

CORPUS USED AS A DATA-DRIVEN LEARNING TOOL IN L2 ACADEMIC WRITING

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Abstract

In this research, I will discuss the ways of corpora, including both corpora and DDL (Data - Driven Learning) have been used for research and practice in academic writing. Corpora are collections of language from authentic sources, such as newspapers, magazines or academic texts. This is useful for language learning because they show how language is used in addition variety options for words and phrases. Below are discussions and research gaps to consider as well as other options.

Keywords

DDL, corpora, real-life situations, self-determination theory

1. Introduction

Recent studies highlight the growing role of corpus linguistics and data-driven learning (DDL) in TESOL, showing its potential to improve learners' autonomy, linguistic awareness, and academic performance. (Emir & Yangın-Ekşi, 2023) for example, investigated Turkish EFL students' writing development and found that corpus consultation provided authentic input and corrective feedback, leading to improvements in accuracy and lexical range. This aligns with (Tosun & Sofu, 2023) study on low-proficiency learners, which demonstrated that hands-on ordancingconc through pedagogical corpora significantly supported vocabulary acquisition and retention. ((Yoon, 2008) similarly reported that L2 academic writers benefited from corpus use by diversifying their lexical choices and improving coherence in essays. Together, these findings suggest that corpus-based approaches offer strong pedagogical value in writing and vocabulary instruction, though their effectiveness is often mediated by learner proficiency (Crosthwaite (2020).

In addition to writing, grammar teaching has been a common focus of corpus pedagogy. (Lusta et al., 2023) examined Bangladeshi learners' experiences with DDL grammar activities, noting generally positive student attitudes but also highlighting teachers' concerns about curriculum pressures and workload. (Corino & Onesti, 2019) compared scaffolding methodology and online dictionary use, finding that consultation to be more effective for teaching mastery, while (Paker & Özcan, 2017) documented teachers' recognition of corpus-based grammar teaching as valuable yet underutilized due to lack of training. Collectively, these studies underscore the dual reality of corpus use: while it strengthens grammatical awareness, institutional and pedagogical barriers often limit classroom adoption.

While a significant portion of the literature focuses on writing and grammar, there are fewer inquiries into how corpora can aid in speaking or oral fluency, (Şahin Kızıl & Savran, 2018) examined learners' perceptions of concordancing in speaking instruction, finding that corpus-based activities enhanced confidence and oral performance. Similarly, (Bennett, 2024) noted in classroom environments, corpora can promote learner engagement and collaborative language exploration, although teacher assistance is essential to avoid cognitive overload. These restricted results suggest encouraging, yet still insufficiently investigated, uses of corpus pedagogy for



speaking abilities

Another key theme emerging from recent scholarship concerns teachers' beliefs, training, and the development of corpus-based materials. (Lin, 2016) It was reported that TESOL educators enhanced their corpus literacy and teaching methods via a two-phase training course that integrated online teamwork with practical corpus activities. (Le Foll, 2024) extended this work by applying open-education approaches to train pre-service teachers, showing how open access to corpora can lower barriers for classroom use. Despite such initiatives, earlier (Johns, 2012) studies confirm that teachers often remain hesitant to implement corpus-based lessons, citing large class sizes, lack of time, and insufficient training. More recently, (Marcella & Samofalova, 2022) demonstrated how corpus evidence, particularly collocations, can be directly incorporated into teaching materials to make corpus pedagogy more accessible to teachers and students alike.

The landscape of corpus pedagogy shaped through technological innovation (Call et al., 1998) noted that online databases such as COCA and BNC, alongside user-friendly concordancers, have significantly reduced technical barriers for learners and teachers. More recently, AI-generated corpora have emerged as a novel resource: a study conducted in China (Wang & Lu, 2024) found that AI-driven corpus tasks improved learners' mastery of grammatical structures, increased their use of lexical bundles, and motivated greater willingness to write. These developments highlight the potential of new technologies to broaden corpus use in TESOL. However, as (Lin, 2016) and (Le Foll, 2024) emphasize, unequal access to reliable technology in less-resourced classrooms continues to present obstacles, suggesting that the benefits of such tools remain unevenly distributed.

While research body collectively shows the value of corpora in enhancing language learning, several gaps remain. First, the majority of studies have focused on college-level learners in EAP or ESP contexts (Emir & Yangın-Ekşi, 2023) (Bennett, 2024), leaving little evidence of how DDL can be effectively adapted for secondary or younger learners. Second, the emphasis has been uncontrollable on writing and grammar, with speaking, listening, and integrated skills rarely investigated (Şahin Kızıl & Savran, 2018) Third, although learner autonomy is a main principle of corpus pedagogy, research also shows that without scaffolding, especially for lower-proficiency learners, corpora can overwhelm students with cognitive demands (Tosun & Sofu, 2023). Finally, while technological advances such as AI-generated corpora hold promise, their pedagogical implications for different TESOL contexts remain underexplored.

In combination, the literature emphasized that corpus-based pedagogy enhances learner outcomes and autonomy, but also shows significant changes in secondary school applications, skill coverage, and teacher-supported scaffolding. These implements prompt the subsequent research question: In what ways can corpus-based, data-driven learning tools be successfully for secondary EFL classrooms to increase different skills while maintaining a balance between learner autonomy and teacher feedback? Addressing this question would not only expand the reach of corpus pedagogy beyond university contexts but also ensure its accessibility and effectiveness for broader TESOL populations.

2. Literature Review

2.1 Introduction to Corpus linguistics and DDL learning

Corpus linguistics and data-driven learning (DDL) has expanded considerably in recent years, reflecting a growing interest in helping learners become more independent and confident writers through exposure to authentic languages. Although the studies in the matrix differ in



participants, contexts, and tools, they share a central concern: how learners interact with corpus resources, and how these tools shape noticing, accuracy, and academic writing development. Rather than detailing each study separately, the synthesis below draws out their shared methods and stances, highlights convergences and divergences, and evaluates the overall quality of evidence while identifying clear gaps that future research—including my own—can address. Across the studies, two methodological orientations dominate: classroom-based intervention research and controlled experimental comparisons. Classroom-based studies—such as those by Bennett, Chen & Flowerdew, Crosthwaite, and Anthony—emphasize the practical realities of using corpora in authentic teaching situations. These studies often involve lesson observations, learner tasks, reflections, and iterative feedback cycles. Their stance tends to frame DDL as a learning process grounded in discovery, noticing, and increased learner autonomy. Navigating concordance lines or exploring phrase patterns is treated not simply as a technique but as a mindset that shifts students toward more self-directed linguistic decision-making. Experimental and quasi-experimental studies—including the work of Boulton, Samoudi & Modirkhamene, Muftah, and Li—tend to adopt a more measurement-driven stance. These studies compare corpus-based instruction with traditional teaching, often using pre- and post-tests of accuracy, vocabulary retention, collocation use, or CAF (complexity, accuracy, fluency) to demonstrate specific learning gains. Their perspective treats DDL primarily as an intervention with measurable linguistic outcomes rather than a broader pedagogical philosophy. Then there are broader reviews, such as Luo & Zhou, which synthesize multiple DDL studies to draw out patterns across contexts. Together, these methodological approaches enrich our understanding by combining detailed classroom insight with measurable linguistic evidence.

Despite their methodological differences, the studies show strong convergence in several areas. First, they consistently show that DDL enhances learners' attention to language patterns. Whether through concordance, academic writing tasks, collocation searches, or error-checking, learners become more aware of authentic usage. This heightened noticing leads to more accurate academic writing, especially in areas such as lexical choice, collocations, and error correction. Both classroom and experimental studies report improved accuracy, demonstrating that noticing is a fundamental mechanism in DDL.

2.2 Learner autonomy

Most studies agree that corpus use fosters learner autonomy. Students with access to corpora begin to verify language choices independently and rely less on teachers for corrections. This is visible in research with high-school learners as well as tertiary EAP contexts. DDL is broadly aligned with an exploratory stance, empowering learners to make informed choices based on real-world examples rather than intuition or memorization. Even in technical or ESP writing, corpus exploration builds student confidence as they see authentic models relevant to their discipline.

2.3 Empirical Studies in DDL

DDL appears to work especially well for vocabulary-related aspects of writing, including collocations, phraseology, and lexical complexity. Multiple studies highlight gains in these areas, reinforcing the idea that corpora provide concrete evidence of how academic vocabulary behaves in real contexts. Learners appreciate this sense of authenticity; many express preferences for corpus examples over textbook lists. This emotional engagement contributes to the motivational benefits seen in younger and older learners alike. However, clear divergences also emerge. The most noticeable concerns learner readiness and digital literacy. Several studies report that beginners and lower-proficiency learners struggle with navigating corpus interfaces,



understanding concordance lines, or managing the cognitive load of DDL tasks. Where advanced learners often flourish with minimal guidance, younger or less proficient students require extensive scaffolding. This divergence signals that DDL's effectiveness depends heavily on learners' prior linguistic and technical knowledge. Another divergence concerns the level of structure needed for successful DDL. Experimental studies often rely on tightly controlled tasks and training, which lead to strong measurable results. Classroom-based studies, however, highlight the messier reality of implementation: time constraints, tool complexity, and the need for sustained practice. Some instructors find DDL demanding to implement, especially when working with learners unfamiliar with technology. This tension reflects a broader question in DDL research: Should it be a central teaching method or a supplementary tool?

3. Methodology

In evaluating the quality of evidence, the studies collectively demonstrate several strengths. Many use validated measures of writing performance—such as CAF metrics, collocation accuracy, and lexical complexity—which increases confidence in the reported improvements. The combination of classroom observations, interviews, and quantitative measures offers multiple angles for understanding DDL's effects. In addition, the diversity of contexts—from high school classrooms to PhD writing—provides a broad picture of DDL's applicability. At the same time, there are notable limitations. Several studies draw from small samples or single institutions, limiting generalizability. Training periods are often brief, raising questions about long-term retention and sustained autonomy. Many studies also assume a certain level of digital literacy, which may not be present in all contexts. Furthermore, because DDL interventions vary widely in duration, tools, and task design, comparing results across studies becomes challenging. These issues highlight the need for more longitudinal, multi-site, and digitally scaffolded research. A clear gap across the literature concerns how learners' digital literacy intersects with their ability to benefit from DDL, particularly at the secondary or lower-intermediate level. Many studies acknowledge that learners struggle with corpus tools, but very few explicitly measure or analyze how digital literacy shapes writing outcomes. Another gap concerns how DDL can support specific dimensions of writing development beyond accuracy, such as rhetorical organization, coherence, or genre awareness. Much of the existing work focuses on vocabulary or error correction, leaving other writing dimensions underexplored.

My study aims to address one of these gaps by exploring how DDL can support learners with varying levels of digital literacy in improving academic collocation use. By focusing on intermediate EFL learners—a group often overlooked in advanced DDL research—I aim to examine which scaffolding strategies help students navigate corpus tools effectively. The study will incorporate guided corpus-based tasks using accessible interfaces and examine how digital literacy influences learners' outcomes in collocation accuracy and self-editing. Through a mixed-method approach that combines revision analysis, digital-literacy profiling, and learner reflections, the study will contribute to a more nuanced understanding of how DDL can be made accessible and effective for a broader range of learners.

4. Data analysis

Introduction

This study used a simple qualitative approach to understand how learners experience using corpus tools during academic writing tasks. I chose a qualitative method because I wanted to learn about participants' real feelings, challenges, and personal experiences rather than measure numbers or scores. This qualitative study explores how EFL learners experience using corpus-based Data-Driven Learning (DDL) tools to improve their academic writing. Building on the



previous assignment, which examined empirical studies on corpus use, this report addresses the central research question.

RQ: How do EFL learners perceive the benefits, challenges, and learning processes associated with using corpus tools during academic writing tasks?

Findings

Their explanations helped me see which aspects of DDL were useful and which parts were difficult. While interview, we have faced some different situations such as pressure, some happy moments. Some questions make feel teachers deep thinking. While answering, they were remembering teacher and student situations and happy moments. We were talking about conversational, honest and focusing on teachers' past experiences and future potential. This data analysis is based on three participants of interview answers. Each participant shared their experience differently but their ideas were similar. Comparing their options, I could see clear patterns in how learners and teachers feel about using corpus tools in academic writing classes. I emphasizes the main themes that appeared repeatedly across the three answers, followed by a discussion and a final comparative reflection. I also belong findings to Boulton's (2009) research to identify how these real-life experiences according to what scholars say about Data-Driven Learning (DDL)

According to 3 teachers' interview showed the first experience with corpus tools as confusing or overwhelming. For example, 2-participant said that "Using corpus tools was helpful but a little confusing at first". One interviewee said that "The number of results made her stressed;" others mentioned that "The interface had too many buttons and filters." Terms like "lemma" or "KWIC" were unfamiliar, and concordance lines were hard to interpret because they showed as short fragments rather than full sentences. This shows that most learners are not used to linguistic tools and need time to adjust. Although the tools provide meaningful information, the technology itself becomes the first barrier. After the initial confusion, all teachers said that corpus tools helped them notice vocabulary and grammar patterns much more clearly.

Learners aware of:

academic collocations (e.g., conduct an analysis, major issue)

verb–noun patterns (e.g., provide insight, pose a challenge)

correct preposition usage (e.g., in a study, not on a study)

typical grammar structures in academic writing

They all agreed that these structures were easier to understand through real examples than using rules in textbooks or books. Seeing authentic sentences gave them a clearer sense of how academic language "sounds" and when certain structures are appropriate. A strong similarity across all three options is the development of autonomy.

Participants emphasized that corpus tools allowed them to:

check their mistakes easily

according to real evidence, they make decision

without teachers they can edit or change their masterpiece



using appropriate vocabulary, they feel more confident

This independence showed gradually as they became familiar with using corpora. Instead of asking someone, they could verify patterns by looking at multiple examples. This made them feel more responsible and capable during the writing process. And it also essential side while writing. All participants reported that their writing improved after using corpus tools. The improvement was visible in: clearer expressions, more accurate vocabulary, fewer errors, more natural academic tone, stronger collocation use. They gave concrete examples such as choosing “conduct research” instead of “make research,” or using “provide evidence” instead of “give evidence.” These small but important changes made their writing sound more formal, more academic, and more professional.

Teachers felt encouraged because corpora gave them access to real academic language. Textbooks or dictionaries sometimes feel simplified or unnatural, but corpus data felt authentic, meaningful, and closer to the writing they wanted to produce. This authenticity increased their confidence. They felt that if real writers used specific expressions, they could trust those examples and use them in their own writing. For some participants, this also created a sense of belonging to the academic community, as if they were learning directly from real scholars.

Although participants recognized the usefulness of corpora, they all agreed that guidance is essential. They mentioned the need for: teacher demonstrations, step-by-step instruction, simple example searches, guided tasks, short video tutorials, gradual introduction. Without this support, corpus tools can feel too technical and overwhelming. Beginners may lose motivation if they are not shown how to interpret the results correctly. Therefore, successful use of corpora requires careful planning by teachers and a clear structure for learning.

The main **limitations** demonstrated were: corpus tools are too technical for beginners, searching is time-consuming, too much information can confuse learners, difficult to judge which examples are typical, some students may feel frustrated with technology. Participants suggested using simpler corpus interfaces for beginners, starting with small tasks, and providing ready-made mini-corpora or selected examples to avoid overload.

The findings across the three answers clearly show that corpus tools have strong benefits but also some challenges. Almost all of them said that: “*The amount of data sometimes made it hard to decide which examples was reliable.*” The biggest advantage is that learners become more aware of how language works in real academic contexts. This supports the idea that effective writing comes not only from knowing rules but from seeing authentic usage. Participants learned many useful patterns through repeated exposure, which aligns directly with the principles of noticing and pattern recognition. Another important point is the growth of independence. Using corpora helps learners think like researchers—they test their ideas, compare examples, and make decisions based on evidence. This experience reflects the essence of DDL, where learners discover language through exploration rather than memorization.

However, the challenges cannot be ignored. Corpus tools are not naturally subconscious, especially for newcomers. Without proper guidance, learners may become stressed or confused. This confirms that teachers play a central role in making DDL successful. Guidance, modelling, and gradual task progression are key to making corpus activities effective and enjoyable. **Motivation** also plays an important role. Participants repeatedly said that authentic examples made learning feel real and meaningful. This emotional connection is often underestimated, but it significantly influences persistence and confidence in writing. Participant 2 said that: ““Seeing real examples from authentic texts made me more confident.”



Overall, participants overview suggest that corpus tools can deeply support academic writing if introduced carefully and gradually.

Confusion → noticing patterns → gaining independence → improving writing → increasing confidence.

Similarities

All became more independent in making writing decisions.

All improved in collocation and grammar awareness.

All saw clear improvement in accuracy and naturalness.

All felt more motivated because of authentic examples.

Emphasized the need for scaffolding.

Differences

Teacher 1 focused more on practical changes in writing.

Teacher 2 emphasized analytical thinking and evidence-based revision.

Teacher 3 highlighted emotional growth and feeling connected to academic community.

Despite small differences, their experiences support each other and show a consistent picture of how DDL helps learners.

The findings strongly reflect Boulton's (2009) arguments about Data-Driven Learning.

Boulton states that:

DDL helps learners notice patterns that textbooks cannot show.

Corpora improve accuracy by exposing learners to authentic usage.

Beginners may feel overwhelmed and need strong teacher support.

DDL encourages autonomy and active learning.

Participants repeatedly said that corpus examples helped them notice collocations and grammar patterns they had never seen before—exactly as Boulton explains. They also experienced increased independence because they relied on real data to make decisions. However, their early confusion and the need for guidance also match Boulton's warnings that corpus tools can be difficult without proper scaffolding. All these points appeared clearly in the participants' responses. Thus, the participants' experiences directly support Boulton's findings and show that his conclusions about DDL are still very relevant in real classroom practice.

Themes	Categories	Coding
Digital literacy/ Interface Difficulty	Confusion, navigation issues	Confusing at first, difficult concordance lines, many results
Noticing of Collocation and grammar	Advanced collocations, grammar discovery	Substantial impact, passive structure noticing



Autonomy in Writing	Self-checking, revision habits	Check usage themselves, justify decisions with real usage
Writing improvement	Clarity, academic vocabulary	Conduct an analysis, avoid repetition
Motivation/Confidence	Authenticity, community connection	Meaningful engagement, relevance motivation
Need for Scaffolding/Structured Support	Structured practice, guided exploration	Group comparisons, teacher demos

5. Results

Nowadays, corpus linguistics and Data- Driven learning (DDL) have increased through attention in TESOL, especially in the teaching of academic writing. Corpus-based direction allows learners to explore authentic language data and freely discover patterns of vocabulary, grammar, and academic phraseology. The line of research work demonstrates that corpora supports accuracy, collocation use and autonomy in academic writing. Findings also shows that students sometimes can feel more confident when they check real examples from corpora than rely on teacher rules and directions.

However, despite these benefits, corpus-based instruction remains the lack of knowledge in many EFL contexts. One big problem is that not all teachers use corpora as a teaching tool, and one more is some teachers are not familiar with corpus linguistics or DDL principles. Despite strong empirical support, corpus-based approaches are not widely integrated into EFL classrooms, and many teachers demonstrate limited awareness or confidence in using corpus tools (Bennett, 2024). Traditionally teachers used to simple way, mainly for vocabulary explanation, not integrated part of academic writing instruction. Secondly, even when teachers taught corpus program, learners have faced struggle with access. Several studies report that learners—particularly at lower or intermediate proficiency levels—struggle with corpus interfaces, concordance interpretation, and digital literacy demands (Boulton, 2009; Crosthwaite, 2020). Research shows that low-level or higher level EFL students find concordance lines confusing and require scaffolding to benefit from DDL (Boulton, 2009; Crosthwaite, 2020). There is a clear need to explore teachers' awareness and perceptions of corpora, as well as students' knowledge, difficulties and access-related problems.

Research Aim

The main aim of this work is to identify teachers' awareness and use of corpus-based DDL and the difficulties of learners and positive side of using corpora tools in EFL academic writing context.

RQ: How do EFL learners perceive the benefits, challenges, and learning processes associated with using corpus tools during academic writing tasks?

What difficulties do EFL students experience when accessing and using corpus tools for academic writing?

Methodology

This study required a qualitative analysis by using interview. This method is appropriate



because it is visible to reflect through experiences and challenges rather than testing.

Participants are 3 EFL teachers teaching academic writing at the technicum. They are selected according to purposive sampling. I think that participants have a specific knowledge about my topic.

I used to semi-structured teacher interviews to identify awareness, experiences, practices related to corpus use. Data was collected face-to-face.

Procedure

- Conduct and audio-record teachers' interviews
- Collect answers and transcribe interview data
- Organize data for analysis

Data analysis

Data collected using thematic analysis. Responses was coded to identify themes such as teacher issues, attitudes, support.

6. Discussion

When I started my research, I didn't think I would achieve so much. Because corpus tools are now one of the most widely used methods. Even so, it has not lost its power. It is equally important for students and teachers. Because it has real examples, it can save time and find complex idioms. Through this study, I want to know what are the problems with teacher training, why this method is not widely used among teachers, and of course, the reaction of students. However, the results are likely to indicate that students face practical challenges, such as limited access to technology, difficulties navigating corpus interfaces, and a lack of guided practice. These challenges may influence their initial reactions to corpus-based learning, even when they recognize its usefulness.

This study is expected to reveal that although corpus-based tools are widely recognized as powerful and effective methods in TESOL, their classroom use is still limited. The findings are likely to show that many teachers value corpus tools but lack sufficient training, confidence, or institutional support to integrate them into regular teaching practice. It is also expected that students will view corpus tools positively due to their use of real language examples, time-saving nature, and ability to clarify complex idioms and academic expressions. However, students are likely to report challenges related to access, digital literacy, and difficulty understanding concordance data, especially without proper guidance.

7. Conclusion and limitation

In this course, I have learned many things about research. At the beginning of the course, I did not really understand what research is, what qualitative and quantitative data are, or how we use surveys and other research tools. But now, I have a clear understanding of research. Some important points became visible to me, such as how we can gather information from the internet and which kinds of websites are useful for collecting data. During the process of gathering information, I learned how to choose purposive or sampling methods properly. I was also able to emphasize qualitative and quantitative data and understand how their coding works. Through this process, I became familiar with the overall research process. During the process of searching



literature, thinking the proposal, and analyzing methods, my thinking changed significantly. Even though I studied for a bachelor's degree, I did not clearly know the differences between qualitative and quantitative data before. After this course, I learned not only how to gather data, but also how to analyze information and decide whether it is suitable or not suitable for my own research.

While working my project, I realized that one of them corpus tools encourages learners to become more independent and active. They do not only believe on teachers and textbooks; they can do real language data themselves. This side is very useful for academic writing. At the same time, it is useful for their accuracy, vocabulary and collocations. Using corpora, learners can see which words and structures are used in writing. Also, I identified differences between theory and practice. Many studied said that corpus tools are very effective but in real world most students not use widely from corpus tools. From my perspective, it belongs to teacher train and student ideology. These findings helped me to build my project more and more clearly.

I also gained full understanding of what a research proposal is. For me, a research proposal became a new page in my academic journey. Now I know what I can expect from research, and I can predict both the negative and positive sides for learners or researchers. I learned how to identify problem, organize aims, create research questions and predict possible positive and negative outcomes for them. Also, I learned more thing from teacher, each assignment is graded truly and teacher gave feedback. Through these feedbacks and directions, I could create my project better than old one. This course helped me change my perspectives of research and motivated me. I think that in my teaching journey, I will use and integrate corpus tools and it can be benefit for learners.

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