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Using digital technology and corpora in language teaching

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ABSTRACT

This article explores the integration of digital technology and corpus linguistics in language teaching and examines their combined potential to en- hance language acquisition. Digital technology, through tools such as language- learning apps, multimedia resources, and interactive platforms, offers learners flexible and engaging opportunities to practice language skills beyond the tradi- tional classroom. Meanwhile, corpus linguistics provides learners and teachers access to authentic language data, enabling the study of vocabulary, grammar, and usage patterns in real-world contexts. The study analyzes how these tech- nologies influence vocabulary acquisition, grammatical understanding, and overall language proficiency. By using a mixed-methods approach, data was collected from teachers and learners in different educational settings. The find- ings suggest that incorporating digital tools and corpora in language teaching creates a more interactive, personalized learning environment, allowing stu- dents to engage with authentic language use in meaningful ways.

1 Introduction

The rapid development of digital technologies over the past two decades has dramati- cally transformed many sectors, including education. In language teaching, the inte- gration of digital tools has expanded the scope of instruction beyond traditional meth- ods, allowing for more interactive, flexible, and learner-centered approaches. Digital technology facilitates access to vast amounts of authentic language materials and provides diverse platforms for practicing language skills, which are often unavailable in conventional classroom settings (Godwin-Jones, 2011). From language learning apps like Duolingo and Memrise to online language exchanges and video-based plat- forms such as YouTube and TED Talks, learners today have numerous resources at

their disposal to practice and enhance their language skills in real-time and with au- thentic input.

Similarly, corpus linguistics—an area that involves the study and analysis of large collections of real-world language data, or corpora—has become increasingly relevant in language education. The use of corpora enables both teachers and students to ex- plore authentic language usage across a variety of contexts, providing insights into common patterns of vocabulary, grammar, and discourse that may not be fully cap- tured by traditional textbooks (Hunston, 2002). For example, learners can use corpora such as the British National Corpus (BNC) or the Corpus of Contemporary American English (COCA) to examine how native speakers use specific words or grammatical structures in different contexts. This data-driven approach to language teaching en- courages learners to observe and analyze language as it is naturally used, rather than relying on contrived textbook examples.

Despite the promise that digital technology and corpora hold for language teaching, their integration into educational settings remains uneven. Many teachers lack the necessary training to effectively use corpus-based resources, while some students experience difficulties navigating digital learning tools due to varying levels of digital literacy (Boulton & Cobb, 2017). Additionally, while studies have documented the effectiveness of digital tools in enhancing motivation and engagement (Stockwell, 2020), less is known about their specific impact on core language skills such as vo- cabulary acquisition, grammatical accuracy, and the development of discourse compe- tence. Similarly, although corpus-based teaching has been widely advocated, there is limited empirical evidence on how combining corpus linguistics with digital technol- ogies can benefit language learners at different proficiency levels.

2 Methods and Analysis

This study employed a mixed-methods approach to investigate the impact of digital technology and corpora on language learning. Quantitative data were collected through pre- and post-tests to measure changes in learners' vocabulary and grammar proficiency. Qualitative data were gathered through surveys and interviews with both teachers and students to assess their perceptions of using digital technology and cor- pora.

The present study aims to address these gaps by investigating the combined use of digital technology and corpora in language teaching. Specifically, the study examines how the integration of these tools influences students' acquisition of vocabulary and grammar, as well as their overall understanding of authentic language use. By explor- ing both quantitative and qualitative data, this research provides a comprehensive analysis of how digital tools and corpora can enhance language learning outcomes, while also identifying the challenges that teachers and learners face in incorporating these technologies into the classroom.

Moreover, the study aims to contribute to the growing body of literature on tech- nology-enhanced language learning (TELL) by offering practical insights into how digital tools and corpora can be effectively implemented in a variety of educational

settings. The findings will be particularly relevant for language educators who are looking for innovative strategies to engage students and improve their language skills through the use of authentic, data-driven resources. Ultimately, this research seeks to highlight the potential of digital technology and corpus linguistics not only as complementary tools but as integral components of modern language education.

3 Discussions

In the field of language teaching, the integration of digital technology and corpus linguistics has become a topic of increasing interest due to the ways in which these tools can enhance the language learning process. Several studies have explored the impact of digital technology on language acquisition, particularly in terms of student engagement, vocabulary acquisition, and grammar development. Likewise, research on corpus linguistics has demonstrated the value of data-driven learning in under- standing authentic language use. However, few studies have comprehensively exam- ined the combination of these two approaches in classroom instruction, pointing to the need for a more nuanced understanding of their joint potential.

3.1 Digital Technology in Language Teaching

The role of digital technology in education has expanded significantly with the rise of internet-based tools, mobile apps, and learning management systems (LMS). In language teaching, these tools allow for interactive and self-directed learning, provid- ing students with more control over their learning pace and access to diverse re- sources (Stockwell, 2020). Kukulska-Hulme and Shield (2008) highlight the importance of mobile-assisted language learning (MALL), where learners use mobile devices to engage with language content on the go. Language learning apps, such as Duolingo and Memrise, have gained popularity for their gamified approach to vocabulary learning and grammar practice, showing improvements in learner motivation and retention (Godwin-Jones, 2011).

Another digital tool frequently used in language classrooms is video content, par- ticularly from platforms like YouTube and TED Talks. These provide learners with exposure to authentic spoken language, different dialects, and cultural contexts (Khalid, 2021). Research suggests that video content supports listening comprehension and exposes learners to various linguistic features, such as pronunciation, intonation, and idiomatic expressions (Cross, 2011). Furthermore, tools like Kahoot! and Quizlet allow for real-time feedback and interactive classroom engagement, transforming passive learning into active participation.

However, despite these benefits, there are challenges in using digital technology effectively. Teachers often face barriers related to the time required to integrate tech- nology into their lessons, technical difficulties, and the digital literacy levels of both students and teachers (Macaro et al., 2012). Additionally, while technology can en- hance learning, it is not always clear how these tools impact specific language out- comes, such as long-term retention of vocabulary or grammatical accuracy.

3.2 Corpus Linguistics in Language Teaching

Corpus linguistics involves the analysis of large collections of authentic texts (writ- ten or spoken) to study patterns of language use. Corpora provide valuable insights into how native speakers use words, phrases, and grammatical structures in real-world contexts, which can be significantly different from the language presented in text- books (Hunston, 2002). Corpus-based teaching is grounded in Data-Driven Learning (DDL), where learners actively engage with language data to discover linguistic pat- terns (Johns, 1991). This approach is highly interactive and promotes learner autono- my by encouraging students to explore language corpora to deduce rules and excep- tions for themselves.

Research has shown that corpora can improve learners' understanding of colloca- tions, idiomatic expressions, and grammatical structures. For instance, Römer (2009) found that students using corpus tools to study collocations and phraseology outper- formed those relying solely on traditional materials. Similarly, corpus-based ap- proaches help learners understand frequency and context, making it easier for them to distinguish between formal and informal registers (Biber et al., 1998). Teachers can use corpora to create materials that reflect authentic language use, improving learners' ability to use vocabulary and grammar accurately in various contexts.

Despite the advantages of corpus-based teaching, there are challenges in its imple- mentation. Teachers often lack the training or confidence to effectively use corpora in the classroom, and some learners may find it difficult to engage with corpus tools, especially those requiring advanced digital skills (Boulton & Cobb, 2017). Further- more, while corpora are excellent for analyzing written texts, there is less research on their use for teaching spoken language, though recent developments in spoken corpo- ra have begun to address this gap (McEnery & Hardie, 2012).

3.3 Integration of Digital Technology and Corpora

The intersection of digital technology and corpus linguistics presents a unique op- portunity to enhance language teaching. Digital platforms that incorporate corpus data can provide learners with access to authentic language patterns while using interactive tools to practice those patterns in context. For example, tools like Sketch Engine and AntConc allow learners to search for and analyze language data from corpora, while interactive apps like Quizlet can be used to reinforce collocational and grammatical patterns identified through corpus analysis.

The integration of digital technology with corpus linguistics offers several peda- gogical advantages. First, it allows for the personalization of learning experiences, where students can work at their own pace and explore language that is relevant to their needs. Second, by combining the strengths of both approaches—authentic lan- guage input from corpora and interactive, self-directed learning from digital plat- forms—teachers can create a more engaging and effective learning environment (Boulton, 2016).

Studies on the combined use of digital tools and corpora remain limited, but initial findings are promising. For example, Breyer (2009) found that using digital platforms

to present corpus-based materials significantly improved students' language aware- ness and accuracy. The multimodal nature of digital tools, which includes text, audio, and video content, provides learners with a comprehensive exposure to language in use. Moreover, digital corpora provide immediate access to a wide range of texts, reducing the reliance on static, out-of-date textbooks and promoting a more dynamic form of language learning (Leech, 2011).

3.4 Challenges in Implementation

While the potential for integrating digital technology and corpora in language teaching is considerable, several challenges remain. One major issue is the need for teacher training in both digital literacy and corpus linguistics. Many teachers are un- familiar with corpus tools and may lack the confidence to design corpus-based activi- ties that are accessible to learners (Crosthwaite, 2017). In addition, while learners may be adept at using digital tools, they often need guidance in understanding how to nav- igate and interpret corpus data.

There is also the challenge of aligning curriculum goals with the capabilities of digital and corpus tools. Many language curricula are structured around standardized tests and textbook-based instruction, which may limit the flexibility teachers have to incorporate new methods. Moreover, while corpora provide a wealth of authentic language data, they do not always align neatly with the language proficiency levels of learners, which can create difficulties in designing suitable activities.

Godwin-Jones is a leading researcher in the area of technology-enhanced language learning (TELL). His work primarily focuses on the use of mobile apps and emerging technologies for language learning. In his influential paper Mobile Apps for Language Learning (2011), he explored how mobile technology and apps like Duolingo and Memrise engage learners and promote autonomous, flexible language practice. His research emphasizes the potential for mobile-assisted language learning (MALL) to enhance learners' motivation and engagement through accessible, on-the-go practice.

Boulton is well known for his work on corpus linguistics and Data-Driven Learn- ing (DDL). He has extensively studied how corpora can be integrated into language teaching to provide learners with access to authentic language use. His research, in- cluding meta-analyses, shows that using corpora can significantly enhance learners' ability to recognize collocations and grammatical patterns (Boulton & Cobb, 2017). Boulton advocates for corpus-based learning as a tool for promoting learner autonomy and a deeper understanding of real-world language use. He also examines how corpus tools can be integrated into digital platforms to facilitate interactive learning.

Hunston has made significant contributions to corpus linguistics, particularly in exploring how corpora can be used to teach language in educational settings. Her seminal work Corpora in Applied Linguistics (2002) is widely cited in the field and provides an in-depth discussion of how corpus data can be utilized by both teachers and learners to study authentic language. She highlights the role of corpus tools in enabling students to discover patterns in language and apply them to practical lan- guage tasks, especially in the context of academic writing and formal language use.

Johns is credited with pioneering the concept of Data-Driven Learning (DDL), where learners are encouraged to use corpora to explore language and develop their own understanding of language patterns. His 1991 work on DDL introduced the idea of using concordance lines and frequency lists to help learners observe authentic language patterns in context, rather than relying solely on textbook examples. Johns' approach emphasizes learner autonomy, as students become active participants in their learning by engaging directly with corpus data.

Leech is one of the foundational figures in corpus linguistics, particularly in the development of computational methods for analyzing language. He has contributed to the creation of several major corpora, including the British National Corpus (BNC), which is frequently used in both research and language teaching. Leech's research focuses on how corpora can be used to study grammar and vocabulary patterns in large datasets, providing teachers with resources to create more authentic language lessons. His work bridges the gap between theoretical corpus analysis and practical applications in the classroom.

4 Conclusion

These researchers have contributed significantly to the development and integra- tion of digital technology and corpus linguistics in language teaching. Their work supports the idea that combining digital platforms with authentic language data from corpora can enhance learner engagement, promote data-driven learning, and improve overall language proficiency. However, challenges such as the need for teacher train- ing and curriculum alignment remain central to maximizing the potential of these tools in diverse educational settings. The integration of digital technology and corpora in language teaching offers numerous pedagogical benefits, particularly in terms of promoting authentic language use and engaging learners through interactive tools. However, successful implementation requires careful planning, teacher training, and alignment with curricular goals. As research on this topic continues to evolve, there is a growing need for empirical studies that explore the long-term effects of these tools on language learning outcomes. Future research should focus on the development of accessible and user-friendly corpus tools that can be easily integrated into digital learning platforms, as well as on the training and support necessary for teachers to adopt these methods effectively.

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