

Revisiting Linguistic Evaluation of ELT Coursebooks in the Era of AI

Cong Khanh Ly 

¹ M.Ed. in TESOL, English lecturer,
Faculty of Foreign Languages, Ho
Chi Minh City University of
Industry and Trade (HUIT),
Vietnam

✉ Corresponding author:
khanhlc@huit.edu.vn



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ABSTRACT: This study revisits linguistic evaluation of English language teaching (ELT) coursebooks in light of recent developments in corpus linguistics and artificial intelligence (AI). While traditional coursebook evaluation has largely emphasised pedagogical and practical criteria, emerging research highlights the need for more systematic analysis of linguistic content, including lexical, grammatical, and discourse features. Drawing on a structured review of previous studies, this conceptual investigation examines how corpus-informed and AI-supported tools have been applied to linguistic analysis of ELT materials and identifies key trends, challenges, and methodological gaps. The findings indicate growing reliance on automated lexical and syntactic analysis, alongside persistent limitations in discourse-level evaluation and theoretical integration. The study argues that AI-supported tools should function as analytical supports rather than autonomous evaluators and emphasises the importance of grounding data-driven analysis in established linguistic theory. This reconceptualisation contributes to a clearer methodological understanding of linguistic evaluation in the era of AI.

KEYWORDS: ELT coursebooks, linguistic evaluation, corpus linguistics, artificial intelligence, language teaching materials.

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Introduction

English language teaching (ELT) coursebooks remain a central component of English language education, particularly in higher education contexts, where they serve as the primary source of linguistic input. In many English Language Studies programs, coursebooks shape learners' exposure to vocabulary, grammatical structures, and discourse patterns across different skills and academic tasks. Despite their importance, the evaluation of ELT coursebooks has traditionally emphasised pedagogical and practical concerns, such as skills balance, task design, topic relevance, and classroom usability, rather than detailed analysis of linguistic content (Gholampour & Mehrabi, 2023; Shak *et al.*, 2022).

At the same time, applied linguistics has witnessed significant growth in corpus linguistics and AI-supported language analysis. These developments have made it possible to examine linguistic features of texts in systematic and replicable ways. Vocabulary frequency profiling, syntactic complexity analysis, and discourse cohesion measurement are now increasingly accessible through Artificial Intelligence (AI) and Natural Language Processing (NLP) tools (Kyle & Crossley, 2015). However, the integration of these tools into ELT coursebook evaluation remains uneven and conceptually underdeveloped (Ghazali *et al.*, 2025; Kyaw & Jie, 2025). Previous work has argued that, when pedagogically grounded, digital technologies can enhance learner autonomy, support authentic language use, and address diverse learning needs, rather than merely replicating traditional instructional practices (Tran & Ly, 2025).

This situation raises important questions about how linguistic evaluation of coursebooks should be reconceptualised in the era of AI. Rather than replacing established evaluation practices, AI-supported analysis can complement linguistic theory and expert judgment. Revisiting linguistic evaluation in this context is therefore necessary to clarify methodological principles, identify emerging trends, and address persistent gaps in materials evaluation research.

Research Aim and Research Questions

This study aims to revisit linguistic evaluation of ELT coursebooks by examining how AI-supported and corpus-informed approaches can enhance existing evaluation practices.

To achieve this aim, the study addresses the following research questions:

1. What linguistic dimensions have been emphasised in previous approaches to ELT coursebook evaluation?
2. How have corpus linguistics and AI-supported tools been applied to linguistic analysis of ELT materials in recent research?
3. What trends, challenges, and methodological gaps emerge from current studies on AI-supported linguistic evaluation of coursebooks?

Literature Review

Early research on ELT coursebook evaluation focused on providing teachers with practical frameworks for selecting and adapting materials. These frameworks typically emphasised pedagogical alignment, learner needs, and instructional feasibility. While linguistic aspects were acknowledged, they were often treated broadly and evaluated through impressionistic judgment rather than systematic analysis (Cunningsworth, 1995; McDonough *et al.*, 2013; Tomlinson, 2011).

Subsequent developments in corpus linguistics shifted attention toward empirical investigation of language use in teaching materials. Corpus-based studies demonstrated that coursebooks do not always reflect authentic language patterns and may misrepresent proficiency levels. Vocabulary distribution, grammatical sequencing, and discourse organisation in coursebooks have been shown to differ from those in naturally occurring language, raising concerns about the adequacy of the linguistic input provided to learners (Biber *et al.*, 2012; Römer, 2005; Nation, 2018).

More recently, AI and NLP tools have been introduced into linguistic research, enabling automated analysis of large text datasets. Studies have employed tools for vocabulary profiling, measuring syntactic complexity, and analysing cohesion to examine educational texts. These tools offer advantages in terms of efficiency and objectivity, but they also raise concerns about over-reliance on automated metrics without sufficient theoretical grounding (Graesser *et al.*, 2004; McEnery & Hardie, 2012).

Despite these advances, existing research often applies AI tools in isolated ways, focusing on single linguistic features rather than integrated evaluation. Moreover, few studies explicitly address how AI-supported analysis can be incorporated into a coherent linguistic evaluation framework for ELT coursebooks. This gap suggests the need for conceptual clarification and methodological synthesis (Biber *et al.*, 2011; Tomlinson, 2013).

Research Methodology

This study adopts an exploratory, qualitative-oriented analytical approach, drawing on a structured review of the literature on the linguistic evaluation of ELT coursebooks, corpus linguistics, and AI-supported text analysis. Relevant studies were examined to identify how lexical, grammatical, and discourse features have been investigated using data-driven and AI-based tools.

The analysis focuses on synthesising methodological patterns and research trends rather than conducting empirical corpus experiments. The study is descriptive in nature and does not aim to validate an evaluation framework or measure pedagogical effectiveness, but to clarify how linguistic evaluation has been conceptualised in current research.

Research Results

In this conceptual study, the research results are presented as a structured synthesis of findings

from recent literature and theoretical analysis. Rather than reporting experimental outcomes, this section identifies key directions, trends, and patterns in current research on linguistic evaluation of ELT coursebooks in the era of AI (Curry & McEnery, 2025; Khojasteh & Mukundan, 2025; Yang & Kyun, 2022).

Linguistic Dimensions Emphasised in ELT Coursebook Evaluation

Previous research on ELT coursebook evaluation has consistently emphasised three main linguistic dimensions: lexical, grammatical, and discourse features, with varying degrees of analytical depth.

Recent studies indicate a growing emphasis on lexical analysis supported by AI tools. Vocabulary profiling using frequency lists and CEFR-based classification has become one of the most common applications of AI in materials evaluation (Cooper, 2025; Heatley *et al.*, 2002; Kyle & Crossley, 2015; Sameephet *et al.*, 2025). These studies consistently show that coursebooks vary considerably in lexical sophistication, with some materials introducing advanced vocabulary too early and others providing insufficient exposure to academic lexis (Coxhead, 2000; Mai *et al.*, 2024; Sun & Dang, 2020).

At the grammatical level, AI-supported analysis has enabled more precise measurement of syntactic complexity. Research has highlighted differences in sentence length, clause density, and grammatical patterns across coursebooks targeting similar proficiency levels (Li *et al.*, 2025; To, 2018). Such findings suggest that grammatical progression in coursebooks is not always systematically aligned with learner development (Garth, 2022; Skela & Burazer, 2021).

Discourse-level analysis remains less developed but has gained increasing attention. AI-supported tools have been used to examine cohesion markers, referential ties, and organisational patterns in coursebook texts (Crossley *et al.*, 2016; Graesser *et al.*, 2004). Results indicate that many materials provide limited models of extended academic discourse, particularly in reading and listening texts intended for higher education (Hoang & Crosthwaite, 2024; Hyland, 2004; Zhang, 2017). Empirical classroom-based studies, for example, those examining role-play activities (Ferdian & Nirwana, 2021; Ly, 2024), suggest that linguistically rich materials can foster authentic communication, learner engagement, and higher-order language use when they provide meaningful discourse contexts rather than isolated language practice.

Application of Corpus Linguistics and AI-Supported Tools in Linguistic Analysis

Recent studies have increasingly applied corpus linguistics and AI-supported tools to examine linguistic features of ELT materials, primarily through automated lexical, grammatical, and discourse analysis.

A recurring pattern in the literature is the use of AI tools as stand-alone analytical instruments. While these tools generate valuable quantitative indicators, studies often lack clear explanations of how

results are interpreted within linguistic theory (Curry *et al.*, 2025; Önem, 2025). This limits the explanatory power of findings and may lead to oversimplified conclusions about material quality.

Another limitation concerns the scope of analysis. Many studies focus on single linguistic dimensions, such as vocabulary or readability, without examining interactions between lexical, grammatical, and discourse features (Chen, 2016; Xu & Ye, 2025). This fragmented approach does not fully capture the complexity of language input in coursebooks.

Trends, Challenges, and Gaps in Linguistic Evaluation of ELT Coursebooks

The synthesis of current research suggests a need for integrated, theory-informed approaches to linguistic evaluation. AI-supported tools are most effective when used to support expert interpretation rather than to generate evaluative judgments independently (Alaqlobi *et al.*, 2024; Chapelle & Chung, 2010). Combining corpus-informed analysis with linguistic theory allows researchers to identify meaningful patterns while maintaining contextual sensitivity (Barlow, 2011; Matouq & Alqabba, 2025). This need for integration also aligns with broader materials evaluation research, which emphasises that effective evaluation should be holistic, flexible, and responsive to learner needs rather than narrowly focused on isolated criteria (Ly, 2025).

Overall, the findings indicate that AI has significant potential to enhance linguistic evaluation of ELT coursebooks, provided that its use is guided by clear theoretical principles and methodological coherence (Alaqlobi *et al.*, 2024; Curry *et al.*, 2024; Groenewald *et al.*, 2024).

Conclusions

This study revisits the linguistic evaluation of ELT coursebooks in light of recent developments in AI and corpus linguistics. The analysis highlights a shift toward data-driven linguistic analysis, particularly at the lexical and grammatical levels, while also revealing persistent gaps in discourse-level evaluation and framework integration.

The study concludes that AI-supported tools should be viewed as analytical supports that complement linguistic expertise rather than replace it. Effective linguistic evaluation requires careful interpretation of AI-generated data within established theoretical frameworks. Future research should focus on developing integrated linguistic evaluation models that combine multiple linguistic dimensions and clarify the role of AI in materials analysis.

Further studies may also explore empirical applications of such models across different educational contexts and proficiency levels. By strengthening the linguistic foundation of coursebook evaluation, researchers and educators can make more informed decisions about materials selection and development in higher education.

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