Contrasting Code Gloss Usage in High and Low-Rated Postgraduate Student Essays: A Corpus-Based Study in Applied Linguistics

Huiling Xie

MA Applied Linguistics and English Language Teaching
King's College London

Supervisor: Dr. Christopher Tribble

September 2024

15510 words

Acknowledgements

First and foremost, I extend my deepest gratitude to my supervisor, Dr. Chris Tribble, for his unwavering support and timely guidance throughout the past three months. His consistent availability to address my questions, coupled with his invaluable feedback and encouragement, has been instrumental in the completion of this dissertation. I am particularly grateful for his expertise in the relevant fields and his effective guidance, without which this work would not have been possible.

I also wish to express my sincere appreciation to my module lecturers, Prof. Ursula Wingate, and Dr. Martin Dewey, for their valuable support. Additionally, I am thankful to all my classmates who provided significant assistance during the data collection process.

Finally, I extend my heartfelt thanks to my family, who offered their unconditional support and encouragement throughout this entire journey.

Abstract

Code glosses, a type of metadiscourse, are recognized as vital for effective academic writing by enhancing clarity and reader engagement. This study investigates the specific deployment of code glosses (reformulation and exemplification) in postgraduate student essays within the field of applied linguistics. Through a corpus-based analysis of high-rated and low-rated essays, this research examines how these linguistic devices contribute to successful academic communication.

Findings reveal distinct patterns in code gloss usage between the two groups. High-rated essays demonstrate a more frequent and strategic use of both reformulation and exemplification. High-achieving writers exhibit a greater tendency to elaborate their ideas through explanation and refine their statements through specification, while their less successful counterparts favor simple paraphrase. The examples in high scoring texts are often more effective, persuasive, and grounded in research. In contrast, lower-rated essays tend to rely on exemplification for basic clarification and summary, with examples being less specific and less connected to research.

These results highlight the importance of code glosses in distinguishing successful academic writing. The study concludes by offering pedagogical implications for enhancing student writing through targeted instruction on the strategic use of code glossing strategies.

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1 Introduction

1.1 Research Background and Aim

Academic writing is now well established as a social and communicative interaction between writer and reader (Hyland & Tse, 2004). Central to this successful communication is the writer's ability to craft coherent, comprehensible, and persuasive arguments about the real world for a particular audience (Hyland et al., 2022). This ability, however, relies on writer's nuanced understanding of the audience's processing needs, rhetorical expectations, and preferred argumentative styles within their specific discourse community (Kafes, 2022). Discourse acts such as reformulation and exemplification, collectively known as 'code glosses' (Hyland, 2007, p. 266), are indicative of this understanding. They play crucial rhetorical roles in clarifying, elaborating, and supporting arguments, thus facilitating effective reader-writer interaction (ibid.). The significance of such elaboration in academic discourse has become particularly salient in my own journey as a writer, especially during my MA program.

When doing my current MA programme, low grades on my initial essay assignments prompted me to reflect on the reasons behind this and to seek strategies for improving the quality of my writing. I began by examining high-rated exemplars from different modules and noticed a common feature: the strategic use of elaboration appeared to make their arguments more persuasive and clearer. Incorporating this insight into my subsequent writing, I paid closer attention to where I need to provide concrete examples or reformulate utterances to clarify my meaning. Intriguingly, my later module assignments did see consistently higher scores. This upward trend sparked my curiosity about the extent to which, and how, the use of elaboration contributes to "writing success". This personal experience thus forms the genesis of the present research.

To investigate this phenomenon, this study is going to explore the degree to which reformulations and exemplifications - code glosses - vary in postgraduate student writing within the Applied Linguistics discourse community, and how this variation relates to assessment outcomes. Specifically, this study will employ a mixed-methods approach. First, a comparative corpus-based analysis will be conducted on MA student papers, using high-

rated (distinction, exceeding 70) and low-rated (pass or near pass, below 58) work from various module courses. This analysis will focus on the distribution of forms and subfunctions of code glosses employed in them. Subsequently, a qualitative analysis of representative examples will be conducted to explore the differing functions and potential motivations behind code gloss usage in these two groups.

Recent research has demonstrated that the use and meanings of code glosses vary across disciplines (Hyland, 2007; Safari, 2018) and with writers' disciplinary experience (Kafes, 2022). As Hyland (2007, p. 284) puts it, "these small acts of elaboration thus convey clear disciplinary meanings where what counts as convincing argument and appropriate tone is carefully managed for a particular audience". Given its discipline-specific nature, it becomes essential to investigate its manifestations within particular discourse communities.

Therefore, in addition to my personal curiosity, this study is also pedagogically motivated. It seeks to identify the preferred code gloss strategies within the Applied Linguistics discourse community by examining differences in code gloss usage between low-scoring and high-scoring texts in this field. By understanding these preferences, students can make informed choices about how to better align with community expectations and enhance the persuasiveness of their arguments. Furthermore, a closer examination of code glosses in high-rated writing can offer valuable insights into how these writers determine where clarification, elaboration, or examples are needed. By demystifying these decision-making processes, more specific and practical suggestions can be offered to develop more informed teaching materials and approaches for English for Academic Purposes (EAP) classes and university writing workshops. This, in turn, will empower instructors to better support students in their effective use of code glosses.

1.2 Rationale for Focusing on Code Glosses

In Hyland's (2005a) metadiscourse model, code glosses are classified as one of the five types of interactive resources (alongside *transitions, frame markers, endophoric markers*, and *evidentials*), which are related to the organization of discourse and signal what needs further elaboration to enhance reader comprehension. Metadiscourse does not constitute the

propositional content of a text but serves as a functional category whose functions are realized through a range of linguistic items such as "firstly," "as a consequence," "admittedly," "you should note," "to give an example," etc. (for a comprehensive list of 300 potential expressions, see the Appendix in Hyland, 2005a). Conceptually, it is defined as "linguistic resources used to organize a discourse or the writer's stance towards either its content or the reader" (Hyland, 2000, cited in Hyland & Tse, 2004, p. 157). By judiciously incorporating metadiscourse elements like code glosses, writers can not only transform dense texts into coherent, reader-friendly prose but also effectively contextualize their writing, project credibility and audience-sensitivity, and establish a rapport with readers (Hyland & Tse, 2004).

This paper focuses on the metadiscourse subtype of code glosses for several reasons. First, code glosses constitute a key feature frequently employed in academic discourse. Biber et al. (1999) note the higher frequency of providing examples and reformulating utterances in academic prose compared to other registers. Similarly, Hyland (2007) highlights the "routine significance of elaborative code glosses in the argumentation practices of all disciplines" based on his extensive corpus analysis of research articles. Research has further revealed the particular prominence of code glosses in the applied linguistics field, evident in both doctoral dissertations (Hyland, 2005a) and published research articles (Hyland, 2007), even when compared to other "soft" disciplines like Public Administration and Sociology. Additionally, Kafes (2022) demonstrates that experienced writers in academic research articles prioritize the elaboration of ideas through code glosses, employing them three times more frequently than novice writers.

Next, code glosses are frequently favored in academic writing because of the crucial functions it serves within such texts. As highlighted by Hyland (2007), these small acts of "propositional embellishment," not only serve to "shape meaning more precisely to the writer's goals," but also demonstrate "audience-sensitivity" by relating "statements to the reader's experience, knowledge-based, and processing needs" (p. 267). Additionally, linguistic devices signaling code glosses, such as "in other words" and "for example", also provide cohesive linking and enhance textual clarity (Liu et al., 2023). Furthermore, in academic writing, the appropriate use of code glosses (e.g., providing examples of an

abstract phenomenon) signals active engagement in knowledge transformation, a key characteristic of successful writing (Bereiter & Scardamalia, 1987). This practice, as Su & Lu (2022) suggest, significantly contributes to both knowledge construction and the perceived quality of academic writing. It demonstrates to readers (often assessors) that the writer is not merely presenting information verbatim but is actively illustrating it through their own understanding.

Notwithstanding its prominence in academic writing, only a few studies have exclusively investigated code glosses in academic discourse so far. Most research on code glosses is found as part of their investigations into the overall metadiscourse features across various genres (Liu et al., 2023), thus providing limited analysis beyond general frequencies. Moreover, studies focusing on code glosses in student writing are scarce, with most research concentrating on published articles (e.g., Hyland, 2007; Rahimpour, 2013; Kafes, 2022), with exceptions like Guziurová (2022) and Bondi and Nocella (2024) examining master's theses. Consequently, little is known about code gloss use in essays written for module assessment by postgraduate students. This scarcity is surprising, as such essays are the most frequently written and assessed genre within these contexts. Unlike published articles, they offer valuable insights into the actual writing challenges and strategies employed by students as they grapple with coursework. Existing research on student writing has explored variations in code gloss usage across disciplines (e.g., Guziurová, 2022), languages (e.g., Bondi & Nocella, 2024), and learner proficiency levels (e.g., Dehghan & Chalak, 2016). However, to the best of my knowledge, no study[1] has specifically investigated the differences in code gloss use between high-scoring (distinction or equivalent) and low-scoring (pass or equivalent) student essays, nor how such use impacts essay quality.

To address these research gaps, this study investigates the use of code glosses in high- and low-assessed postgraduate module essays within a specific discipline, examining the potential influence of code gloss use on essay grades through a corpus-based approach.

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[1] While Intaraprawat and Steffensen (1995) examined differences in code gloss use between high- and low-scoring ESL essays, their study included code glosses as one of several metadiscourse elements and focused on timed placement essays. These essays, being decontextualized and not evidence-based, differ significantly from the assessed writing required in postgraduate programs. Thus, their findings may not be directly applicable to the current context.

1.3 Research Outline

This dissertation is structured in five sections, of which this introduction is the first. Section 2 establishes the theoretical foundation by reviewing key conception of metadiscourse, focusing particularly on the nature and subcategories of code glosses. It also explores how code gloss use varies across disciplines, languages, and levels of expertise. Section 3 details the research methodology, including the compilation of corpora of high- and low-scoring student writing samples in Applied Linguistics, the coding scheme and procedure for analyzing code glosses. Section 4 presents the study's findings in two parts: a quantitative analysis of code gloss frequency and distribution, a qualitative analysis of specific strategies employed. Finally, Section 5 summarizes key findings and discusses their implications for EAP pedagogy and student learning in Applied Linguistics.

2 Literature Review

In this section, I set out to provide a brief picture of metadiscourse and a critical overview of code glosses and their subcategories in literature. I begin by reviewing the main definitions

and classifications of metadiscourse, highlighting the cline of perspectives and areas of consensus. Following this, I examine the concept of code glosses and their two subcategories - reformulation and exemplification. I end the section by reviewing key findings from previous research on their use in academic discourse.

2.1 A Brief Overview of Metadiscourse

Writing and speaking, as acts of meaning-making, are not merely about conveying information but also about social engagement. They inherently involve the personalities, attitudes, and assumptions of those communicating (Hyland, 2005a). Metadiscourse, the language we use to organize and guide discourse, facilitates this engagement by conveying our intended meaning and influencing our audience's interpretation. The strategic use of these rhetorical devices enables writers and speakers to achieve both immediate social and communicative goals (Hyland, 2017). Metadiscourse analysis also serves as a valuable analytical framework for systematically understanding communication. Functioning as a "recipient design filter", it provides a running commentary that spells out the author's intended meaning (Hyland, 2017). By examining metadiscourse, analysts gain access to the ways in which writers convey their stance, establish connections between ideas, and actively engage their audience in the unfolding discourse. Accordingly, metadiscourse analysis has become a well-established approach to discourse analysis, especially in academic contexts, with scholarly interest remaining strong since its introduction in Applied Linguistics in the 1980s (Ädel & Mauranen, 2010; Hyland & Jiang, 2022; Pearson & Abdollahzadeh, 2023).

Despite its established importance and enduring popularity, metadiscourse remains a fuzzy concept with varying interpretations of its definition and scope (e.g., Ädel, 2006; Hyland et al., 2022). Originally coined by structural linguist Zellig Harris in 1959, the term "metadiscourse" was initially conceived as a subset of metalanguage, referring to language that "talks about the main material" (p. 944, cited in Lee, 2009). This concept was subsequently taken up and developed by researchers like Williams (1981), Vande Kopple (1985), Crismore et al. (1993), and Mauranen (1993a; 1993b). In more recent years, Hyland (2005a) and Ädel (2006) have been particularly influential in refining our understanding of

metadiscourse. Essentially, the fuzziness of the term metadiscourse is evident in the difficulty of clearly defining its boundaries and the specific rhetorical categories it encompasses. As Mauranen (1993b) and Ädel (2006) note, perspectives on metadiscourse often fall into a dichotomy: a 'broad' or 'integrative' view that considers both textual and interpersonal functions of language, versus a 'narrow' or 'non-integrative' view that emphasizes reflexivity and its role in text organization[2]. However, this dichotomous framing can lead to reductive evaluations, pitting one perspective against the other and obscuring the nuanced ways in which metadiscourse operates in different contexts (Hyland, 2017). Therefore, the present study will consider the mainstream varying conceptions of metadiscourse not as binary opposites, but as occupying different points along a continuum (cf. ibid.), each contributing unique insights to our understanding of this phenomenon.

At one end of the cline, some researchers (e.g., Mauranen, 1993a) restrict the concept of metadiscourse to exclusively reflexive linguistic items that refer to the ongoing text itself. They often prefer terms like "metatext" or "text reflexivity" for these features of textual organization. Mauranen's (1993a, p. 9) taxonomy of metatext, for instance, includes four types: *Connectors* (e.g., "as a result"), *Reviews* (e.g., "So far we have assumed that..."), *Previews* (e.g., "We show below that..."), and *Action markers* (e.g., "to illustrate the..."). The focus here is solely on the structure, discourse actions, and wording of the text itself. This narrower view sidesteps some of the theoretical complexities associated with the broader concept of metadiscourse, simplifying it to a matter of purely text-referential elements (Hyland, 2005a; 2017).

Further along the continuum, we encounter theories and studies that occupy a middle ground. They embrace the 'reflexive' view of metadiscourse but extend it to encompass the writer's persona and the real or imagined reader of the current text. Ädel (2006; 2010) is a key proponent of this expanded perspective. Defining metadiscourse as "text about the evolving text, or the writer's explicit commentary on her own ongoing discourse" (Ädel, 2006, p. 20), she builds upon Mauranen's (1993b) work while proposing a more nuanced "reflexive model". This model divides metadiscourse into two main types: metatext (the

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[2] The broad 'integrative' and the narrow 'non-integrative' approaches to studying metadiscourse (Mauranen, 1993b) are also referred to as the 'interactive model' and the 'reflexive model' respectively by Ädel (2010).

foundational and essential function) and writer-reader interaction. The latter refers to "linguistic expressions that directly address readers, engaging them in a mock dialogue" (Ädel, 2006, p. 37), exemplified by phrases like "Does this sound... to you?" or "By... I mean..." (p. 38). Ädel argues that the conventional definition of reflexivity, as language referring solely to itself, is overly detached from real-world usage. She contends that "a text is not just an artefact but an instance of communication between a writer and a reader" (p. 179). Crucially, Ädel's model deviates from broader 'integrative' approaches by excluding "Stance"[3] from the category of metadiscourse, instead positioning it as a neighboring concept. While acknowledging some overlap between the two (both involving the writer and reader), she distinguishes stance as reflecting the writer's "attitudes to phenomena in the 'real world'", rather than strategic choices made within the discourse itself (p. 39).

At the other end of the continuum, most analysts who adopt a broad definition of metadiscourse, grounded in Halliday's (1973, 1994) trifunctional model of language (*ideational*, *interpersonal*, and *textual*), posit that metadiscourse conveys both interpersonal and textual meanings. Williams (1981) is likely the first to use the term "metadiscourse" in this broader sense, defining it as "discourse about discourse" (p. 195). Vande Kopple (1985) and Crismore et al. (1993) both emphasize the non-propositional nature of metadiscourse and view it as reader-friendly linguistic material that "helps the listener or reader organize, interpret, and evaluate the information given" (Crismore et al., 1993, p. 40). Vande Kopple (1985) established a foundational framework for metadiscourse, distinguishing seven types and categorizing them as either textual (*textual connectives, code glosses, validity markers, narrators*) or interpersonal (*illocution markers, attitude markers, commentaries*). Subsequent taxonomies have largely built upon this categorization, with notable revisions by Crismore et al. (1993) and Hyland (2005a; Hyland & Tse, 2004) who have collapsed, separated, and reconfigured Vande Kopple's categories. In particular, Hyland's (2005a) interpersonal model has emerged as highly influential, as evidenced by its predominant adoption in research, notably highlighted in Pearson and Abdollahzadeh's (2023) recent systematic review. Hyland and Tse (2004) advocated a stronger interpersonal view on

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[3] Stance refers to the linguistic material through which authors express their "personal feelings, attitudes, value judgments, or assessments" (Biber et al., 1999, p.966). Contrary to the narrow 'reflexive' view of metadiscourse, the broad approach places the author's attitude towards what they said at the forefront. Hyland (2005b), a proponent of this broader view, categorizes hedges, boosters, attitude markers, and self-mentions as key components of stance within interactive metadiscourse.

metadiscourse, underling the conviction that "all metadiscourse is interpersonal in that it takes account of the readers' knowledge, textual experience, and processing needs…" (p. 161). Thus, Hyland and Tse (2004) and Hyland (2005a) operationalized this perspective in their new model of "interactive" and "interactional" metadiscourse (summarized in Table 2.1), adopting Thompson's (2001) terminology to replace the earlier "textual" and "interpersonal" labels.

In their new model, each of the two main categories - interactive and interactional - comprises five subtypes of metadiscourse (see Table 2.1). While not exhaustive, these types and subtypes encompass a wide array of metadiscourse markers. Interactive resources, concerning the writer's awareness of a real or imagined audience, empower writers to craft coherent, reader-friendly texts that effectively guide and inform. Interactional markers, on the other hand, allow writers to project their authorial identity and actively engage readers with the text. Code glosses, a less explored feature of interactive metadiscourse, are the central focus of this study given their pivotal role in enabling writers to build credibility, enhance persuasiveness, and achieve acceptance for their arguments (Hyland, 2007). And here, Hyland's (2005a) model, specifically its conceptualization of code glosses, is adopted as the analytic framework for this study for two key reasons. Firstly, the model's established presence in metadiscourse research (Hyland et al., 2022; Pearson & Abdollahzadeh, 2023) ensures that my findings can be meaningfully compared to existing work. Secondly, given that both Hyland's taxonomy and this research adopt a genre-based approach, the model offers a suitable framework for investigating how low- and high-achieving postgraduate writers utilize code glosses differently in their module essays.

To conclude this overview, let me summarize the common characteristics of metadiscourse that most analysts generally agree upon. Firstly, metadiscourse is a functional category that does not expand the propositional content of a text, which refers to information about external reality, such as thoughts, actors, or states of affairs in the world (cf. Hyland, 2005). Secondly, metadiscourse features are context-dependent and vary across cultures, genres, and languages (Ädel, 2006; Crismore & Abdollehzadeh, 2010; Hyland et al., 2022). Finally, Metadiscursive expressions can be multifunctional. For instance, Hyland (2017, p. 18) notes that the phrase "our conclusion" can be interpreted as a *frame marker* signaling an

upcoming text segment or a combination of two shorter units, with "our" functioning as a *self-mention* and "conclusion" as a *frame marker*.

Table 1 *An Interpersonal Model of Metadiscourse (Hyland, 2005a, p.47)*

Category	Function	Examples
Interactive	**Help to guide the reader through the text**	**Resources**
Transitions	Express relations between main clauses	In addition; but; thus; and
Frame markers	Refer to discourse acts, sequences or stages	Finally; to conclude; my purpose is
Endophoric markers	Refer to information in other parts of the text	Noted above; see Fig.; in section 1,
Evidentials	Refer to information from other texts	According to X; Z states
Code glosses	Elaborate propositional meaning	Namely; e.g., such as; in other words
Interactional	**Involve the reader in the text**	**Resources**
Hedges	Withhold commitment and open dialogue	Might, perhaps; possibly; about
Boosters	Emphasize certainty or close dialogue	In fact; definitely; it is clear that
Attitude Markers	Express writer's attitude to proposition	Unfortunately; I agree; surprisingly
Self-mentions	Explicit reference to author(s)	I; we; my; me; our
Engagement markers	Explicitly build relationship with reader	consider; note; you can see that

2.2 Code Glosses

This part explores the concept of code gloss and its two primary subfunctions to elucidate its nature. Key findings from recent empirical research are then synthesized to further illuminate the practical application and function of code glosses within specific academic communicative contexts.

2.2.1 Conception of Code Glosses

According to Hyland's metadiscourse model (2005a), code glosses, like other interactive metadiscourse elements, function to "organize propositional information" in a manner that the intended audience will perceive as both "coherent and convincing" (p. 50). Hyland (2005a) further elaborates that:

*Code glosses provide supplementary information by **rephrasing, explaining, or elaborating** on previous statements. This ensures that the reader can accurately grasp the writer's intended meaning.* (p. 52, emphasis added)*.

Hyland (2007, p.268) posits that code glosses represent a range of "basic communication strategies used in the negotiation of meaning" aimed at facilitating reader comprehension. These strategies reflect writers' assumptions of their reader's existing knowledge, experiences, and processing needs (ibid.). Despite their significance in communication, the term "code gloss" was not formally introduced within the metadiscourse literature until the 1980s. It made its first appearance, as a feature of metadiscourse, in the Vande Kopple's (1985) pioneering metadiscourse typology. It was defined as linguistic material used to "define, explain and delimit" elements in texts to help the writer convey their appropriate meaning (p. 84). Although the specific term may be relatively recent, the underlying concept of code glosses can be traced back to earlier grammatical studies, even if not explicitly labeled as such.

In traditional grammar, code glosses have been analyzed within the framework of apposition. Notably, the concept of non-restrictive apposition in Quirk and Greenbaum (1973), particularly its emphasis on equating and inclusive semantic relationships, resonates with

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Hyland's (2007) notion of 'code gloss'. Reformulation and exemplification, two types of non-restrictive apposition, exemplify relationships of 'equivalence' and 'inclusion,' respectively (p. 278). Quirk and Greenbaum highlight expressions like "in other words," "that is," "such as," and "for example" as indicators of apposition, serving to connect and clarify the relationship between the two appositive units (p. 277). Similarly, Biber et al. (1999) categorize these indicators as 'appositive linking adverbials,' which signal that the subsequent textual unit should be interpreted as either equivalent to or encompassed by the preceding unit (p. 876). Their corpus analysis further revealed that these adverbials are prevalent in academic prose, often used to support general claims with examples or clarify prior statements through restatement (p. 881). However, the traditional view of apposition, as presented by Quirk and Greenbaum (1973), implies a connection between appositives solely within the same sentence. This limitation overlooks the reality that such connections can span across sentence boundaries (Hyland, 2007). Consequently, it is more fitting to conceptualize these connections as a logico-semantic relationship of 'elaboration' within clause complexes, as proposed in Halliday's (1994) functional grammar theory.

Within Systemic Functional Linguistics, code glosses are viewed as forms of elaboration, where "one clause elaborates on the meaning of another by further specifying or describing it" (Halliday, 2004, p. 396). Importantly, in elaboration, the secondary clause does not introduce new themes but instead offers additional characterization of an existing one, achieved through "restating it, clarifying it, refining it, or adding a descriptive attribute or comment" (p. 396). Halliday (2004) identifies three types of elaboration: *exposition* (i.e., restatement), *exemplification*, and *clarification*. These relationships are frequently made explicit through what Halliday terms "elaborating conjunctions," including phrases like "in other words," "to illustrate," and "to be more precise" (p. 540). These conjunctions contribute to textual cohesion rather than structural linking, serving as a resource for both the "creating and interpreting" of text (p. 538). The concept of code glosses, also referred to as 'elaboration' in other fields, has been investigated for its impact on memory encoding and comprehension. Yano et al. (1994) examined the effects of elaboration techniques, such as parenthetical expansions of key terms and concepts, on reading comprehension. Their findings suggest that elaboration positively influences the reader's memory of information by providing "a 'second look' at those terms and concepts and consequently increas[ing] the

chance that inferencing about them can be stimulated in the reading process" (p. 213). In a similar vein, Hamilton (1997) notes that elaboration "increases the richness and redundancy with which we encode the set propositions related to a specific memory episode" (p. 300). He further emphasizes that elaboration essentially involves "encoding the original content in a different but related way" (p. 299), suggesting its potential as a strategy for modifying texts to enhance comprehension.

While previous studies have explored related concepts, often under different labels like 'apposition,' or 'elaboration', their focus has primarily been on textual functions such as signaling discourse relationships, enhancing cohesion, or aiding comprehension. However, it is essential to transcend this primarily textual perspective and recognize the broader interactive function of code glosses. Beyond facilitating textual clarity, code glosses serve crucial interpersonal ends by guiding reader interpretation, establishing writer-reader rapport, and persuading readers of the validity of claims. As emphasized by Hyland (2005a), writers utilize code glosses with their "projected target audience[s]" in mind (p. 50). Consequently, Hyland (2007) argues that it is more productive to view code glosses as a metadiscourse resource, capturing their interpersonal nature. He further classifies code glosses into two primary sub-functions: *reformulation* and *exemplification*, each of which will be explored in detail below.

2.2.2 Subcategories of Code Glosses: Reformulation and Exemplification

2.2.2.1 REFORMULATION

According to Hyland (2007), reformulation is a discourse strategy used by text producers to reword or restate a previous fragment of discourse to reinforce the message. However, as Cuenca and Bach (2007, p. 152) point out, the message is not merely rephrased; it is "elaborated in a better, more relevant way," at least from the writer's perspective. Essentially, reformulation involves a "retrogressive interpretation" of the previous discourse, enabling writers to explain, rephrase, reconsider, or summarize, ultimately enhancing the reader's

understanding of the original idea (Dal Negro and Fiorentini, 2014, p. 95). Reformulation, a common strategy in both spoken and written discourse, serves different purposes in each context. In speech, it functions as a tool for clarifying and correcting communication, with speakers employing self-reformulation (e.g., "I mean") and interlocutors utilizing other-reformulation (e.g., "so you are telling us...") (Cuenca and Bach, 2007). This dynamic process is often seen as crucial for addressing communication breakdowns (Del Saz Rubio and Fraser, 2003). However, Hyland (2007) emphasizes that reformulation in written discourse, being planned and deliberate, represents a premeditated, purposeful action. Writers strategically employ reformulation, considering their audience's processing and contextual resources, to convey specific meanings or achieve desired rhetorical effects. Therefore, as Kafes (2022) suggests, striking the right balance with reformulation - providing the right amount without patronizing the reader and placing it strategically within the text - is essential for effective communication.

Reformulation is commonly introduced through parentheses or specific lexical expressions. Cuenca (2003) categorizes these lexical devices into two groups: simple, structurally fixed expressions (e.g., "i.e.," "that is,") and more complex, partially compositional expressions (e.g., "to say the same thing differently"), which allow for modification by substituting or adding constituents. Hyland (2007) collectively refers to these reformulation signals as "reformulation markers" (RMs). Reformulation markers enhance textual cohesion and facilitate discursive progression by mitigating potentially ambiguous statements in a text (Cuenca and Bach, 2007). As rhetorical choices aimed at guiding reader understanding, analyzing these markers can offer "an outline or chart of the perceptions that the writer has about his/her readership" (Murillo, 2012, p. 70).

Although reformulation is often viewed as an equivalence operation, where two utterances express a single idea in different ways, the repackaging of information rarely results in exact semantic equivalence. While adjacent units may present the same propositional content, each reformulation introduces an element of change, creating what Gülich and Kotschi (1995, cited in Cuenca and Bach, 2007, p. 152) call "communicative progression." Hyland (2007) highlights that writers strategically choose reformulations that subtly alter the pragmatic connotations of the original statement, without changing its core propositional

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meaning, to steer readers towards their preferred interpretation. Reformulation thus transcends simple discourse functions, serving as a complex rhetorical tool with a range of meanings beyond mere summarization or "gisting" (Hyland, 2007, p. 270). As illustrated in Figure 1, Hyland proposes that reformulation operates in two primary ways: it can expand the reader's understanding through explanation or implication, or it can narrow the scope of interpretation through paraphrase or specification.
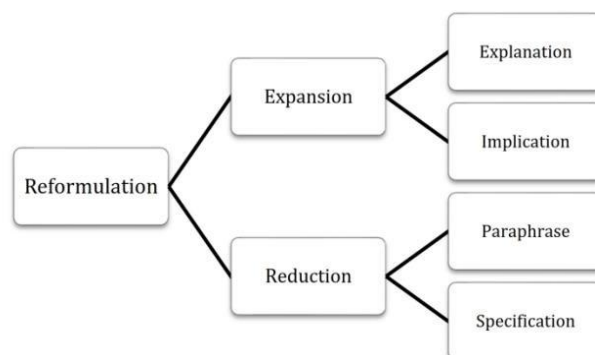
Figure 1 Discourse Functions of Reformulations (Hyland, 2007, p. 274)

Murillo (2012) offers a more expansive framework, outlining three macrofunctions with seven specific functions under them. Despite their different structures, both frameworks recognize explanation and specification as key elements of reformulation. While Hyland views these functions as part of the processes of expanding or narrowing meaning, Murillo situates them within the interpretation of explicit content.

For the purposes of this study, Hyland's (2007) categorization will be adopted due to its simpler binary structure and increasing use in academic research. A detailed discussion of the specific types of reformulation within this framework will be presented in the Methodology section.

2.2.2.2 EXEMPLIFICATION

Exemplification, as defined by Hyland (2007, p. 270), is a "communication process through which meaning is clarified or supported by a second unit which illustrates the first by citing an example." Like reformulation, exemplification plays a crucial role in the writer-reader

interaction, anticipating and addressing the reader's potential need for clarification by providing a more accessible understanding (ibid.). Thus, a fundamental function of exemplification is to clarify or specify relatively abstract concepts, phenomena, and statements, thereby facilitating comprehension and ensuring accessibility of knowledge (e.g., Siepmann, 2005; Su et al., 2022). This process often involves offering additional details through subordinate categories, subtypes, or similar cases. Example (1), extracted from the current postgraduate corpus, illustrates this: "B1-B2" provides a specific instance that clarifies one scenario of "expanding learning to the next level of language ability". Notably, as Hyland (2007) observes, exemplification in academic discourse tends to reference things and experiences embedded within the specific discipline's understanding and framework, rather than relying on mundane or everyday examples.

(1)   It needs to be based on learners' existing knowledge and expanding their learning to the next level of language ability (**for example**, B1-B2).

(LA_D88_08)

Exemplification is highly frequent in academic writing and has its place in virtually any argumentative texts (Siepmann, 2005). This prevalence underscores its importance in communication, which, as Rodríguez-Abruñeiras (2017) notes, lies in the fact that examples "have a deeper impact on the interlocutor than the general assertions that they carry, given their greater persuasive power" (p. 88). In other words, exemplification goes beyond mere illustration; it actively supports and strengthens arguments. Example (2) demonstrates this persuasive function:

(2)   Learners using English for Specific Purposes (ESP) may need receptive and productive skills adhering to NS norms. **For example**, there are NNS actors aiming for particular roles which need accent training to emulate the target ENL accent as closely as possible (Cerreta and Trofimovich, 2018).

(SOC_D72_19)

19

Here, the writer provides a concrete example of NNS actors requiring accent training, grounding the argument in real-world phenomena. Such exemplification, as Hyland (2007, p. 282) suggests, "allow[s] readers to use their senses as well as their minds," influencing their perceptions and ultimately bolstering the writer's claims.

As evident from the examples above, a typical exemplification construction, following Triki's (2021) labels, comprises three discourse units: the *exemplified unit* (the superordinate unit being illustrated), the *exemplification marker* (bolded in the examples), and *the exemplifying unit* (the specific illustration). To investigate the use of exemplification in academic discourse, many scholars focus on (e.g., Siepmann, 2005; Rodríguez-Abruñeiras, 2017) or initiate their analysis by examining lexical exemplification markers (EMs) (e.g., Triki, 2021; Su & Zhang, 2020). Common EMs include "for example," "e.g.," and "such as." Employing an explicit marker when exemplifying is widely recognized as the norm to ensure clarity and avoid ambiguity (e.g., Quirk and Greenbaum, 1973; Triki, 2021). RodríguezAbruñeiras (2017) proposes a classification of EMs based on their position within the exemplifying sequence:

P1: The EM is placed *before* the exemplifying unit.
P2: The EM is positioned *within* the exemplifying unit.
P3: The EM is located *after* the exemplifying unit.
She notes that P1 is the most frequent position due to its linking nature between the exemplified and exemplifying units. Moreover, when an EM occupies the P2 position, it tends to isolate and emphasize a part of the exemplifying unit. This is illustrated in example (3), where "hydrogen" is foregrounded and given prominence:

> (3) Many of the fuels being developed today have little or no impact on the environment. Hydrogen, **for example**, burns completely clean.

> (Paquot 2007, cited in Rodríguez-Abruñeiras, 2017, p. 95).

Going beyond mere positional analysis, Hang Su and colleagues employ a local grammar approach to investigate the discourse-semantic patterns associated with EMs. Notably, Su &

Zhang (2020) identified 17 distinct patterns for exemplification in Linguistics research articles, showcasing the diverse ways it manifests in academic writing. Triki (2021) emphasizes that understanding the functional motivations behind exemplification choices requires examining not just the markers themselves, but also the two core units they connect. For instance, exemplifying units, when realized in clause form, offer greater potential for elaboration and expansion, often serving argumentative purposes that go beyond mere illustration.

2.3 Code Glosses in Academic Writing

This review is divided into two parts: The first part focuses on studies examining the use of code glosses alongside other metadiscourse features in learner writing. The second part delves into research that specifically investigates code gloss usage within academic discourse.

2.3.1 Investigation on Code Glosses as Part of Metadiscourse

Research on code glosses is often embedded within broader metadiscourse studies, which focus on various genres, including research articles (e.g., Cao and Hu, 2014), student writing (e.g., Hyland, 2010), academic book reviews (Tse & Hyland, 2006), and university textbooks (Hyland, 1999). Instead of covering the genres involved, I narrow my focus to only the students' writing, given my study focus and the distinct communicative purposes and audience of learner genre and others. This targeted focus allows me to gain more pertinent insights into code gloss practices. The studies reviewed below, however, present a range of findings, sometimes even conflicting ones.

Scholars are particularly interested in cross-disciplinary comparisons because students from different disciplines are expected to follow different conventions in knowledge display and communication. For example, Hyland (2010) examined the metadiscourse use in postgraduate dissertations across six disciplines covering both "soft" and "hard" knowledge fields. His study shows that in softer disciplines, such as Applied Linguistics and Public Administration, the use of code glosses tends to be more pronounced, as these fields often engage in more discursive and explanatory writing. Li and Wharton (2012) investigated code gloss use across two disciplines (Translation Studies and Literary Criticism) in Chinese EMI

and UK university contexts. Their findings revealed a higher frequency of code glosses in Translation Studies compared to Literary Criticism within the Chinese EMI setting. However, in the UK context, code gloss usage showed no significant difference between the two disciplines. This suggests that educational background, rather than disciplinary focus, may be a more influential factor in metadiscourse use, particularly when the disciplines share similarities, as in this case.

Many studies have explored metadiscourse realization, comparing first language (L1) and second language (L2) writers of English (e.g., Ädel, 2010) or examining L2 learners at different proficiency levels (e.g., Bax et al., 2019). Ädel (2006), employing a reflexive model, investigated metadiscourse use in university-level writing by advanced Swedish learners of English and native English-speaking students. She found that Swedish learners generally overused most metadiscourse features compared to their American and British counterparts. However, the use of exemplification[4] (one type of code glosses) showed no significant difference among these groups, and another type – reformulation - was most prevalent among British writers, who particularly relied on various forms of the word "mean," whereas Swedish learners did not exhibit this preference. Bax et al. (2019) also revealed some intriguing findings when conducting a study on L2 students' expository essays. While the overall frequency of code glosses did not differ significantly across three proficiency levels, higher-level writers demonstrated a greater variety of code gloss markers compared to lower-level writers, with a marked increase in diversity from B2 First to C2 Proficiency levels.

Several studies have investigated the relationship between metadiscourse use and essay quality, comparing high-rated and low-rated student essays. For example, Intarpaprawat and Steffensen (1995) analyzed timed persuasive essays written by ESL students and found that high-scoring essays exhibited both a higher frequency and greater variety of metadiscourse elements across categories compared to low-scoring ones. Notably, while code glosses were infrequent overall, they were used correctly twice as often in good essays and demonstrated a wider range of realizations. However, more recent research, such as Ho and Li (2018), presents contrasting findings. In their analysis of first-year undergraduates' timed essays,

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[4] In Ädel's (2006) reflexive model, she labeled reformulation markers as 'Code Glosses' while exemplification markers were categorized as exemplifying labels under the broader category of Discourse Labels.

seven out of ten metadiscourse categories (including code glosses), based on Hyland's interpersonal model, showed no significant difference between high- and low-rated essays. Ho and Li argue that it is not merely the frequency of metadiscourse use, but rather the ability to employ these resources appropriately, that contributes to writing quality. They observed a higher frequency of inappropriate code gloss usage in low-scoring essays, whereas high-achieving writers used them both grammatically and effectively.

While the aforementioned research has illuminated the distribution of code glosses in student academic writing across disciplines, languages, and expertise levels, it lacks a microlevel examination of their specific usage within immediate contexts. As Ho and Li (2018) emphasize, it is not merely the frequency or variety of metadiscourse that matters, but rather the judicious selection and appropriate use of specific markers. Therefore, to gain a deeper understanding of how code glosses function in academic writing, a closer examination of literature specifically focused on code glossing is warranted.

2.3.2 Investigation Specifically on Code Glosses

While code glossing is recognized as a recurring feature in academic writing (Hyland, 2007), it has received comparatively less scholarly attention than other metadiscursive features within the academic domain (cf. Pearson and Abdollahzadeh, 2023). Shifting the focus beyond the student genre, I will now examine research specifically centered on code glosses and their subtypes (exemplification and reformulation). By synthesizing existing knowledge on code gloss usage, this analysis aims to establish a contextual basis and identify research gaps that my work seeks to address.

Many of these studies have examined the use of code glosses in research articles (RAs). Hyland's (2007) influential study offers a comparative analysis of reformulation and exemplification strategies employed in RAs across eight distinct academic disciplines. He found that over 60% of code gloss markers appeared in the humanities and social sciences (often referred to as "soft" knowledge fields), with writers in applied linguistics and marketing utilizing them the most. Further analysis revealed a notably higher density of reformulations in the hard sciences, primarily serving a specification function. This aids

researchers in these fields to "make observations and interpretations more specific" (p. 284). In contrast, writers in the soft disciplines tend to rely more heavily on exemplification, which "represents a heavier rhetorical investment in contextualization" (p. 272). Hyland (2007) attributes this to the need for researchers in soft fields to establish shared understanding of research backgrounds and evaluative criteria, which cannot be assumed. Triki (2021) specifically explored disciplinary variations in exemplification use, confirming a general trend of higher frequency in the soft sciences. However, her detailed analysis cautioned against overgeneralization, revealing that some hard sciences employed examples more frequently than certain soft disciplines. Additionally, Triki found that hard sciences favored exemplifying clauses for argumentation, while soft sciences preferred nominal group forms for explanation.

Studies exploring cross-linguistic variations in code gloss use are primarily found within the soft sciences, particularly in Applied Linguistics. For instance, Rahimpour (2013) investigated the use of code glosses in English and Persian published papers written by Iranians, compared to English papers by native speakers. The results indicated significant differences in code gloss distribution: both groups of Iranian writers (Persian: 35.4%, English: 27.1%) used more code glosses than native English speakers (19.9%), with exemplifications notably more frequent than reformulations across all groups. Similarly, Dehghan and Chalak (2016) examined code gloss use in the introduction sections of Applied Linguistics articles written by Iranians and native English speakers. However, they found no significant difference in the overall frequency of glosses. Interestingly, in introductions, reformulations were used more often than exemplifications. Both of these studies appear to adhere to what Ädel (2006) terms the "thin" tradition, prioritizing quantitative frequency counts over contextually grounded interpretations.

In contrast, Guziurová (2020) conducted a "thick" analysis of code glosses, examining not only their formal realization but also their discourse function within specific contexts. She compared code gloss use in final drafts of unpublished manuscripts by L2 writers from various language backgrounds to published research articles (RAs) by L1 native writers. The overall frequency of code glosses was similar in both corpora, with exemplification, as in many other studies, being more prevalent than reformulation. A closer examination revealed

additional insights. For instance, the exemplification marker "e.g.," second in frequency only to "such as," frequently appeared within parentheses, suggesting that examples introduced by "e.g." often serve to illustrate background information. Moreover, within these parentheses, "e.g." often introduced references to external sources (approximately half of its occurrences), underscoring the importance of supporting arguments with citations in academic writing.

To date, Kafes (2022) appears to be the sole researcher addressing the influence of writers' experience on code gloss use. His corpus-based study examined how experienced writers (EWs) and novice writers (NWs) employ code glosses in applied linguistics RAs. The key finding was that EWs used code glosses three times more frequently than NWs to elaborate their ideas. Furthermore, EWs utilized a more balanced range of code glosses, while NWs exhibited an over-reliance on certain types. Focusing specifically on reformulation, the study revealed that NWs predominantly used *explanation* to expand their original ideas, whereas EWs favored *implication* (which serves to draw a conclusion for readers to take away). This may suggest that EWs, as Hyland (2007, p. 284) notes, are more attuned to the needs of "a potentially more diverse readership." In contrast, NWs relied heavily on *paraphrase* to narrow interpretation, while EWs demonstrated a preference for *specification*.

Many other studies have specifically investigated the use of code glosses in student writing. Notably, Su et al. (2022) and Su and Lu (2022) both focused on exemplification by Chinese English learners. Su et al. (2022) compared exemplification in academic writing by Chinese English-major MA students and expert writers, adopting a local grammar perspective. They found that while postgraduate writers used exemplification as frequently as experts to specify abstract superordinate categories, they underutilized it in certain aspects. These included the use of performative verbs (e.g., "exemplify," "illustrate"), exemplificatory imperatives (e.g., "take ... for example"), and the strategy of exemplifying by citing relevant studies. The Chinese student writers favored more frequent or typical patterns, underusing patterns like placing exemplification markers (EMs) at the end of a sentence. This tendency may be attributed to their "apparent limited repertoire of exemplifying phraseology or … their less familiarity with the use of those less frequent or atypical patterns" (p. 9).

Su and Lu (2022), on the other hand, explored the relationship between performance of exemplification and L2 English writing proficiency. Their study revealed that the frequency of exemplification markers, as well as the quantity, strategic use, and diversity of exemplification patterns, generally increased with writers' proficiency levels (undergraduate, postgraduate, and expert). This suggests that the effective use of exemplification could serve as a valuable indicator of L2 writing proficiency. Furthermore, the study found that Chinese undergraduate and postgraduate writers employed exemplification through citation significantly less frequently than expert writers. This observation suggests that the frequency of using citation-based exemplification might also predict L2 writing proficiency. The less frequent use of this strategy by L2 writers could potentially result in arguments or viewpoints that are less convincingly illustrated and supported.

Unlike Su and colleagues' work, Guziurová's (2022) investigation into code glossing encompassed two dimensions: L2 master's writing across three soft disciplines and a comparison of L2 novice writing with L1 professional writing (i.e., research articles) within those disciplines. Interestingly, the study found that the overall frequency of code glosses was higher in the master's theses written by Czech students than in L1 research articles, with exemplification markers (EMs) used at a nearly equal rate in both. However, the most significant variation lay in the use of reformulation. Czech learner writers were found to overuse certain reformulation markers (RMs), particularly relying on "i.e.," regardless of discipline. Guziurová suggests this may be partly due to the genre's demands, requiring students to demonstrate their knowledge and understanding of theories. A closer contextual analysis of these markers revealed instances of misuse, such as with "i.e." and "namely," indicating that even advanced L2 learners may not have fully mastered the use of RMs.

A study by Letsoela (2023) further supports this perspective when analyzing students' exemplification usage. In research projects by final-year undergraduate students in Lesotho, while EMs were generally used appropriately, some challenges were observed. These included confusion between exemplification and reformulation (e.g., using "that is" before an example) and a mismatch between general terms and overly specific examples. Letsoela also noted that these students utilized a limited range of EMs within a few recurring patterns. These findings underscore the importance of raising awareness and providing support for

students to develop a broader repertoire of effective code glossing strategies. Explicit instruction on code gloss usage should be incorporated into EAP classes to equip students with the skills necessary to meet the expectations of their disciplinary communities and achieve success in their academic writing.

The literature reviewed so far underscores that code glossing is a prominent feature of academic writing, meriting further exploration of this valuable metadiscourse resource. Existing research has demonstrated that the strategic use of code glosses varies significantly across disciplines, language proficiency levels, and cultures. However, studies specifically focused on code glossing remain limited, with investigations into its use in students' assessed module essays being even rarer. One objective of the present study is to address these gaps in literature. Additionally, given the challenges faced by novice writers, even those at advanced levels, in using code glosses appropriately, identifying potential differences between high- and low-achieving writers could reveal effective strategies associated with successful academic writing. Such insights could contribute to more informed pedagogical approaches to teaching code gloss usage. To achieve these goals, this study aims to answer the following research questions:

1. Is there a significant difference in the frequency and types of code glosses used between low- and high-scoring student writing within Applied Linguistics?

2. How do successful and less successful student writers differ in their use of reformulations in essays, with respect to the forms and functions?

3. How do successful and less successful student writers differ in their use of exemplifications in essays, in terms of the grammatical structures and functions?

3 Methodology

This study adopts a corpus-based approach to investigate the relationship between code gloss usage and writing quality. The corpora compiled for this investigation are described first, followed by an explanation of the data coding and analysis framework. Subsequently, the process of identifying and extracting code gloss instances is detailed, along with the annotation procedures applied to these instances.

3.1 Corpus Compilation

For this investigation, two specialized corpora were constructed, each comprising 21 postgraduate student texts (146,778 words total) from the field of Applied Linguistics. These texts were categorized based on their writing quality as either 'high-rated' or 'low-rated'. As Flowerdew (2004) notes, such small-scale, focused corpora offer a controlled environment conducive to the detailed examination of specific discoursal features within a particular genre or discipline. Thus, these two corpora are well-suited to the current research aims, which center on investigating a specific metadiscourse feature (code glosses) within the context of student essays in Applied Linguistics.

3.1.1 Research Ethics

This study utilized a total of 42 essays, sourced from two groups: 32 essays were contributed anonymously by my classmates, and 10 essays were provided by module lecturers with explicit permission from the students for research purposes. All contributions were handled in accordance with ethical guidelines to ensure anonymity and informed consent. The students were fully aware that their work would be used for research, and any identifying information was removed to maintain confidentiality.

3.1.2 Rationale for Text Selection

The 42 postgraduate student essays analyzed in this study (approximately 3,300 words each) were submitted for assessment at King's College London between 2021 and 2024. All texts were written to fulfill requirements for various modules within the MA program in

Applied Linguistics and English Language Teaching, covering topics like Linguistic Analysis, Sociolinguistics, and EAP. Following Gardner and Nesi's (2013) 'genre family' categories, these assignments fall within the 'Essay' family.

The focus on students' module essays is motivated by their significance as a frequently written and assessed genre in this context, making them a major concern for most students. Additionally, Applied Linguistics was chosen as the disciplinary focus for two reasons. First, research indicates that writers in this field tend to utilize code glossing more frequently than those in other disciplines (e.g., Hyland, 2007; 2010). Second, my "insider status" (Hyland, 2005a, p. 30) within this discourse community allows for a deeper familiarity with the texts, reducing the potential opacity in identifying and analyzing code gloss instances.

The 42 essays in the dataset were evenly divided based on essay grade: half received a distinction (70-100), and half received a pass or near-pass (45-58). To ensure representativeness, these sample texts were contributed by various authors (up to two texts per author), preventing any single authorial style from dominating the data. While this sample size cannot capture all possible variations in student writing, it adequately represents the linguistic features of the genre, aligning with Biber's (1990, cited in Xin, 2021, p. 45) observation that high-frequency linguistic items stabilize with 10 texts per genre. Furthermore, Pearson and Abdollahzadeh's (2023) systematic review indicates that analyzing 21-50 texts is a common practice in corpus-based research.

3.1.3 Preparation of the Texts

The collected student essays (initially in PDF or Word format) were converted to plain text using AntFile Converter to ensure compatibility with corpus analysis tools like AntConc (Anthony, 2019). Prior to loading into AntConc, each text file underwent a manual cleaning process, removing extraneous elements such as coversheets, tables, figures, footnotes, reference lists, and appendices, leaving only the main body for analysis. For ease of reference, each file was labeled with an abbreviated module name (using the first letters), the assigned grade (D for distinction, P for pass), and a random file number. For example, an essay from the Linguistic Analysis module with a distinction grade of 72 could be labeled

"LA_D72_01". Based on these grades, two corpora were created: a high-rated corpus (HR) and a low-rated corpus (LR). These were uploaded to AntConc (v. 3.5.8) for data retrieval. Table 2 provides an overview of the two corpora (further details on essay titles, grades, word counts, and modules can be found in Appendix 1).

Table 2 Description of the Two corpora

	HR corpus	LR corpus
Number of texts	21	21
Number of words	74075	72703
Total number of words	146778	

3.2 Analytical Framework

Following Hyland's (2007) classification of code glosses into *reformulation* and *exemplification*, this section presents two distinct annotation schemes for these categories. I also outline the rationale behind the selection of these specific frameworks. (See Appendix 2 for the complete code gloss scheme).

3.2.1 Coding Scheme of Reformulation

Reformulations were coded based on their discourse functions, utilizing Hyland's (2007) categorization as the coding framework. This functional framework was chosen for its broader scope and simpler structure compared to other classifications, such as Murillo's (2012). This choice enhances the efficiency of the coding and analysis process. Moreover, given the increasing prevalence of Hyland's framework, it facilitates comparison of my findings with other research. As discussed in section 2, Hyland's (2007) categorization of reformulation encompasses two primary functions: (1) expansion, achieved through explanation or implication; and (2) reduction, achieved through paraphrase or specification. The following characterizes these individual functions (Hyland, 2007, pp. 274-276), with examples drawn from the high-rated (HR) corpus compiled for this study.

A) *Explanation*: A contextual clarification that elaborates on the meaning of a prior utterance, enhancing understanding by providing a gloss or definition. This includes instances where a technical term is explicitly defined or clarified in example (4), or a term is introduced for a concept that has already been explained in (5). Common signals for this function include the use of parentheses and phrases like "that is," "known as," "called," and "refer to."

> (4) Similarly, Park (2011) highlights that one of the characteristics of Korean people's discourse around English is the 'ideology of necessitation', **referring to** the belief that financial success within the global economy requires English language proficiency.
>
> (SOC_D75_11)

> (5) Policy makers, exam boards, and publishers are people who Jenkins (2007) **called** as "gatekeepers" of ELF.
>
> (SOC_D75_20)

B) *Implication*: This second subcategory of expansion functions to draw a conclusion or summarize the key point of the preceding statement. Writers typically achieve this rhetorical purpose by using phrases like "in other words".

> (6) Shohamy (2006) demonstrates that language planning initially focused on direct control over which languages are spoken within a nation, however, language policy generally sets broader principles for language use. **In other words**, while they both aim to influence language behaviour, language planning dictates specifics, while language policy suggests guidelines.
>
> (SOC_D75_11)

C) *Paraphrase*: This involves "gisting" or rephrasing an idea to provide a concise summary, thereby narrowing the potential interpretation of the original. It is commonly signaled by phrases like "that is" or "in other words," or through the use of parentheses.

(7) This purpose is recognized by instructors or tutors **(expert members)** within the Applied Linguistics discipline

(EAP_D78_03)

D) *Specification*: This function goes beyond restatement, offering additional salient details to clarify the original statement and guide the reader's interpretation. Words like "namely" and "specifically" are often employed to achieve this precision.

(8) The 'gap' between different linguistic systems and ideologies, **namely** conflicts and misunderstandings that occurred during English interactions, should be seen as opportunities for educational interventions (Rampton 2019)

(SOC_D75_20)

3.2.2 Coding Scheme of Exemplification

While Hyland (2007, p. 279) also proposes a functional classification for exemplification, the examples he provides reveal a significant overlap between the latter two categories, as noted by Triki (2021). This overlap makes it challenging to consistently differentiate between similar cases using Hyland's framework. Consequently, neither Hyland nor subsequent studies utilizing his categorization have reported precise frequency data for these functional categories.

Given this ambiguity, the present study adopts a different approach to coding exemplification. Instead of focusing on the function itself, I code based on the syntactic and grammatical forms of the exemplification constituents, primarily following Triki's (2021) framework. By comparing these realizations between the HR and LR corpora, this study aims

to shed light on the syntactic and functional drives behind the writers' choices, both in terms of the markers used to introduce exemplification and the segments selected to serve as examples.

As previously discussed in section 2, Exemplification typically comprises three units: the exemplified unit, the exemplification marker (EM), and the exemplifying unit. For clarity, following Triki (2021), the exemplified unit will be italicized, the EM bolded, and the exemplifying unit underlined throughout this study. The following example from the HR corpus illustrates these units.

> (9) This suggests that a more appropriate goal for ELT could be teaching *communication skills* **like** <u>accommodation strategies rather than adhering to</u> <u>fixed 'native-like' usage</u>.

> (SOC_D72_15)

A) *EMs:* While Rodríguez-Abruñeiras (2017) categorizes exemplification markers (EMs) into three syntactic types based on their position relative to the exemplifying unit (before, within, or after), my pilot study revealed a pattern that emerged several times in student texts that this categorization alone could not capture (see example (10)).

> (10) … **an example of** *which can be seen for "powerful"* <u>in Appendix 5</u>.

> (LA_D72_01)

As example (10) demonstrates, although the marker is positioned before the exemplifying unit - generally considered the most common placement - the pattern of the EM preceding the *exemplified* unit is atypical. To better capture the patterns observed in the student texts, and drawing on the findings of Su and colleagues (e.g., Su & Lu, 2022) regarding EM placement in academic writing, I have adapted Rodríguez-Abruñeiras's (2017) classification, as presented in Figure 2.
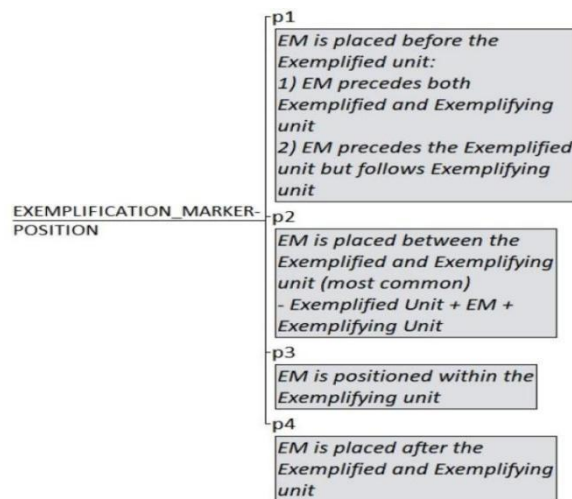
EXEMPLIFICATION_MARKER-
POSITION

- p1
  EM is placed before the Exemplified unit:
  1) EM precedes both Exemplified and Exemplifying unit
  2) EM precedes the Exemplified unit but follows Exemplifying unit

- p2
  EM is placed between the Exemplified and Exemplifying unit (most common)
  - Exemplified Unit + EM + Exemplifying Unit

- p3
  EM is positioned within the Exemplifying unit

- p4
  EM is placed after the Exemplified and Exemplifying unit

Figure 2 Scheme for exemplification markers

B) *Exemplified unit*: Utilizing Triki's (2021) framework, this unit was coded based on its grammatical structure, categorized as either nominal groups (including nominalized forms) or clauses (single, sequences, paragraphs, or sections) (see Figure 3).
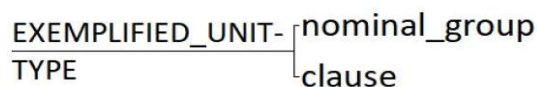
EXEMPLIFIED_UNIT-
TYPE

- nominal_group
- clause

Figure 3 Scheme for exemplified units

As Triki (2021) highlights, the exemplified unit acts as the trigger for the entire act of exemplification. Therefore, examining this unit is crucial to understanding the motivation behind using an example in a given context. When the exemplified unit is a nominal group, as Triki (2017) suggests, the need for elaboration can arise from the semantic or cognitive nature of one or more of its constituents or its perceived importance to the topic. In example (11), the phrase "authoritative bodies" is somewhat abstract and broad, and to ensure reader comprehension, the writer employs exemplification to reduce the ambiguity by presenting familiar, specific entities (government agencies, national and regional organizations) that exemplify the term.

(11)   …language planning and policy conducted by *authoritative bodies* **such as** government agencies or national and regional organisations will be considered.

(Soc_D75_11)

C) *Exemplifying unit*: This unit, which carries the intended examples, also primarily appears as nominal groups or clauses. Notably, following Triki (2021), non-verbal elements like tables and figures were also coded as clauses. Triki argues that even silent or mental reading of figures involves utilizing various clause types to comprehend and connect them to the exemplified unit.

As Triki (2021) emphasizes, examining the grammatical structure of the exemplifying unit can reveal the writer's communicative purpose. He posits that exemplifying clauses primarily serve to support claims and strengthen assumptions made in the exemplified unit, while nominal groups primarily function to elucidate or clarify.

However, going beyond Triki's (2021) approach, the exemplifying units were further coded based on whether they were supported by relevant studies. Following the insights of Su et al. (2021), this distinction acknowledges the potential impact of citing relevant studies on the persuasive power of the examples provided. If an argument or viewpoint is illustrated or specified by existing research, the exemplifying unit is annotated as "Nominal group-RS" or "Clause-RS." Otherwise, it is coded as "Nominal group-NS" or "Clause-NS" (see Figure 4).
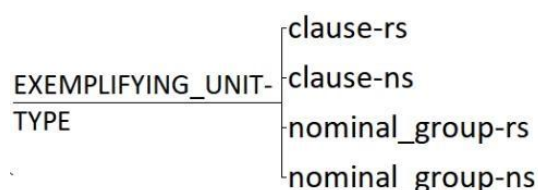
EXEMPLIFYING_UNIT-TYPE
- clause-rs
- clause-ns
- nominal_group-rs
- nominal_group-ns

Figure 4 Scheme for exemplifying units

3. 3 Data Analysis

3.3.1 Data Retrieval

After establishing the two frameworks, AntConc 3.5.8 (Anthony, 2019) was utilized to search for and display concordance views of code gloss instances. Code glosses were identified using their explicit textual markers, including lexical signals such as "that is" and "such as," as well as punctuation marks like brackets and dashes. This approach, supported by extensive metadiscourse research (e.g., Hyland, 2007), ensures a clear and consistent identification process. The focus on explicit markers is justified by Hyland's (2005a, p. 30) emphasis on explicitness as a key criterion, reflecting the writer's "overt attempt to create a particular pragmatic and discoursal effect."

Initially, potential code gloss markers were compiled based on those listed in previous studies, particularly Hyland (2007) and Triki (2021). However, during pilot coding phase, additional markers (e.g., "essentially," "demonstrate") were identified within the current corpora and subsequently added to the code gloss category. Appendix 3 provides a detailed list of the 65 search items used. While this list may not be exhaustive, it encompasses the most common and frequent signals used in code glosses, thus ensuring a high likelihood of capturing the majority of code gloss instances within the corpus.

These compiled code gloss markers were searched within each corpus using the Advanced feature within AntConc's Concordance Tool to automatically retrieve all potential instances (See Figure 5 for examples of reformulation cases in the HR corpus). Each instance was then manually examined within its immediate and broader textual context to confirm its function as a code gloss. Instances deemed irrelevant or 'noisy' - such as those expressing propositional rather than metadiscoursal meaning (e.g., *"Therefore, the textbook can only cover one example of each genre, while more exemplars can be placed in a teacher's book..."*) - were discarded. To address research question 1, the frequency of code glosses and their corresponding markers in both corpora was calculated based on these 'cleaned' results. All remaining code gloss instances were then extracted with sufficient surrounding context and

prepared for manual coding using the UAM Corpus Tool software (O'Donnell, 2008). A subset of these identified instances from both the HR and LR corpora is presented in Appendix 4.
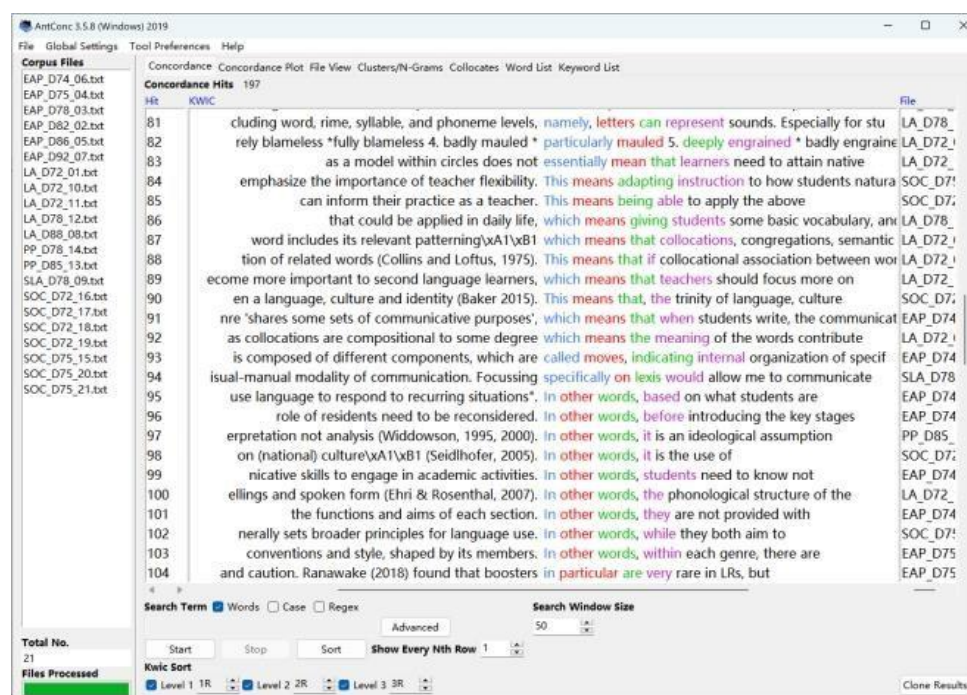

Figure 5 Concordance View of Reformulation Markers in HR Corpus Using AntConc

3.3.2 Tool for Data Coding

The UAM Corpus Tool (v 3.3x), developed by Mick O'Donnell, was selected for annotation. This powerful software enables the creation of customized annotation schemes and offers several valuable features. Notably, it allows for searching the corpus based on previously tagged features (cf. figure 6), a function crucial for selecting representative examples for the qualitative analysis in this study. Additionally, its built-in statistical tools, such as the Chisquare test, provide automatic access to quantitative and comparative results upon completion of corpus annotation.

Figure 6 UAM Corpus Tools search function for systems and features

3.3.3 Data Coding and Analysis

To ensure intra-rater reliability, the coding process was divided into two phases. Initially, a pilot study was conducted on a small sample of the corpora. Six texts (approximately 30% of each corpus) were randomly selected from both the HR and LR corpora. These 12 texts were then manually read and analyzed in their entirety. This approach not only facilitated better identification of code glosses within their full context but also allowed for the discovery of potentially overlooked instances. As noted by Triki (2017), such a pilot study is crucial for enhancing coding consistency and refining the annotation scheme.

During the pilot study, selected texts were loaded into the UAM Corpus Tool in .txt format. Utilizing a pre-built coding framework, segments within each text were tagged with specific features. The tool's comment feature facilitated the addition of notes on ambiguous instances for subsequent review (see Figure 7). Based on initial coding findings, the EM scheme in Exemplification framework was revised and expanded to encompass four position types. These first-round tagging results were saved as "Project One".
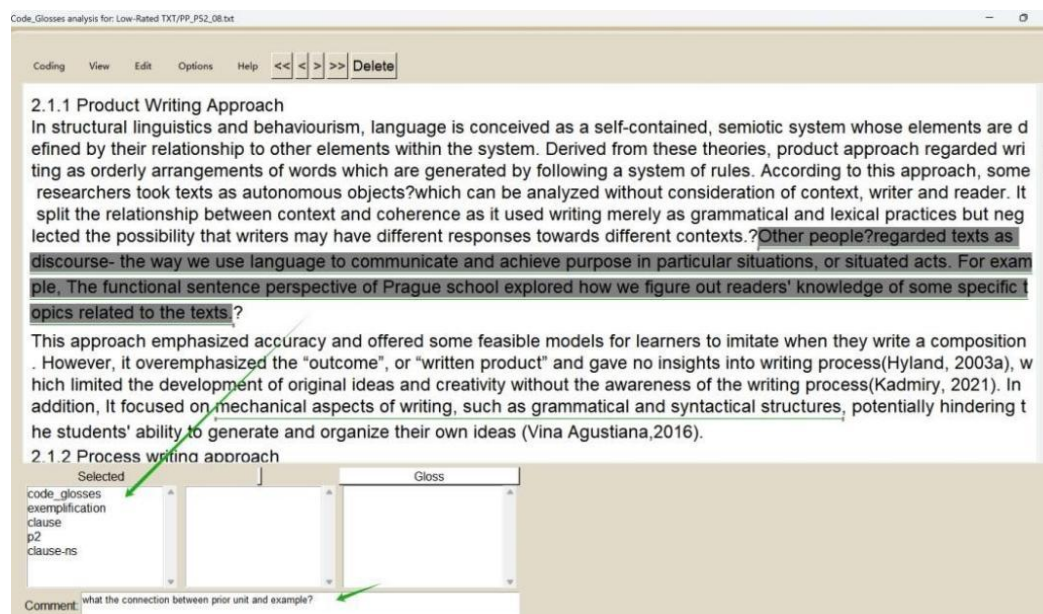
Figure 7 Segment Coding window

Different from the pilot study, the second coding phase focused exclusively on the code gloss instances extracted from AntConc. Utilizing a refined coding scheme (cf. Appendix 1), all instances were re-coded and re-analyzed without reference to the initial coding results, with approximately three weeks between the two phases. Upon completion, the first project was reopened, and all tags were compared against the initial coding. While some discrepancies were noted, the results demonstrated a high degree of consistency between the first and second coding. Although this procedure does not replace inter-rater reliability measures and thus cannot fully guarantee the analysis's reliability, it effectively tested intrarater consistency. This process also contributed to further refining the conceptual understanding of the different categories, which proved beneficial in coding borderline cases of code gloss use.

Upon completing the annotation, the code glosses underwent further analysis through close textual examination to uncover qualitative findings. Reformulations were investigated in terms of the various functions they served and the different forms employed to realize these functions. Additionally, exemplified and exemplifying units were analyzed based on their grammatical structure, specifically whether they were nominal groups or clauses.

4 Findings and Discussions

The findings from the annotation process are automatically generated from the UAM CorpusTool's results and statistics interfaces. This section focuses on a quantitative and qualitative analysis of the code gloss strategies employed by high-rated and low-rated student writers. In line with the research questions, the following analysis is presented.

4.1 An overview of Code Glosses in the Two Corpora

The first Research Question (RQ1) investigated whether there was a significant difference in the frequency and types of code glosses utilized in low- and high-scoring student writing within the field of Applied Linguistics. Initially, the two corpora were compared based on the frequency of code gloss occurrences. Table 3 presents the overall results of this quantitative analysis. Due to variations in the number of words in each text and corpus, the frequencies of the two types of code glosses were normalized to occurrences per 10,000 words. This normalization enables direct quantitative comparisons between the two groups.

Table 3 Overall Frequency of Code Glosses in the HR and LR Corpora

Function	HR corpus			LR corpus		
	Total no.	Freq. per 10,000 words	% of total CG	Total no.	Freq. per 10,000 words	% of total CG
Reformulation	190	25.6	30.2	97	13.3	24.4
Exemplification	438	59.1	69.8	300	41.3	75.6
Code glosses (TOTAL)	**628**	**84.7**	**100%**	**397**	**54.6**	**100%**

CG = code glosses
Notes. The normalized figures per 10,000 words were calculated by dividing the raw frequency of code gloss markers by the total number of words in the respective corpus and then multiplying the result by 10,000.
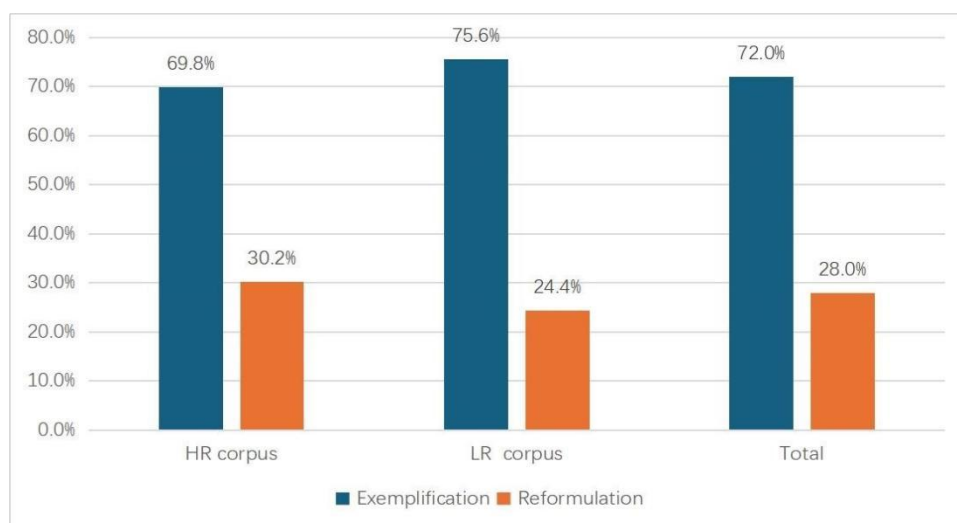
Figure 8 Distribution of Code Glosses in HR and LR Corpora (%)

Analysis of the two student corpora underscores the significance of providing rewording and examples as a key feature of academic discourse. Corpus annotation revealed a total of 1025 instances of code glosses, averaging 24 occurrences per text. This high frequency resonates with Hyland's (2007) findings, where approximately 25 code gloss markers were present in each research paper within his larger corpus. Focusing on the distinction between the high-rated (HR) and low-rated (LR) corpora, it was observed that 628 instances of code glossing were used in the HR essays (74,075 words) compared to a considerably lower count of 397 instances in the LR essays (72,703 words). As Table 3 illustrates, code gloss density - the number of code glosses per 10,000 words - was notably higher in the HR corpus at 84.7 compared to 54.6 in the LR corpus. Addressing RQ1, the UAM CorpusTool's built-in statistical tool confirmed this difference to be statistically significant (++)[5].

Interestingly, the observed code gloss densities in this study surpassed those reported in much of the existing literature. For instance, Hyland's (2007) research articles (RAs) in applied linguistics showed a code gloss density of 53.0 per 10,000 words, with even lower densities found in less expert writing, such as postgraduate dissertations (41.1 in Hyland,

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[5] The statistics function computes the Chi-Square significance test and displays summary results of comparative data in the form of pluses, with one plus (+) indicating weak significance and three pluses (+++) representing high significance. In my current study, the Chi-Square value for the distribution of code glosses in the HR versus LR corpora is 4.089, demonstrating medium significance, denoted by two pluses (++)

2010) and L2 Masters' theses (37.06 in Guziurová, 2022). Notably, these normalized figures are lower than even the code gloss density in the current low-rated corpus (54.6), suggesting a pervasive use of elaboration strategies in the present corpora. This heightened presence of code glosses could be attributed to a couple of factors. First, these student writers may be more motivated to elaborate their ideas and statements comprehensively, aiming to demonstrate their understanding of the concepts, phenomena, or arguments to their potential readers (often graders). Second, the student-writers in this study might favor more overt code gloss signals, while writers in the aforementioned studies may lean towards covert forms, such as apposition or juxtaposition, as suggested by Triki (2017).

A closer examination, however, reveals that the significantly high code gloss densities in both the HR and LR corpora are primarily driven by the frequent use of exemplification (59.1 and 41.3, respectively), accounting for over 69% of the total code glosses. This dominance of exemplification over reformulation aligns with previous research (e.g., Hyland, 2007; Guziurová, 2020, 2022), given the significant role exemplification plays in "soft" knowledge fields, representing a "heavier rhetorical investment in contextualization" (Hyland, 2007, p. 272).

However, a notable finding is the substantial imbalance between the two discourse functions within both corpora (visualized in Figure 8), especially when compared to studies showing a narrower disparity, such as Kafes's (2022) analysis of Experienced Writers' RAs (exemplification 56% and reformulation 44%). This imbalance is more pronounced in the LR student texts, where exemplification is roughly 51% more frequent than reformulation, suggesting an over-reliance on exemplification to elaborate ideas. Furthermore, the less successful students exhibit a comparatively low density of reformulation (13.3). This might indicate that these writers are less aware of the need for, or lack the ability to, actively reinterpret the original proposition. Such reinterpretation necessitates a deeper level of engagement with the knowledge than simple exposition, a hallmark of successful writing as emphasized by Bereiter & Scardamalia (1987).

In what follows, I will focus on the quantitative and qualitative differences observed in the two functions of code glosses within high-rated and low-rated essays.

4.2 Reformulation - Forms and Functions (RQ2)

4.2.1 Reformulation Markers (RMs)

To investigate the differences in the use of reformulation, let us first examine the specific markers employed in each corpus. Table 4 presents the distribution of the various code glosses used to express reformulation in the high-rated and low-rated student writing texts.

The table highlights the most frequently used markers and their distribution across both corpora. Notably, students in both groups exhibit a marked preference for non-lexical signals, with "parentheses" being the most dominant form of reformulation (29.5% in HR and 27.8% in LR corpus). Together, "parentheses" and "dashes" account for over 32% of all reformulation instances." This observation diverges from Hyland's (2007) findings in Applied Linguistics, where punctuation brackets were considerably less frequent, accounting for only 6.3% of all markers. The wide use of brackets by these students can be attributed to their 'flexible and economical' nature (Triki, 2017, p. 142). Syntactically, this punctuation allows for the introduction of various linguistic forms, such as acronyms, symbols, words, and clauses. Economically, they replace other lexical or conjunctive markers, sparing writers the need to search for appropriate conjunctions or phrases to introduce elaboration.

Table 4 reveals that both groups exhibit distinct patterns in their use of RMs. In the HR corpus, "namely" (7.9%), "which/this means," and "particularly/in particular" (6.3%) are among the top three most frequent markers. Conversely, in the LR corpus, "which/this means" (13.4%) ranks second, while "namely" is used minimally (only 2 instances). This divergence in marker preference becomes more pronounced when examining less frequent markers. For instance, "known as" is the fifth most common choice among successful writers but is nearly absent in the writing of less successful writers (only 1 occurrence).

Table 4 Frequencies and Percentages of Different RMs

	HR corpus	LR corpus

Markers	Raw freq.	% of total	Raw freq.	% of total
Parentheses	56	29.5	27	27.8
which/this means	12	6.3	13	13.4
namely	15	7.9	2	2.1
especially	11	5.8	7	7.2
in other words	10	5.3	6	6.2
particularly/in particular	12	6.3	3	3.1
known as	9	4.7	1	1.0
i.e.	5	2.6	6	6.2
or	7	3.7	5	5.2
Specifically/to be (more) specific	6	3.2	4	4.1
Dashes	5	2.6	4	4.1
that is	3	1.6	6	6.2
call*	5	2.6	2	2.1
defined as	4	2.1	-	-
in a word	3	1.6	2	2.1
Others	27	14.2	9	9.2
Total	**190**	**100%**	**97**	**100%**

In addition to the frequency of RMs, some literature suggests that higher-quality writing tends to exhibit a greater variety of code gloss markers (Intraprawat and Steffensen, 1995). Kates (2022) further supports this, noting that expert writing often employs reformulation markers absent in novice writing. However, in the present study, both groups of students utilized a similarly diverse range of reformulation devices. Some markers, like "more accurately speaking", were found in the low-rated corpus but not in the high-rated one. This could be attributed to the growing use of AI-powered writing tools, such as ChatGPT and Quillbot, which can automatically paraphrase and rephrase text, thereby democratizing access to a wider array of reformulation devices regardless of a student's inherent writing proficiency.

While further discussion of these formal differences is possible, it is more insightful to examine how they reflect underlying semantic preferences. As reviewed in Section 2, reformulation can convey various meanings, even when the same marker is used. The detailed analysis below of the functions served by the most frequently used markers in both corpora will help explain these differences.

4.2.2 Functions of Reformulation

To address research question 2, this section employs both quantitative and textual analysis to examine how successful and less successful student writers utilize reformulation to achieve various discourse functions, as categorized by Hyland's framework detailed in the Methodology section.

Table 5 reveals that both student groups, particularly those producing high-scoring essays, favored expanding their ideas over reducing them when employing reformulation. This suggests a general aim among these MA students to broaden the understanding of their propositions and enhance their accessibility to readers. Within these sub-functions, explanation emerges as the most prevalent (over 50% in each corpus), while implication is the least utilized (less than 5%). Chi-square tests indicate no statistically significant difference in the distribution of these two functions between the two corpora.

Table 5 Functions of Reformulation in the Two Corpora

	Sub-function	HR corpus		LR corpus	
		Raw freq.	% of total	Raw freq.	% of total
Expansion	Explanation	103	54.2	48	49.5
	Implication	9	4.7	2	2.0
	Total	**112**	**58.9**	**50**	**51.5**
Reduction	Paraphrase	24	12.7	22	22.7
	Specification	54	28.4	25	25.8
	Total	**78**	**41.1**	**47**	**48.5**

The prevalence of explanations underscores the significance student writers place on providing "situated clarifications" (Hyland, 2007, p. 274). These elaborations, often in the form of glosses or definitions, serve to elucidate preceding concepts within the context of their study. This function, as Guziurová (2022) observes, is particularly crucial in "soft" disciplines where terminology remains somewhat fluid and lacks complete standardization. Moreover, through explanations, students seek to demonstrate their familiarity and understanding of key concepts, as knowledge display is typically a key grading criterion in this genre of student writing.

A closer examination of the reformulation forms used for explanation reveals an intriguing pattern. As shown in Table 6, nearly half of the explanations in the LR corpus (vividly illustrated in Figure 9) were enclosed within parentheses, sometimes introduced with "i.e." In contrast, HR essays exhibit a notably higher frequency of non-parenthetical lexical devices such as "known as," "call*," and "which means." This aligns with the previously observed difference in the frequency of "known as." The LR writing's preference for parenthetical definitions or glosses may indicate a tendency toward concise or surface-level clarification of technical terms. While efficient, these parenthetical reformulations tend to offer less elaboration compared to reformulating clauses introduced with lexical signals, which typically afford greater depth (cf. Triki, 2017) by allowing writers to expand on concepts and present their preferred interpretations. This contrast is exemplified in the following excerpts:

Table 6 Parenthetical Use of RMs for Explanation

	HR corpus		LR corpus	
	Raw freq.	% of explanation cases	Raw freq.	% of explanation cases
Parenthetical	31	30.1	22	45.8
Non-parenthetical	72	69.9	26	54.2

(12)   For example, whether coherence is a static product **(a property of text)** or a
       dynamic process **(interpretation of text depends on readers' knowledge in this
       field)** (Conte, 1988).

                                                                        (LA_P45_02_**LR**)

(13)   In higher education, in particular, notetaking is **regarded as** "the gateway
       academic skill" (Siegel, 2020, p. 1) that can help students maintain attention
       while listening, organise and retain information, and thus facilitate the learning
       process (Rodgers & Webb, 2016).

                                                                        (EAP_D86_05_**HR**)

This overall tendency toward concise explanation over elaborative clauses may give the
impression that the writer is merely presenting existing information rather than synthesizing
their understanding to construct a new interpretation. This lack of demonstrated critical
engagement could potentially result in lower grades.
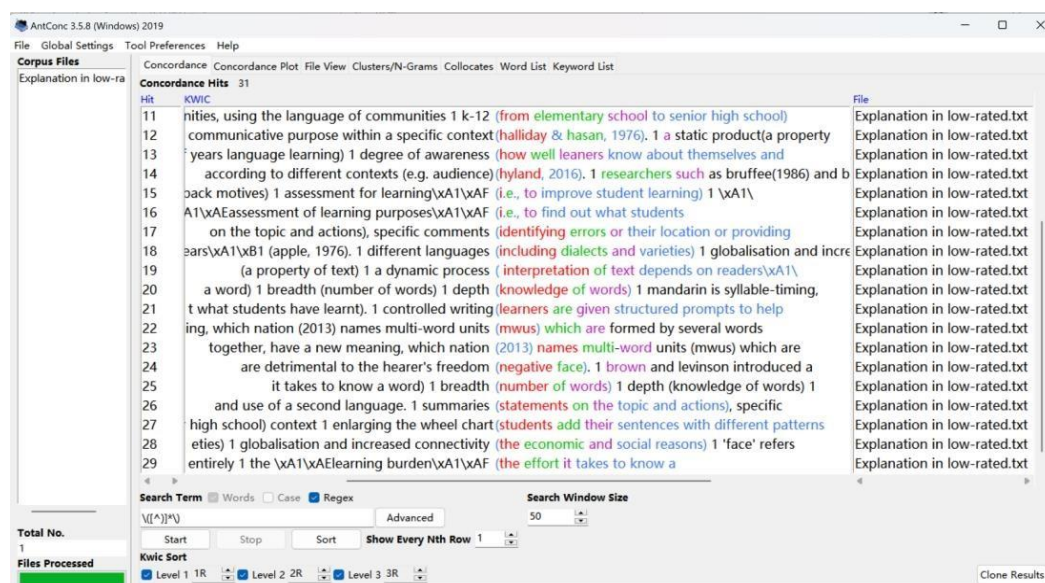
Figure 9 AntConc Interface Displaying the Parenthetical Reformulation for Explanation

In contrast to the frequent use of explanation, implication emerged as the least favored reformulation function in this study. This diverges from Hyland's (2007) observations, where writers in "soft" disciplines, notably Applied Linguistics, showed a greater preference for implication (approximately 24% of instances). This discrepancy might stem from the MA students in this study lacking the confidence or expertise to confidently draw definitive conclusions from their arguments. Consequently, they may opt for more straightforward elaborations, like explanations, to avoid potentially bold or uncertain interpretations. While markers like "in other words" and "which/this means" typically introduce conclusions (see example 14), an unexpected finding was the use of "in a word" by both groups for this function (see example 15).

(14) Until 2014, academic conferences such as the International Conference on ELT in China discussed ESL composition in middle school for the first time (Cong & Xun& Liu, 2015), **which means** studies on this aspect are insufficient and the future application of those writing teaching approaches needs more attention.

(PP_P52_08_**LR**)

(15) This textbook stops at analyzing steps and does not address the linguistic features within exemplars. **In a word**, it does not fully realize the context-based grammatical and lexis analysis in top-down principles.

(EAP_D74_06_**HR**)

Regarding the second broad type of reformulation - reduction - in this study, Chi-Square tests revealed a weak significance for the use of paraphrase and specification between the two corpora, as shown in Table 7. While high-achieving students predominantly reduced their ideas through specification (69.2%), their less successful counterparts demonstrated a more balanced preference for these two sub-functions (46.8% and 53.2%). This corresponds to a clear preference among successful students for markers such as "especially," "particularly," and "specifically," which account for 15.3% of instances in the HR corpus. These students utilize these markers not to merely restate an idea, but to "further detail

features which are salient to the primary thesis" (Hyland, 2007, p. 276), thereby guiding the reader's interpretation. This strategic use of markers is exemplified in the following excerpts (bold emphasis added):

(16) This concept fulfills the expectations of readers, **specifically**, "a social group's" (Tardy & Swales, 2014:54) or "discourse community 's" (Swales, 1990:45) expectations, which include expectations for not only linguistic features but also rhetorical organization…

(EAP_D74_06_**HR**)

(17) Personally, the fact that AI, **particularly** CHATgpt, still has major flaws when generating contents, from limited words and token allowed and potential inaccuracies and hallucinations which expert professors will see through.

(EAP_D82_02_**HR**)

Table 7 Proportions of Subfunctions Within Two Main Functions

Subfunction	HR corpus		LR corpus		**Chisqu**	**Signif.**
Expansion	N=112		N=50			
Explanation	103	91.9%	48	96%	**0.89**	
Implication	9	8.1%	2	4%	**0.89**	
Reduction	N=78		N=47			
Paraphrase	24	30.8%	22	46.8%	**3.24**	**+**
Specification	54	69.2%	25	53.2%	**3.24**	**+**

The observed pattern in HR writing, characterized by frequent specification and infrequent paraphrase, aligns with findings in expert writing. Hyland (2007) reported a similar trend in the Applied Linguistics domain (45.6% specification, 4.4% paraphrase), while Kafes (2022)

observed an even more pronounced preference for specification (78%) in expert writing corpus. This emphasis on specification underscores the importance of precision in academic discourse, serving to delimit interpretations and showcase the writer's grasp of the subject matter (Hyland, 2007).

Although the figures are too small for definitive conclusions, the distribution suggests a tendency for higher-scoring writers to favor restatement as explanation and utilize specification techniques more frequently than their lower-rated counterparts, thereby demonstrating a greater inclination toward precision and clarification.

4.3 Exemplification - Structures and Functions (RQ3)

To address research question 3, which focuses on differences in the use of exemplification, the following sections will provide a detailed description and analysis of the various exemplification constituents - namely, the exemplified unit, marker, and exemplifying unit - identified in two corpora. This analysis is based on the framework outlined in the Methodology section.

4.3.1 Exemplified Units

Exemplified units can manifest in different structural forms. Analysis (Figure. 10) reveals that they primarily appear in two forms: nominal groups, typically referring to entities, and clauses, representing statements. Both HR and LR corpora exhibit a greater tendency to exemplify using nominal groups (58.9%) over clauses (40.1%). While no statistically significant variation exists between the two corpora, lower-scoring writers tend to favor exemplification via nominal groups more than their higher-scoring counterparts (63% vs. 57.7%), suggesting a preference for simpler exemplification strategies. This preference is further elucidated through textual analysis. Triki (2021) argues that examining the exemplified units sheds light on the motivations behind exemplification, as the exemplified unit serves as the "trigger" for the entire process (p. 8). The cognitive or semantic demands of the exemplified unit, along with the register context, influence the chosen exemplification strategies (Triki, 2017).

Figure 10 Exemplified Units in the Two Corpora (%)

Firstly, a close reading of elaborated nominal groups reveals that high-rated essays exemplify abstract concepts or cognitively complex terms (e.g., "genres," "communicative function," "tentative hedges," "integrative approach") more frequently than low-rated ones. This serves to clarify potentially ambiguous technical or theoretical concepts crucial to the context. For instance, in examples (18) and (19), the italicized items "a move" and "tentative hedges" represent relatively abstract academic terms. Providing clarification or further detail in such cases is typically expected to aid the reader's comprehension and strengthen the persuasiveness of the preceding statement. Their respective exemplifying segment (underlined) contextualizes these concepts by linking them to more concrete illustrations assumed to be readily accessible to the reader.

(18)   *[A] move* is a unit within a text that contributes to a communicative function, **such as** <u>describing the methodology of a study</u>.

                                                                          (EAP_D78_03_**HR**)

(19)   Ranawake (2018) found that boosters in particular are very rare in LRs, but *tentative hedges* were common (**e.g.** <u>perhaps, possibly</u>).

                                                                          (EAP_D75_04_**HR**)

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Interestingly, the low-rated corpus tends to use exemplification more as a means to clarify broad or abstract notions, such as "other factors," "some adjustments," "problems," "relationships," "basic language abilities," and "practical limitations." These broad terms are often followed by lists of related items or concepts, as seen in examples (20) and (21). While this approach can offer concise clarification and summarization, it may also result in less nuanced and insightful arguments, suggesting a lack of analytical engagement with both the original proportions and the intended audience.

(20)   However, the level of politeness also depends on *other factors **such as** intonation, stress, and the choice of words*.

(LA_P52_01_**LR**)

(21)   Conjunction uses conjunctive adjuncts or linking words to indicate *relationships between ideas,* **mainly including** causal, temporal, adversative and additive relation.

(LA_P45_02_**LR**)

Shifting focus to exemplified units in clause form, where the motivation extends beyond specific terms to encompass the overall meaning conveyed, we anticipate that the example will address the entirety of the ideational load expressed, rather than just select aspects (Triki, 2021). Based on this, it appears that exemplified clauses in low-scoring scripts tend towards basic explanations or illustrative examples, potentially due to students' less confident handling of abstract or complex ideas. This lower cognitive demand and emphasis on procedural description in low-rated essays results in a simpler form of exemplification, often serving surface-level clarification or persuasion. To illustrate, in example (22), readers might anticipate at least two ideas to be elucidated: that plosive sounds in Mandarin are voiceless, and how this phonological phenomenon manifests in this language. However, the provided examples (underlined), presented in an enumerative format without sufficient explanation, may prove inadequate in clarifying the prior specific point for readers

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unfamiliar with Mandarin or the field of linguistics. This suggests a potential lack of awareness of the intended audience.

(22)　*The plosive sounds in Mandarin are all voiceless*, **for example**, <u>bā 八 for "eight", dōng 东 for "east" and gǒu 狗 for "dog</u>."

(LA_P55_04_**LR**)

To sum up, the higher-rated essays tend to leverage exemplification to expand on complex technical terms or ideas, demonstrating a deeper level of engagement with the subject matter. In contrast, lower-rated essays utilize exemplification primarily for straightforward clarification, summarization, or description, suggests that essays lacking in analytical depth, even if demonstrating knowledge of the field, may be awarded lower grades.

4.3.2 Exemplification Markers (EMs)

The top three EMs identified in both corpora (Table 8) are "such as," "e.g.," and "for example," together comprising roughly 63% of all exemplification instances. This result aligns with many studies (e.g., Hyland, 2007; Triki, 2021; Guziurová, 2022) highlighting the predominance of these markers in introducing examples. However, contrary to Triki's findings, where "like" was among the least frequent markers in her Linguistics sub-corpus due to its perceived informality, it is favored by both student groups in this study, ranking fourth overall. This discrepancy might be attributed to the high prevalence of nominal-group exemplification, making "like" an easy and effective alternative to "such as," given their similar capacity to introduce examples in nominal form.

Table 8 Raw Frequencies and Percentages of Various EMs

Markers	HR corpus		LR corpus	
	Raw freq.	% of total	Raw freq.	% of total
such as	106	24.2	115	38.3
for example	78	17.8	64	21.3
e.g.	69	15.8	32	10.7
like	63	14.4	31	10.3
includ*	53	12.1	26	8.7
for instance	32	7.3	20	6.7
example of	12	2.7	3	1.0
illustrat*	5	1.1	3	1.0
demonstrat*	4	0.9	2	0.7
a case	2	0.5	1	0.3
namely	2	0.5	1	0.3
Others	12	2.7	2	0.7
Total	**438**	**100%**	300	100%

Shifting focus from general trends to inter-corpus differences, Table 8 reveals that writers in the HR corpus utilized frequent markers more evenly, whereas lower-scoring writers seemed to overuse certain markers, particularly "such as," accounting for nearly 40% of their EMs. Additionally, specific markers like "example of" were used less frequently in low-rated essays compared to high-rated ones (3 cases vs. 12 cases), suggesting that high-achieving students may be more adept at diversifying their exemplification strategies.

Table 9 further illuminates this point. Despite a similarly overwhelming preference for the traditional P2 position of EMs in both corpora (over 90%), where markers are placed between exemplified and exemplifying segments, HR corpus students employed the other three patterns proportionally more than their LR counterparts. This potentially reflects

greater structural experimentation or rhetorical sophistication among stronger writers. While P1 (EM preceding both units) is infrequent overall, it was notably more prevalent in the HR corpus (3.9% vs. 1.3%), a statistically significant difference (++). This could imply that more skilled writers are more comfortable fronting the EM, perhaps for emphasis, stylistic variation, or to accommodate specific markers like "example of," as seen in (23).

(23) **An example of** *how vocabulary, grammar, and logical coherence is improved by AI* is <u>shown in the figure below</u>.

(EAP_D82_02_**HR**)

Table 9 The Proportion of Four EM Positions in Two Corpora

Feature	HR corpus		LR corpus		Chisqu	Signif.
	N	Percent	N	percent		
EM_POSITION	N=438		N=300			
p1	17	3.9%	4	1.3%	4.18	++
p2	404	92.2%	289	96.3%	5.22	++
p3	11	2.5%	5	1.7%	0.60	
p4	6	1.4%	2	0.7%	0.82	

The use of P3 (EM within the Exemplifying unit) and P4 (EM after both units) is minimal in both corpora, with no statistically significant difference observed. As Rodríguez-Abruñeiras (2017) points out, placing the EM within the Exemplifying unit can serve to isolate and emphasize a particular element, as exemplified by the underlined entity "the CELTA" in (24). The infrequent use of P3 and P4 by students suggests that these positions could be given greater attention in writing instruction, highlighting their potential as stylistic tools for enhancing effectiveness in conveying of their intended meanings.

(24) However, *although these certifications are indeed beneficial for teachers, they fall short when seriously integrating ELF into the syllabus*. <u>The CELTA,</u> **for example,** <u>only recently included Varieties of English in its syllabus</u> (Cambridce English Assessment. 2022).

(SOC_D72_17_**HR**)

4.3.3 Exemplifying Units

The grammatical structure of the exemplifying chunk also manifests mainly in two forms: nominal groups or various types of clauses. Exemplifying units are the core components of exemplification, serving to elucidate concepts and bolster arguments. Following the framework established in Section 3, these exemplifying segments were further annotated and categorized based on whether they incorporated citations of relevant studies.

Table 10 reveals a predominance of exemplifying units in the form of nominal groups (66%), suggesting a relatively high likelihood of syntactic equivalence due to structural constraints imposed by the exemplified units (58.9% nominal groups). According to Triki (2021), these exemplifying nominal groups can refer to concrete and abstract entities, references to published works, or names of authors and individuals. As previously discussed, exemplified nominal groups in the high-rated corpus tend to be more abstract and technical, while the accompanying examples are often more tangible and specific, as illustrated in (25). Concrete examples are also employed to support arguments presented in clause form, as in (26). Citing specific entities or phenomena, based on shared knowledge with the reader, serves to bridge the gap between abstract theories, concepts, and ideas and concrete illustrations (Triki, 2014). This grounding in reality "helps reinforce the reader's acceptance of the evidential weight of the interpretation" (Hyland, 2007, p. 281).

(25) Native speaker should also engage in *accommodation practices in order to foster mutual understanding*, **such as** <u>reducing the use of idiomatic phrases as illustrated in jenkins & leung's (2019) example</u>.

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(26) *Some argue that a general word list may provide lexical foundation for many undergraduate students*, **such as** <u>mudraya's (2006) student engineering English corpus</u>.

(EAP_D75_04_**HR**)

Table 10 Frequencies and Distribution of Exemplifying Units in the Two Corpora

	HR corpus		LR corous			
Feature	N	Percent	N	Percent	Chisqu	**Signif.**
EXEMPLIFYING_UNIT-TYPE	N=438		N=300			
clause-rs	79	18.1%	27	9.0%	11.82	**+++**
clause-ns	75	17.1%	69	23.0%	3.92	**++**
nominal_group-rs	74	16.9%	25	8.3%	11.24	**+++**
nominal_group-ns	210	47.9%	179	59.7%	9.81	**+++**

By contrast, several less effective examples were identified in the low-rated corpus. For instance, in (27), a general descriptive instance is used to illustrate 'non-native speaker corpora,' without referencing concrete examples (such as the name of a particular corpus). This lack of specificity diminishes the perceived precision and argumentative strength of the statement.

(27) By comparing and analysing the similarities and differences between the native speaker corpora and *non-native speaker corpora* (**such as** <u>those of Chinese university postgraduate students</u>) in EAP field, they can identify common linguistic problems in learners' EAP writing and provide remedial academic English writing training for learners…

(EAP_P50_10_**LR**)

Regarding exemplifying clauses, writers in the high-rated corpus demonstrate a greater use of clause forms compared to their less successful peers (35.2% vs. 32%). This difference is statistically significant (see Table 10), suggesting that high-rated writers may strategically leverage the elaborative capacity of clauses to convey greater semantic and logical depth in their writing. This observation aligns with Triki's (2017) assertion that clauses, whether simple or complex, provide writers with greater flexibility for illustration and argumentation, potentially fostering more nuanced and persuasive discourse compared to mere illustration.
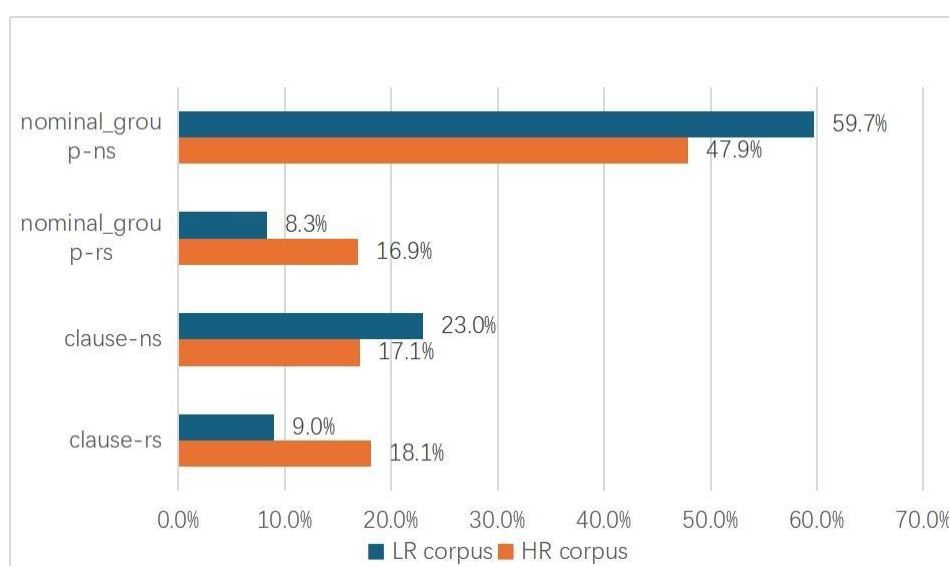
Figure 11 Frequencies and Distribution of Exemplifying Units in the Two Corpora

A stark contrast emerges between the corpora regarding the frequency of research-based exemplification. Figure 11 visually displays that high-rated essays incorporate significantly more study-based exemplifying units, both in clause form (18.1%) and nominal groups (16.9%), compared to low-rated essays (9.0% and 8.3%, respectively). This implies a greater tendency in high-rated essays to substantiate claims through references to academic sources or research, showcasing a stronger engagement with scholarly discourse. The highly significant Chi-Square results for both categories (11.82 and 11.24, respectively) further underscore the research-oriented approach prevalent in higher-rated essays.

Conversely, low-rated essays exhibit a higher percentage of non-research-based clauses

(23.00%) compared to high-rated essays (17.12%), a statistically significant difference (++). This suggests that the frequency of exemplifying by citing relevant studies could be a predictor of essay quality. The less frequent use of this strategy in lower-rated essays may result in arguments or viewpoints that are less convincingly illustrated and supported (cf. Su & Lu, 2022).

The findings and discussion on the use of exemplification reveal that high-achieving writers tend to clarify potentially ambiguous technical or theoretical concepts that are crucial to the context, often with concrete and specific examples. In contrast, low-rated essays are more likely to use exemplification for basic explanations or to clarify broad terms. However, these examples often lack specificity, which undermines their precision and weakens the argumentative strength of the writing. Additionally, high-rated writers demonstrate a stronger preference for evidence-based, clause-form examples and employ a wider range of exemplification patterns, suggesting a more sophisticated and effective use of this strategy.

Overall, high-rated writers show a more strategic and nuanced use of code glosses, integrating both exemplification and reformulation to improve clarity and comprehension. This thoughtful approach likely plays a more significant role in distinguishing their writing quality than the mere frequency of code gloss usage.

5 Conclusion

5.1 Summary of the Findings

This study examined the use of code glosses in high- and low-rated student texts to explore the relationship between code glossing and writing quality. The analysis revealed both similarities and differences in code glossing practices between the two groups.

Both groups used code glosses with notable frequency, exceeding rates observed in prior research. However, high-rated writers were more likely to employ both exemplification and reformulation techniques, with a statistically significant difference observed in the distribution of these two broad functions. Low-rated writers, in contrast, used reformulation strategies less frequently, relying heavily on exemplification to elaborate their ideas.

Regarding reformulation, both groups, while demonstrating individual preferences, predominantly utilized parentheses due to their versatility and conciseness. The phrase "which/this means" also featured prominently, reflecting its adaptability across various reformulation functions. However, distinct patterns emerged in the use of other markers. High-rated writers preferred terms like "specifically" and "particularly" to provide precise specification of ideas, and they often employed non-parenthetical devices, such as "known as" and "called," to expand on original propositions. Low-rated students, on the other hand, more frequently relied on paraphrase, which, although useful in circumscribing meaning, often lacks the precision and nuance needed to convey more complex or specific meanings.

In terms of exemplification, both groups strongly favored nominal forms, particularly less successful students. High scoring essays exemplified technical or theoretical concepts crucial to their topics more frequently, suggesting deeper engagement with the subject matter. The low-rated corpus, in contrast, tends to use exemplification primarily to clarify broad or abstract concepts through straightforward explanation, summarization, or description, indicating that these essays, while demonstrating field knowledge, often lack analytical depth. Moreover, regarding the forms, low-achieving students tend to overuse certain markers and syntactic patterns, whereas more successful students demonstrate a more

60

balanced selection of markers and varied structural use. High-rated writers frequently employ concrete entities and research-based exemplifying clauses, which effectively clarify meaning and strengthen their arguments. In contrast, low-rated writers rely more on compact nominal forms, resulting in a more challenging and less transparent reading experience.

In conclusion, this study highlights the nuanced relationship between code glossing and writing quality. The strategic use of both exemplification and reformulation, coupled with a diverse repertoire of markers and syntactic structures, appears to contribute to effective communication and higher quality of writing. Low-rated writers, while demonstrating code glossing use, may benefit from developing a more balanced and sophisticated approach to enhance precision and persuasiveness of their writing.

5.2 Pedagogical Implications

Some pedagogical implications for EAP writing emerge from the findings of this study. While high-scoring texts exhibit a more frequent use of code glosses, this does not imply that an increased quantity automatically results in better writing. The key takeaway is the importance of writers employing code glossing strategies effectively and with variety in their writing.

The findings reveal a noticeable imbalance in the use of exemplification and reformulation in low-rated essays. Less successful writers seem to struggle with employing reformulation techniques effectively, with the implication function almost absent in their writing. Thus, it is essential to raise novice writers' awareness of reformulation markers and their various discourse functions. This awareness will help students take full advantage of rewording techniques to clarify their intended meaning and convey preferred interpretations. Explicit instruction on the rewording technique in writing, including explanations of different RMs, modeling their use in context, and providing practice opportunities, is crucial to improving students' writing skills.

Additionally, despite the high frequency of exemplification in low-rated essays, these students tend to overuse certain markers and display limited syntactic variety. Their examples are often general and lack sufficient explanation, as shown by the frequent use of nominal forms, which hinders the effectiveness of exemplification. Therefore, rather than simply encouraging the use of code glosses, EAP instructors should guide students in using them strategically to enhance clarity, precision, and analytical depth. This could include teaching when and how to use specific markers, as well as how to balance exemplification and reformulation for optimal communication. Instructors should also emphasize the importance of integrating external sources to support examples, thereby increasing the persuasiveness of students' arguments.

Finally, the study highlights a connection between the exemplification of complex theoretical concepts and deeper engagement with the subject matter. EAP instructors could design activities that promote critical thinking and analysis, encouraging students to tackle complex ideas and express them clearly through strategic use of code glosses.

5.3 Limitations

While the findings of this study offer insights into code glossing and its potential relationship to writing quality, it is crucial to acknowledge certain limitations. Firstly, the study's scope is constrained due to the limited number of student texts analyzed (only 42 files with 146,778 words). This limits the generalizability of the findings to a broader student population. Secondly, the focus on explicit or transparent metadiscourse units may have resulted in overlooking instances of exemplification and reformulation that are implicitly integrated within or across clauses. Future research could explore how authors achieve these functions without explicit markers and whether this influences the observed patterns. Lastly, individual writing preferences may play a role in code gloss choices. As observed in this study, even within the high-rated texts, there was significant variation in the frequency of code glosses, ranging from 11 to 34 instances, despite all being awarded distinction grades.

In conclusion, while this study contributes valuable insights into code glossing, further research with larger and more diverse corpora is necessary to strengthen the generalizability of the findings and to explore the impact of implicit metadiscourse on writing quality.

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7 Appendices

Appendix 1 Information on All Essays Collected

	Essay	Module	Topic	World count	Grade
1	LA_D72_01	Linguistic analysis	The significance of collocational knowledge for learners of English	3683	72 Distinction
2	EAP_D82_02	English for Academic Purposes	Discuss the potential impact of AI-powered tools on academic writing	3508	82 Distinction
3	EAP_D78_03	English for Academic Purposes	How Corpus-Based Approaches Facilitate Genre-Based Writing Instruction in EAP	3848	78 Distinction
4	EAP_D75_04	English for Academic Purposes	An Integrative Approach to Teaching Academic Writing	3473	75 Distinction
5	EAP_D86_05	English for Academic Purposes	Notetaking in Academic Listening	3630	86 Distinction
6	EAP_D74_06	English for Academic Purposes	Evaluation of One of the Chinese Published EAP Textbooks in the Light of Genre Theory	3604	74 Distinction
7	EAP_D92_07	English for Academic Purposes	Discuss the potential impact of generative AI on academic writing	3780	92 Distinction
8	LA_D88_08	Linguistic analysis	Reported Speech: "Mind the Gap"	3686	88 Distinction

			Between Applied Linguistics and Pedagogical Grammars		
9	SLA_D78_09	Second Language Acquisition	Language learning report	3173	78 Distinction
10	LA_D72_10	Linguistic analysis	What challenges do "KNOWING A WORD" present for learners of English as an L2	3373	72 Distinction
11	LA_D72_11	Linguistic analysis	English pronunciation teaching	3111	72 Distinction
12	LA_D78_12	Linguistic analysis	What challenges do "KNOWING A WORD" present for learners of English as an L2	3383	78 Distinction
13	PP_D85_13	Principles and Practices of Language Teaching	Critical reading	3231	85 Distinction
14	PP_D78_14	Principles and Practices of Language Teaching	top-down and bottom-up reading strategies	3038	78 Distinction
15	SOC_D75_15	Sociolinguistics	Implementation and effects of Translanguaging in EFL Classrooms	3400	75 Distinction
16	SOC_D72_16	Sociolinguistics	The mechanisms of policy and planning that shape the teaching of English	3246	72 Distinction
17	S0C_D72_17	Sociolinguistics	In What Ways can ELF be of Use to the	3780	72 Distinction

|			English Language Teacher?		
18	SOC_D72_18	Sociolinguistics	Policy, Planning, and the Demand for English in Turkish Education	3627	72 Distinction
19	SOC_D72_19	Sociolinguistics	To what extent do you believe that the goal of ELT in the Expanding Circle and/or Outer Circle should be native-like use of English?	3960	72 Distinction
20	SOC_D75_20	Sociolinguistics	The mechanisms of policy and planning that shape the teaching of English	3691	75 Distinction
21	SOC_D75_21	Sociolinguistics	The mechanisms of policy and planning that shape the teaching of English	3605	75 Distinction
22	LA_P52_01	Linguistic analysis	Evaluation of the quality of two grammar books	3556	52 Pass
23	LA_P45_02	Linguistic analysis	Coherence and cohesion and their relationship	3496	45 Pass
24	LA_P52_03	Linguistic analysis	"What challenges do ""KNOWING A WORD"" present for learners of English as an L2	3721	52 Pass

25	LA_P55_04	Linguistic analysis	Differences between Mandarin and General American English (GAE) and their implications for teaching	3438	55 Pass
26	MD_P45_05	Material development	An evaluation of materials	3686	45 Pass
27	PP_P45_06	Principles and Practices of Language Teaching	Analyse critically your approach to teaching ONE of the four language skills in the classroom by reference to the literature on both theory and practice.	2906	45 Pass
28	PP_P48_07	Principles and Practices of Language Teaching	Discuss feedback as opposed to error correction, and various ways of giving feedback on writing	3254	48 Pass
29	PP_P52_08	Principles and Practices of Language Teaching	Analyse critically your approach to teaching ONE of the four language skills in the classroom by reference to the literature on both theory and practice.	3217	52 Pass
30	PP_P55_09	Principles and Practices of Language Teaching	Explain possible causes of the difficulty of listening with	3018	55 Pass

			reference to the literature and how you would support learners through your teaching of listening.		
31	EAP_P50_10	English for Academic Purposes	Advantages and problems are associated with corpus-informed approaches to EAP writing	3560	50 Pass
32	SLA_P52_11	Second Language Acquisition	Report: a case study	3583	52 Pass
33	SLA_P52_12	Second Language Acquisition	Report: a case study	3282	52 Pass
34	SLA_P52_13	Second Language Acquisition	Report: a case study	3814	52 Pass
35	SLA_P55_14	Second Language Acquisition	Report: a case study	3622	55 Pass
36	SLA_P55_15	Second Language Acquisition	Report: a case study	3787	55 Pass
37	SOC_P50_16	Sociolinguistics	Language politeness	3406	50 Pass
38	SOC_P55_17	Sociolinguistics	How do language attitudes and ideologies influence language policy and planning?	3561	55 Pass
39	SOC_P56_18	Sociolinguistics	Language politeness	3364	56 Pass
40	SOC_P58_19	Sociolinguistics	Language politeness	3444	58 Pass

41	SOC_P52_20	Socio-linguistics	The need for sociolinguistic studies in ELT training	3046	52 Pass
42	TE_P58_21	Teacher education	Models of Teacher Education	3303	58 Pass
					Total: 146778 words

Appendix 2 Coding Framework of Code Glosses
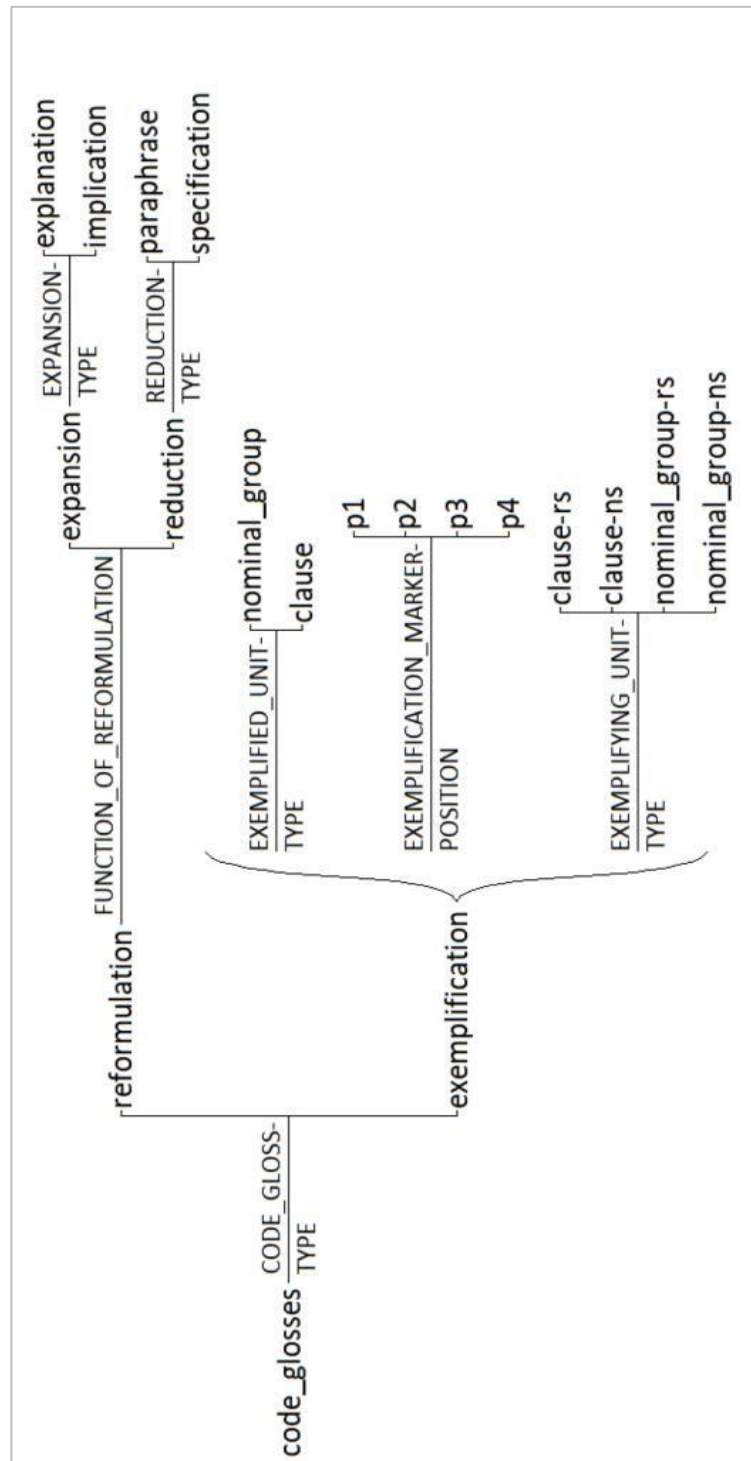
Appendix 3 List of Potential Code glosses to be Searched for in the Corpora

Code Glosses	
Reformulation Markers	**Exemplification Markers**
(Parentheses)	e.g./eg
-Dashes-	example of
colon (:)	Exemplify
i.e/ie	Extract
In other words	for example
In simpler terms	for instance
Namely	in particular
Call*	includ*
Put simply	like
That is to say	Mainly
That is	Namely
to be more precise	one such
Known as	a case in point
specifically	Particularly
Put differently	sample
refer* to	a few studies
viz	a certain study
in particular	several/some studies
particularly	say
especially	specifically
or x	such as
which/this/that means	to cite/mention/a few
put another way	illustrat*
to say the same thing differently	demonstrat*
Essentially	Rang* from
in essence	This was/is seen
Explain*	case

Label*	
In a word	
Regarded/considered/understood/mentioned as	
Aka	
which posits	

Appendix 4 Sample of Identified Code Gloss Instances in HR and LR Corpora

Exemplification within High-Rated corpus

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specific communicative forms (**e.g.**, critical reviews)

student genres (**e.g**., essays, critical reviews)

the engineering sub-disciplines (**e.g.** civil, mechanical, electrical engineering)

interactional resources, **such as** attitude markers and as discussed above, hedges and boosters

an integrative approach, **such as** combing genre-based pedagogy with discipline-specific texts informed by corpora

a general academic bank of vocabulary **such as** the AWL

Exemplification within Low-Rated corpus

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language-based knowledge **such as** topic vocabulary, and sentence patterns

English proficiency tests **such as** TOEFL.

factors **such as** teaching context, student age, their cognitive level, language proficiency, class time-limitation, class objectives, teachers' and learners' roles in class and teaching materials

common extrinsic rewards **include** financial incentives, awards, grades, and specific types of positive feedback (brown, 2014).

related to a foreign language context, which **includes** speaking, listening, and learning

such situations **include** examinations, public speaking, or in-class activities.

Reformulation within High-Rated corpus

NNS, **especially** students, may perceive ai-generated contents as superior to their own version

corpora and corpus research have significantly impacted teaching materials, **particularly** published textbooks and online dictionaries (Romer, 2008).

the genre is composed of different components, which are **called** moves

'hands-off ddl' (**i.e.**, paper-based) activities

a genre-based approach to teaching academic writing, while also advocating for discipline-specific data to work from, **aka** an integrative approach.

"the meaning of the word includes its relevant patterning" **which means** that collocations, congregations, semantic preference and prosody are all part of knowing a word.

Reformulation within Low-Rated corpus

applied in EAP teaching and learning in the university, **especially** associated with EAP writing for postgraduates.

discriminations of different vowels and consonants, **particularl**y those that do not exist in mandarin

assessment for learning' (**i.e.**, to improve student learning)

their audience **(**here are their teachers**)**

individual words or sounds, **namely** the phonological code

it is shown that more use of cohesive devices is found in higher-level passages, **which means** cohesive devices are closely relevant to writing quality

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