Order Correlation Coefficient, which yielded a high positive correlation coefficient of 0.68, statistically significant at the level of ≤ 0.05. These results confirmed that the instruments were reliable and suitable for the study.

2.4 Data Analysis

The qualitative data obtained from the students' writing samples were described and analyzed thematically, while the quantitative data from the questionnaires were tabulated and interpreted using descriptive statistics. This integration of qualitative and quantitative findings provided both depth and breadth to the analysis, supporting robust interpretations of the impact of tree diagram structures on grammar comprehension and cohesion.

3.Results

3.1 The result analysis of the students' scores in pre-and post-tests.

Table (3.1) show the students' scores in pre-test.

Table (4.11)	M ± Std
q1	23.57±4.08**
q2	21.00±4.84**
q3	11.03±2.58**
q4	7.20±1.56
Total	62.80±9.59

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed)

The results of the pre-test revealed that the mean score of the students on the questions 1, 2, 3, and 4 were 23.57, 21, 11.03, and 7.20. the test's overall mean score was 62.8 out of 100 marks.

These results indicate that the responses of the students in the pre-test were unsatisfactory, particularly in the fourth and the third questions. Further, there are remarkably significant differences between the students' marks in the first, second, and third questions (≤0.01).

Table (3.3) show the students' scores in post-test.

	M ± Std
q1	27.63±3.71**
q2	24.13±4.70**
q3	13.53±2.67*
q4	8.83±1.05*
Total	74.13±8.72

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The results of the post-test show that the mean scores on questions 1, 2, 3, and were 27.63, 24.13, 13.35, and 8.83. The overall mean score of the test was 74.13 out of 100 marks.

These results indicate that the students' scores improved compared to the pre-test. Further, the test scores were significantly different at the level of ≤0.05 for the first and the second questions and ≤0.01 for the third and fourth questions.

Table (3.4) correlation between pre and post tests.

	Pre-test (M±Std)	Post-test (M±Std)
q1	23.57±4.08**	27.63±3.71**
q2	21.00±4.84**	24.13±4.70**
q3	11.03±2.58**	13.53±2.67**
q4	7.20±1.56**	8.83±1.05**
Total	62.80±9.59**	74.13±8.72**

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The results in Table (3.4) show that students' scores had significantly increased in the post-test (p ≤0.01).

These results prove that the scores of the students have significantly improved in the post-tests compared to the pre-test. These findings prove that the knowledge of CDMs and the different meanings that they signal can help learners perform better.

3.2 Analysis and discussion of the results obtained by the means of test:

Table (3.5) conversation implicture.

Users	Number of Users	Percentage
Correct users	22	44 %
In Correct users	28	46 %
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of the test in conversation implicature. The number of users is 50 and the total present is 100%, the users who answered correctly are 22 and it is about 44% while the number of users who answered incorrectly is 28 and it is about 28%.

(3.6) implicit speech act.

Users	Number of Users	Percentage
Correct users	20	40 %
In Correct users	30	60 %
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of the test implicit speech act. The number of users is 50 and the total present is 100%, the users who answered correctly are 20 and it is about 40% while the number of the users who answered incorrectly is 30 and it is about 60%.

(3.7) pragmatic markers.

Users	Number of Users	Percentage
Correct users	23	46 %
In Correct users	27	54 %
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in pragmatic markers. The number of users is 50 and the total present is 100%, the users who answered correctly are 23 and it is about 46% while the number of users who answered incorrectly is 27 and it is about 54%.

(3.8) Discourse markers.

Users	Number of Users	Percentage
Correct users	15	30%
In Correct users	35	70%
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in Discourse markers. The number of users is 50 and the total present is 100%, the users who answered correctly are 15 and it is about 30% while the

number of the users who answered incorrectly is 35 and it is about 70%.

(3.9) Hedges

Users	Number of Users	Percentage
Correct users	15	30 %
In Correct users	35	70 %
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in Hedges. The number of the users is 50 and the total present is 100%, the users who answered correctly are 15 and it is about 30% while the number of the users who answered incorrectly is 35 and it is about 70%.

(4.2.5) Reference:

Users	Number of Users	Percentage
Correct users	25	50%
In correct users	25	50%
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in Reference. The number of users is 50 and the total present is 100%, the users who answered correctly are 25 and it is about 50% while the number of the users who answered incorrectly is 25 and it is about 50%.

(3.10) Ellipsis and substitution:

Users	Number of Users	Percentage
Correct users	24	48 %
Incorrect users	25	52 %
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in Ellipsis and substitution. The number of users is 50 and the total present is 100%, the users who answered correctly are 24 and it is about 48% while the number of users who answered incorrectly is 26 and it is about 52%.

(3.11) Conjunctions:

Users	Number of Users	Percentage
Correct users	21	42%
In Correct users	29	58%
Total	50	100%

The table shows the analysis and discussion of the results obtained by the means of test in Conjunctions. The number of users is 50 and the total present is 100%, the users who answered correctly are 21 and it is about 42% while the number of users who answered incorrectly is 29 and it is about 58%.

4.Discussion

The findings of this study revealed that EFL learners encounter several problems in the analysis of discourse markers. The students' mean scores in the first three questions were consistently below the passing score, ranging between 13.35 and 27.63, which indicates significant weaknesses in this area. This confirms the first hypothesis that EFL learners face challenges in analyzing discourse markers. Misinterpretation often arises when learners fail to understand the semantic and pragmatic functions of discourse markers, resulting in incorrect usage and, consequently, confusion in meaning. Similar outcomes were reported by Al-Owayid (2018), who found that more than a quarter of Saudi female English majors misused cohesive discourse markers in pre-tests due to a lack of awareness of their proper application.

The second major finding highlighted that EFL learners hold different attitudes toward the implementation of contrastive discourse markers (CDMs) in writing. While pre-test results showed no significant differences, post-test outcomes indicated marked improvements with statistical significance ($P \leq 0.05$). This suggests that exposure and practice influence learners' attitudes toward CDMs in written discourse. These results validate the second hypothesis, confirming that learners demonstrate varied perceptions regarding CDMs. Writing, as a multifaceted skill, requires not only grammatical accuracy but also the ability to establish coherence and cohesion through discourse markers (Al Mughrabi, 2017). Interestingly, Al-Owayid (2018) reported contrasting findings, where writing instructors exhibited consistent attitudes toward the teaching of CDMs across different contexts.

Regarding the third hypothesis, the results demonstrated that secondary school students can employ several methods to use discourse cohesion appropriately. Post-test scores were significantly higher than pre-test scores, indicating improved awareness and application of cohesive devices after targeted instruction. Initially, learners lacked sufficient knowledge, leading to frequent misuse. However, with guidance, they developed better strategies for cohesion in writing. These findings align with Al-Owayid (2018) and Al-Yaari et al. (2013), who observed that Saudi EFL learners often misuse discourse markers, underscoring the importance of explicit training in cohesion and coherence to strengthen comprehension and clarity in written texts.

The fourth hypothesis addressed the difficulties EFL learners face in using contrastive discourse markers. Results confirmed that learners struggle particularly with cohesive and coherent writing. The overall mean score was higher than the hypothetical average, with the highest difficulties identified in cohesion (mean = 4.70) and coherence (mean = 4.60). These findings validate the hypothesis that CDMs pose major challenges. Tahaineh (2014) similarly observed that although tertiary EFL learners were aware of the rules governing CDMs, they struggled with their practical application. The gap between theoretical knowledge and actual use illustrates the need for pedagogical interventions that bridge this divide.

Finally, the study supported the fifth hypothesis by showing that teachers can employ several effective methods for teaching contrastive discourse markers. Results revealed that instructional strategies embedded in argumentative writing

tasks and explicit focus on writing instruction were among the most effective approaches. Teachers often resorted to alternative techniques when faced with students' weak writing skills, such as encouraging debate, comparison, and critical writing exercises. These results resonate with Al-Owayid's (2018) recommendation that implicit methods—such as engaging learners in practical writing activities—can be highly effective in fostering the correct use of CDMs.

In summary, the results confirm that EFL learners face notable difficulties in analyzing and applying discourse markers, especially CDMs, yet targeted pedagogical strategies can significantly enhance their performance. These findings underscore the need for integrating discourse marker instruction systematically into EFL curricula to improve learners' overall writing cohesion and coherence.

5.Conclusion

This study investigated the difficulties that secondary school students encounter in comprehending grammar analysis and producing cohesive writing. The results confirmed that learners face significant challenges in using discourse markers and cohesive devices effectively, often leading to incoherent texts. These issues were attributed to insufficient exposure to structured writing practices, limited emphasis on cohesion and coherence in the English syllabus, and the prevalence of traditional teaching methods.

Furthermore, the study highlighted the gap between the foundational English syllabus and the actual requirements of secondary-level writing. Teachers reported difficulties in guiding students to apply discourse markers appropriately, while students themselves lacked awareness of how to organize their ideas logically and cohesively. This situation underscores the need for instructional strategies that integrate grammar analysis with practical writing tasks to enhance both accuracy and coherence.

The findings suggest that the use of grammar analysis through tools such as tree diagram structures can help learners visualize sentence relationships and improve their writing skills. Such an approach bridges the gap between grammatical rules and discourse-level writing, thereby fostering coherence and cohesion. It is therefore essential to integrate explicit instruction, interactive writing activities, and teacher training into secondary school curricula to strengthen students' overall proficiency in English writing.

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