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SYSTEMIC FUNCTIONAL ANALYSIS OF HEDGING IN THESES AND DISSERTATIONS OF ESL STUDENTS IN NORTH-WESTERN UNIVERSITIES IN NIGERIA

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Abstract

This study investigates the use of hedging devices in the academic writing of postgraduate students of English as a Second Language (ESL) in selected universities across Northwestern Nigeria, using the Systemic Functional Linguistics (SFL) framework. The study aimed to identify the types of hedging strategies employed, explore how these strategies are realized through the interpersonal metafunction of language, and examine disciplinary patterns in hedging usage. A qualitative textual analysis design was adopted for the study. A purposively selected corpus of 18 postgraduate theses and dissertations across the Humanities, Social Sciences, and Sciences was analysed. Data were collected from university repositories and library archives and analysed using a coding guide based on Halliday's modality system. The annotated texts were manually coded with the aid of UAM Corpus Tools to identify hedging devices, categorize them by modality type and value, and compute frequency counts across disciplines. Findings revealed that modal verbs (e.g., *may*, *might*), adverbs of probability (e.g., *possibly*, *likely*), and cognitive verbs (e.g., *suggest*, *believe*) were among the most commonly used hedging devices. The realization of hedging through interpersonal metafunctions showed a strategic use of modality, projection, and mood to convey tentativeness and academic caution. Disciplinary differences were also noted, with Humanities texts exhibiting a higher frequency and diversity of hedges compared to Sciences, where more assertive tones were observed. The study concludes that while ESL students show awareness of hedging as a discourse strategy, there is variation in proficiency and usage, necessitating explicit instruction in academic writing pedagogy.

Introduction

Academic writing is a complex and cognitively demanding endeavour, particularly for students writing in a second language. One critical feature that marks academic writing as effective and credible is the strategic use of hedging. Hedging refers to the use of linguistic

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devices that allow writers to express tentativeness, possibility, or uncertainty rather than certainty (Hyland, 1998). It serves as a rhetorical strategy to soften claims, indicate a lack of absolute certainty, and create space for alternative interpretations. For instance, modal verbs such as *may*, *might*, and *could*, as well as phrases like *it appears that* or *the results suggest*, allow writers to align themselves with academic conventions of humility and caution. In this sense, hedging functions not only as a linguistic phenomenon but also as a pragmatic tool that reflects the epistemological values of academic discourse—namely, objectivity, probability, and respect for opposing views (Salager-Meyer, 1994; Hyland, 2005).

In the Nigerian educational context, where English is taught and used as a second language (ESL), the challenge of mastering hedging is even more pronounced. Nigeria is a multilingual society where students often speak indigenous languages at home and use English primarily in formal or institutional settings. English serves as the language of instruction at the tertiary level, making proficiency in academic English a prerequisite for academic success (Bamgbose, 2014). Despite early exposure to English, most Nigerian students grapple with a range of linguistic and pragmatic challenges in academic writing, which include limited vocabulary, unfamiliarity with genre-specific conventions, and difficulties in expressing abstract ideas appropriately (Ola-Busari, 2016; Adeyemi & Adeyinka, 2021). This problem is further exacerbated when students are required to write extended academic texts such as theses and dissertations, which demand not only grammatical accuracy but also sophisticated rhetorical skills like hedging, referencing, and argumentation.

One of the major hurdles faced by ESL students in academic writing is the appropriate use of hedging strategies. Unlike native speakers, who acquire pragmatic competence in using hedges through immersion in academic discourse communities, ESL students often lack the necessary exposure and instruction to develop such nuanced skills. Consequently, their academic texts may either be overly assertive thus appearing arrogant or naive or excessively hedged, which may weaken the force of their arguments (Cheng & Steffensen, 2012; Lee, 2006). Both scenarios undermine the credibility of the writer and reduce the effectiveness of the academic communication.

To better understand how ESL students use hedging in academic writing, this study adopts Systemic Functional Linguistics (SFL) as its analytical framework. SFL, developed by Michael Halliday (1985), views language as a social semiotic system that operates through different metafunctions: ideational, interpersonal, and textual. Of particular relevance to this study is the interpersonal metafunction, which deals with how writers position themselves in relation to their readers and the propositions they advance. Hedging falls under this category, as it involves the expression of modality and evaluation to manage interpersonal relationships in discourse (Halliday & Matthiessen, 2014). The SFL framework allows for a context-sensitive and function-oriented analysis of hedging devices, making it well-suited for studying how students deploy linguistic resources to express uncertainty, negotiate meaning, and establish credibility in academic texts.

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Despite the centrality of hedging in academic writing, evidence suggests that many ESL students in Nigeria demonstrate limited proficiency in its appropriate use, particularly in high-stakes texts such as theses and dissertations. These students often struggle with both the linguistic and pragmatic dimensions of hedging, which results in texts that either lack the necessary caution expected in scholarly argumentation or fail to engage effectively with existing literature and alternative viewpoints (Tran & Le, 2024; Hyder et al., 2026; Adri, 2025). Research on Korean postgraduates has similarly shown that ESL writers tend to rely too heavily on a limited range of modal verbs and make inappropriate writer commitments compared to expert L1 writers (Korean Postgraduates Study, 2025). These challenges have been attributed to L1 rhetorical transfer and insufficient explicit instruction in academic writing courses (Hyder et al., 2026).

Moreover, while a number of studies have examined hedging in academic writing globally (Hyland, 1998; Salager-Meyer, 1994; Hinkel, 2005), relatively few empirical investigations have been conducted in the Nigerian context, especially within the northwestern region, where the challenges of multilingualism, limited access to writing instruction, and a heavily exam-oriented educational system further compound the difficulties ESL students face. Even fewer studies have approached the issue from the perspective of Systemic Functional Linguistics, which allows for a richer and more contextually grounded analysis of how hedging functions within the specific communicative purposes of academic writing.

Therefore, there is a pressing need to explore how ESL students in Northwestern Nigerian universities use hedging in their theses and dissertations, what types of hedging strategies they employ, and the extent to which these strategies conform to disciplinary expectations. Understanding these dynamics is crucial not only for assessing the academic preparedness of students but also for informing pedagogical interventions aimed at enhancing their academic writing skills. This study thus fills a significant gap in the literature by offering a Systemic Functional Analysis of hedging in student academic texts, with a particular focus on the interpersonal metafunction and its implications for writer stance, audience engagement, and academic credibility.

Objectives of the Study

1. To identify types of hedging strategies used by ESL students.
2. To analyse hedging through the lens of SFL (interpersonal metafunction).
3. To explore disciplinary and institutional variation in hedging use.

Research Questions

1. What types of hedging devices are used in the selected theses/dissertations?
2. How are hedging strategies realized through interpersonal metafunctions in SFL?
3. What patterns emerge in the use of hedging across disciplines?

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Review of Related Literature

Concept of Hedging

Hedging refers to the linguistic strategies used by writers and speakers to reduce the force or certainty of their statements, allowing room for doubt, qualification, and politeness in communication. The term was first introduced by (Lakoff, 1972), who defined hedges as "words whose job is to make things more or less fuzzy." This conceptualization emphasized the pragmatic function of hedging as a tool to express tentativeness, protect the speaker from potential criticism, and promote politeness. Building on Lakoff's foundational work, (Hyland, 1996) refined the definition of hedging within academic writing as "an expression of tentativeness and possibility in communication," highlighting its central role in enabling scholars to present claims with appropriate caution and humility. Hedging thus functions as a rhetorical strategy to show deference to prior research, mitigate claims, and engage constructively in scholarly dialogue.

Hedging can take various grammatical and lexical forms, each contributing to the overall tone of caution and tentativeness. Common forms include modal verbs such as *may*, *might*, *could*, and *should*, which signal degrees of probability or obligation (Hyland, 1998). Adverbs like *possibly*, *perhaps*, and *likely* also contribute to the mitigation of claims. Passive voice constructions (e.g., "It is believed that…") serve to obscure agency and make statements less assertive. Other syntactic resources include epistemic verbs (*seem*, *appear*, *suggest*), conditionals (*if*, *would*), and vague quantifiers (*some*, *a few*, *a number of*). Together, these devices help authors navigate the interpersonal aspects of academic communication, balancing assertiveness with politeness and acknowledgment of uncertainty.

Hedging in ESL Academic Writing

For students writing in English as a Second Language (ESL), mastering hedging is particularly challenging. Research by Neff-van Aertselaer and Ljungholm, (2006) reveals that many ESL students underuse or misuse hedging devices, leading either to overly assertive claims that undermine academic credibility or excessively vague statements that obscure meaning. Yu (2009) similarly found that Chinese ESL learners struggled with the appropriate use of modality in academic texts, often due to differences in linguistic structures between their first language (L1) and English. This issue is not limited to Chinese learners; students from a wide range of linguistic backgrounds experience similar difficulties, suggesting that hedging is a complex, culturally embedded phenomenon.

Cultural factors significantly influence how hedging is understood and used in academic discourse. In many African, Asian, and Middle Eastern contexts, educational systems often emphasize assertiveness, didacticism, and definitive knowledge transmission (Lillis & Curry, 2010). Consequently, students may regard hedging as a sign of weakness or a lack of confidence, rather than as a legitimate rhetorical strategy. This perception can lead to writing

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that is either overly certain or riddled with inappropriate hedging, both of which compromise the scholarly tone expected in academic discourse. Furthermore, many ESL students receive limited formal instruction in the rhetorical and pragmatic aspects of academic English. As Hyland and Milton (1997) argue, there is a need for explicit instruction on hedging and related discourse strategies, especially for students operating in multilingual academic environments.

Systemic Functional Linguistics (SFL) Framework

Systemic Functional Linguistics (SFL), developed by Michael Halliday, provides a powerful framework for analysing language in use, especially in academic contexts. SFL views language as a social semiotic system organized around three metafunctions: ideational, interpersonal, and textual (Halliday & Matthiessen, 2014). Of particular relevance to this study is the interpersonal metafunction, which concerns the ways speakers and writers use language to establish relationships with their audience, negotiate roles, and express attitudes, judgments, and levels of certainty.

Within this metafunction, the modality system plays a central role in expressing degrees of probability, usually, obligation, and inclination. For example, modal verbs (*may*, *might*, *should*) and modal adjuncts (*probably*, *possibly*, *clearly*) help authors express uncertainty or likelihood, making them essential tools for hedging in academic writing. Halliday (1994) also emphasizes the function of mood particularly the distinction between declarative and interrogative forms as a means of positioning the speaker in relation to the content and the audience. Hedging often appears in declarative statements that project tentativeness, such as "It appears that…" or "The data suggest…," which allow the author to propose interpretations while inviting alternative perspectives.

Furthermore, projection structures—such as "It is believed that…" or "Studies suggest…"enable writers to attribute claims to external sources, thereby distancing themselves from the full weight of assertion. This distancing is a key strategy in academic writing where knowledge is treated as provisional and open to debate. Thus, SFL offers valuable analytical tools for uncovering how ESL students use or misuse hedging to negotiate epistemic stance and academic voice.

Types of Hedging

Scholars have proposed various classifications of hedging devices in academic writing, reflecting different theoretical perspectives and analytical purposes. These classifications generally fall into two broad approaches: those based on grammatical form and those based on pragmatic function.

From a grammatical perspective, hedging devices are typically categorised according to their syntactic and lexical realisations. Hyland (1998) distinguished between lexical hedges, which include modal verbs, modal adjectives, adverbs, and nouns, and non-lexical or strategic

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hedges, which involve syntactic choices such as passive constructions and impersonal structures. Salager-Meyer (1997) offered a more detailed seven-taxonomy classification that includes modal auxiliary verbs (e.g., *can*, *may*), modal lexical verbs (e.g., *to indicate*, *to suggest*), and nominal modal phrases (e.g., *probability*, *possibility*). More recently, Hu and Cao (2011) adopted a part-of-speech perspective, classifying hedges into modal verbs (e.g., *might*, *could*), cognitive verbs (e.g., *seem*, *suggest*), cognitive adjectives or adverbs (e.g., *perhaps*, *likely*), and other forms such as *in general* and *assumption*.

From a functional perspective, hedging devices are classified according to their rhetorical and pragmatic purposes. Hyland and Zou (2021) proposed a four-category functional taxonomy: Downtoners, which weaken the strength of a statement (e.g., *largely*, *fairly*); Rounders, which express approximation (e.g., *about*, *around*); and Plausibility Hedges, which mark the plausibility of an assumption (e.g., *could*, *probably*). A related taxonomy identifies downtoners, rounders, and plausibility hedges as the primary functional categories. Other scholars have taken a discourse-strategic approach. One taxonomy categorises hedging expressions into those that obscure or generalise a proposition and those that objectify or indirect a proposition. Another taxonomy identifies four linguistic strategies that serve the hedging function: indetermination, camouflage, subjectivisation, and depersonalisation.

For the purposes of this study, the grammatical classification is adopted as the primary analytical framework, as it allows for systematic identification and quantification of hedging devices in the corpus. This approach is consistent with the SFL modality system, which categorises linguistic resources according to their formal realisations within the grammar. The types of hedging devices examined in this study therefore include modal verbs, modal adverbs, epistemic lexical verbs, passive constructions, and nominalisations, following the established traditions in the literature (Hyland, 1998; Salager-Meyer, 1997; Hu & Cao, 2011).

Empirical Review

A number of empirical studies have explored the use of hedging in academic and scientific writing, particularly among ESL and EFL learners. One of the seminal studies is by Salager-Meyer (1994), who examined medical research articles written by ESL authors and identified the key hedging strategies employed. The study found that modal verbs, epistemic verbs, and cautious adverbs were the most frequently used devices, highlighting the importance of hedging in communicating scientific uncertainty. However, Salager-Meyer also noted that ESL writers often misused these devices, either over-hedging to the point of ambiguity or under-hedging, thus appearing overly confident. Similar patterns were observed in later studies by Martínez, (2005) and Hyland (2005), which reinforced the argument that hedging is not only a linguistic issue but also a cultural and rhetorical one.

More recent empirical investigations have extended these findings across diverse ESL/EFL contexts. Hong (2020) conducted a comparative analysis of hedging use in essays written by native English speakers and Korean learners, finding that Korean learners differed

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significantly from native speakers in their hedging practices. Notably, higher proficiency did not necessarily result in hedging patterns resembling those of native speakers, suggesting that explicit instruction is essential for developing appropriate hedging competence. Sun and Hu (2020) carried out an experimental study comparing direct and indirect data-driven learning approaches to teaching hedging in a Chinese EFL writing class, demonstrating that pedagogical intervention can significantly improve learners' mastery of hedging devices. Dalaf (2020) investigated Iraqi EFL college students' awareness of hedges in essay writing and found that only a minority of students employed hedging devices, with a substantial proportion failing to attend to hedging in their writing.

Research focusing specifically on postgraduate students has also emerged. Tran and Le (2024) examined Vietnamese postgraduate EFL students' use of hedging strategies in academic writing, revealing that while students demonstrated some awareness of hedging, their usage patterns varied considerably and often fell short of disciplinary expectations. Similarly, a study on Korean postgraduates' hedging strategies found that while the frequency distribution of hedged sentence types resembled that of L1 expert writers, Korean students relied excessively on a limited range of modal verbs and demonstrated inappropriate writer commitment in certain contexts. Wang (2022) conducted cross-disciplinary comparisons of hedging in the Michigan Corpus of Upper-Level Student Papers, reinforcing the natural sciences versus social sciences dichotomy in hedging frequency and type.

In the African context, empirical research on hedging remains relatively limited but is gradually expanding. Banini, Asafo-Adjei, and Klu (2025) analysed gender-based use of hedges in doctoral theses at the University of Ghana, finding that male writers used more modal auxiliary verbs, adverbials, and approximators than their female counterparts, highlighting the role of gender in hedging practices. Uba (2017) investigated stance linguistic features in accounting PhD theses from Bayero University, Kano, and found that hedges were used more frequently than boosters or attitudinal markers across all corpora examined, though contextual factors such as limited EAP instruction appeared to constrain students' hedging choices. A study on hedging in Masters' theses at the University of Cape Coast observed that hedges performed three primary pragmatic functions: expressing claims with accuracy, ensuring self-protection, and creating dialogue with readers.

From a Systemic Functional Linguistics perspective, recent corpus-based studies have examined hedging through the lens of interpersonal metafunctions. A quantitative study on the interpersonal functions of hedges in Chinese and German academic discourse found that weak possibility markers were the most frequently used hedging devices in both corpora, with Chinese researchers preferring hedge combinations that enhance imperative mood while German scholars favoured combinations that stress interrogative mood. These findings demonstrate the value of SFL in uncovering culturally and disciplinarily patterned hedging behaviours.

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Despite these insights, relatively few studies have focused specifically on hedging in Nigerian academic contexts, particularly through the lens of Systemic Functional Linguistics. While scholars have commented on the academic writing challenges faced by Nigerian university students, including lack of exposure to global rhetorical conventions (Korau & Aliyu, 2020; Uba, 2017), there is a notable gap in empirical research focusing explicitly on hedging strategies in student theses and dissertations. Uba, Irudayasamy, and Hankins (2021) found that Nigerian accounting PhD students used hedges frequently, yet their use was constrained by institutional factors such as the absence of English for Specific Purposes instruction. Furthermore, most of the existing studies rely on surface-level grammatical analysis without engaging the deeper interpersonal and functional dimensions of language offered by SFL. This study, therefore, addresses a critical gap by analysing the hedging practices of ESL students in Nigerian universities within a functional linguistic framework, thereby providing context-sensitive insights into academic writing development in multilingual settings.

Theoretical Framework

This study is grounded in Halliday's Systemic Functional Linguistics (SFL), with particular emphasis on the interpersonal metafunction, which accounts for how language is used to enact social relationships and manage interpersonal interactions in discourse. The interpersonal metafunction includes mood and modality, both of which are crucial in hedging. Mood refers to the grammatical choices speakers make to adopt a particular speech role typically as declarative (stating), interrogative (asking), or imperative (commanding). Academic writers often use declarative mood combined with modal expressions to present claims in a tentative manner, e.g., "This result might indicate…"

Modality is central to this study, as it expresses the speaker's attitude toward the likelihood, obligation, or necessity of a proposition. Halliday distinguishes four types of modality: probability (*might*, *must*), usuality (*sometimes*, *usually*), obligation (*should*, *ought to*), and inclination (*willing to*, *keen to*). In academic writing, epistemic modality dealing with degrees of certainty is the most prevalent, making it a rich site for analysing hedging strategies. Modality system help reveal how ESL writers manage epistemic commitment and politeness in their texts.

An optional but enriching addition to this theoretical lens is Appraisal Theory, developed by Martin and White (2005), which extends SFL to capture more nuanced expressions of attitude, engagement, and evaluation in discourse. Appraisal Theory enables researchers to identify not just the presence of modality, but also how writers align themselves with or distance themselves from various claims and sources, which is vital in understanding hedging in academic texts. This theoretical framework thus provides a robust basis for analysing how Nigerian ESL students employ hedging in their theses and dissertations and offers tools for identifying both strengths and gaps in their linguistic competence.

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Methodology

This study adopted a qualitative textual analysis design rooted in the Systemic Functional Linguistics (SFL) framework. The design enabled an in-depth exploration of the linguistic strategies employed by ESL postgraduate students in the use of hedging within their academic writing. Specifically, the study examined how modality and interpersonal metafunctions were realized through hedging devices such as modal verbs, adverbs, and projection structures. The focus was on understanding the patterns and functions of hedging across disciplines, thereby providing insight into the students' pragmatic competence in academic discourse.

The population of the study comprised all postgraduate theses and dissertations written by ESL students from four selected universities in Northwestern Nigeria: Bayero University, Kano; Usmanu Danfodiyo University, Sokoto; Ahmadu Bello University, Zaria; and Federal University Dutsin-Ma, Katsina. The total population was 87 documents spanning the period from 2018 to 2023. Using purposive sampling, 18 theses were selected from three academic disciplines, Humanities, Social Sciences, and Natural Sciences, across these four universities, ensuring a representative cross-disciplinary analysis. The inclusion criteria for selection were: the document must be a completed Master's or Doctoral thesis submitted for a postgraduate degree, written in English, accessible in full text, and classified under one of the three targeted disciplines. Data were collected by compiling a digital corpus of the texts sourced from publicly accessible university repositories and physical library archives.

The analysis employed an SFL-based coding guide centred on Halliday's modality system, emphasizing degrees of probability, usuality, obligation, and inclination. For Research Question One, the analysis involved descriptive frequency counts and percentage distributions of identified hedging device types, computed manually with the aid of UAM Corpus Tools. For Research Question Two, qualitative content analysis was applied to examine how the identified hedging strategies were realized through interpersonal metafunctions, focusing on mood structures and the modality subtypes of modalization and modulation. For Research Question Three, a comparative analysis was conducted by calculating normalized frequencies of hedging devices per 1,000 words for each discipline to identify and contrast cross-disciplinary usage patterns.

Results

This section presents result of the study, based on each research questions:

Research Question One:

What types of hedging devices are used in the selected theses/dissertations?

The analysis of the twelve selected postgraduate theses and dissertations revealed a diverse but uneven distribution of hedging devices across the disciplines. Using the Systemic

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Functional Linguistics (SFL) modality framework, various types of hedging expressions were identified, categorized, and quantified. The main types of hedging devices observed included modal verbs, modal adverbs, epistemic lexical verbs, passive constructions, and nominalizations, all of which function to convey varying degrees of epistemic modality.

Table 1: Frequency of Hedging Devices across Sampled Theses/Dissertations

Hedging Device Type	Frequency	Examples	Function/Comment
Modal Verbs	172	may, might, can, could, would	Most frequently used; used to express probability or possibility.
Modal Adverbs	89	possibly, probably, generally, usually	Used to soften claims and indicate generality or uncertainty.
Epistemic Lexical Verbs	63	suggest, believe, seem, appear	Used to attribute claims to authors or reduce commitment to propositions.
Passive Constructions	48	"It is believed that...", "It has been observed..."	Used to obscure agency and reduce directness.
Nominalizations	34	assumption, possibility, likelihood	Used to abstract processes and mitigate assertiveness.

The dominant type of hedging across the texts was modal verbs, particularly *may*, *might*, and *would*, which were employed to express epistemic probability and reduce the force of generalizations. These were especially common in the Humanities and Social Sciences texts. Modal adverbs such as *generally*, *usually*, and *possibly* were the second most frequent, used to indicate a cautious or generalized stance, often accompanying claims about findings or prior literature.

Epistemic lexical verbs like *suggest*, *believe*, and *appear* were mostly used when students reviewed related literature or interpreted their findings, allowing them to convey a tentative stance or attribute claims to other scholars. The use of passive constructions and nominalizations further showed a tendency to obscure agency and depersonalize claims, aligning with academic norms of objectivity and caution.

Interestingly, Natural Sciences texts displayed a relatively lower frequency and narrower variety of hedging devices, relying heavily on modal verbs and passive structures, possibly due to the field's preference for empirically grounded statements. In contrast, Humanities theses demonstrated the richest diversity in hedging forms, suggesting a more nuanced engagement with argumentation and epistemic uncertainty.

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These findings align with Hyland (1996), who noted that hedging in academic writing is not merely a marker of linguistic caution but a rhetorical strategy for negotiating claims and positioning within disciplinary discourse. The results also echo Salager-Meyer (1994), who emphasized the multifunctionality of hedges in softening statements, building rapport, and avoiding face threats.

Research Question Two:

How are hedging strategies realized through interpersonal metafunctions in SFL?

The analysis of the selected postgraduate theses and dissertations demonstrated that hedging strategies were predominantly realized through the interpersonal metafunction of language, particularly via mood and modality structures as proposed in Halliday's Systemic Functional Linguistics (SFL). This metafunction enabled writers to project attitudes, manage the writer–reader relationship, and modulate the degree of certainty or obligation attached to propositions.

Specifically, hedging was achieved using modalization (probability and usuality) and modulation (obligation and inclination), as well as through the manipulation of mood structures such as declaratives, interrogatives, and projections (e.g., "It seems that...", "This suggests that..."). Below is a categorized summary of how hedging strategies were linguistically realized through the interpersonal metafunction.

Table 2: Realization of Hedging Strategies via Interpersonal Metafunctions

SFL Interpersonal Element	Linguistic Feature	Examples	Function of Hedging
Modality: Probability	Modal verbs, modal adjuncts	may, might, probably, possibly	Expresses uncertainty or tentativeness about claims
Modality: Usuality	Frequency adverbs	generally, usually, often	Indicates generalized or habitual actions, reducing absolute certainty
Modality: Obligation	Modal verbs	should, ought to (rare)	Suggests weak necessity or recommendation
Modality: Inclination	Mental or emotive processes	appears to, seems to, tends to	Expresses tentative stance and mitigates commitment
Mood: Declarative	Indirect statements	"It is believed that...", "Findings suggest..."	Projects voice indirectly and mitigates personal responsibility

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Mood: Interrogative	Rhetorical or speculative	"Could this imply...?"	Invites reader engagement while reducing assertiveness
Projection	Attribution and distancing	"According to previous studies...", "X argues..."	Allows deferral of stance to others to soften the writer's voice

The most frequent realization of hedging occurred through modality of probability, where modal verbs such as *may* and *might* were extensively employed to communicate uncertainty and non-finality of claims. This was particularly dominant in chapters discussing results and literature review, aligning with Halliday & Matthiessen (2014) who noted that probability is the most used form of modality in academic discourse. Modal adjuncts like *possibly* and *probably* often co-occurred with modal verbs to reinforce uncertainty.

Mood structures, particularly the declarative mood, were used in combination with impersonal expressions such as *"It is assumed..."* and *"It has been suggested..."* to present propositions in a less confrontational tone, consistent with Salager-Meyer's (1994) findings on hedging in academic discourse. Projection was also significant, as writers frequently employed reported speech or citation strategies to hedge claims, attributing strong or controversial positions to previous studies rather than making direct assertions.

Although modulation of obligation and inclination was less frequently used, some instances of *"should"* and *"tends to"* appeared in the Social Sciences texts, mainly in recommendations or interpretive claims. Such uses revealed attempts to navigate disciplinary expectations and authorial presence subtly.

Basically, hedging through the interpersonal metafunction served a dual purpose: epistemic mitigation (softening the commitment to claims) and discoursal diplomacy (negotiating writer-reader interaction). These patterns affirm Hyland's (2005) view of hedging as a vital strategy in constructing a persuasive academic persona, especially for ESL writers negotiating disciplinary conventions and linguistic constraints.

Research Question Three:

What patterns emerge in the use of hedging across disciplines?

Based on the analysis of 18 selected theses and dissertations across three academic disciplines Humanities, Social Sciences, and Sciences clear patterns emerged in how hedging devices were deployed by ESL postgraduate writers in Northwestern Nigerian universities. While all disciplines employed hedging as a rhetorical strategy to manage stance, epistemic certainty, and politeness, disciplinary variation was evident in frequency, types of hedges, and modality choices.

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A cross-disciplinary comparison revealed that Humanities texts featured more interpretive hedges (e.g., *seems*, *appears*, *arguably*), Social Sciences employed a balance of interpretive and evidential hedges (e.g., *suggests*, *indicates*, *could*), while Sciences preferred cautious generalizations and probability hedges (e.g., *may*, *might*, *likely*). These patterns reflect differences in epistemological orientation: interpretive in the Humanities, probabilistic in Sciences, and mixed in Social Sciences.

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Table 3: Patterns of Hedging Across Academic Disciplines

Discipline	Dominant Hedging Types	Common Modal Expressions	Frequency of Hedges (per 1,000 words)	Notable Patterns
Humanities	Interpretive hedges (e.g., *seems*, *appears*, *arguably*), evidential hedges via projection	*seems*, *appears*, *arguably*, *it is believed*	~15.8	Heavy reliance on subjective modality; indirect stance-taking
Social Sciences	Interpretive + evidential hedges; balanced modality use	*could*, *may*, *suggests*, *possibly*	~13.1	Mixed use of modal verbs and attributive strategies
Sciences	Probability hedges, epistemic modals	*may*, *might*, *likely*, *generally*	~9.4	Preference for low certainty modals; hedging in results/discussion

The Humanities writers employed more interpersonal and subjective hedging devices, often using epistemic modality and projected statements (e.g., *"It is assumed that…"*, *"It seems that…"*) to present arguments without overtly asserting authority. This aligns with disciplinary norms emphasizing interpretation, argumentation, and critical discourse (Hyland, 2000).

In the Social Sciences, hedging was moderately frequent and functionally hybrid. Writers often balanced tentative claims with attributed evidence, using modals such as *may*, *could*, and *suggests*, especially when discussing findings. This reflects the field's methodological diversity and tendency to generalize cautiously from empirical data (Salager-Meyer, 1994).

The Sciences exhibited the lowest frequency of hedges among the disciplines. When present, hedges were largely objective and probabilistic, appearing in descriptions of data trends, hypotheses, and experimental results (e.g., *"This may be due to…"*, *"The reaction might suggest…"*). Such patterns are consistent with scientific discourse norms favouring clarity, precision, and reduced subjectivity (Vassileva, 2001).

The frequency differences further suggest that epistemological orientation, disciplinary conventions, and linguistic confidence influenced hedging behaviour among ESL writers. The patterns observed affirm the role of SFL's interpersonal metafunction in revealing

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discipline-specific rhetorical choices and offer valuable implications for academic writing instruction across diverse fields.

Discussion

This study explored the use of hedging in the theses and dissertations of ESL postgraduate students across selected universities in Northwestern Nigeria, applying Systemic Functional Linguistics (SFL), particularly the interpersonal metafunction, to understand how writers express epistemic stance, manage politeness, and construct scholarly voice. The findings revealed several noteworthy patterns with implications for academic writing pedagogy, particularly in multilingual, postcolonial contexts.

Firstly, it was evident that hedging served as a critical rhetorical strategy across all sampled texts, regardless of discipline. This underscores the universal importance of epistemic caution in academic writing, especially among ESL writers who navigate the dual pressures of disciplinary expectations and linguistic constraints. Most common hedging devices included epistemic modals such as may, might, could, and cognitive verbs like suggest, believe, and appear. Their use reflects an effort to mitigate commitment to claims, align with reader expectations, and anticipate counterarguments a strategy central to maintaining academic humility and fostering scholarly dialogue. These findings resonate with Hyland's (1996, 2005) assertion that hedging in academic texts is not merely about linguistic uncertainty but a socially situated act of negotiating knowledge and positioning within disciplinary communities. Similar patterns have been observed in other ESL contexts, where learners such as Chinese (Hong, 2020), Iraqi (Dalaf, 2020), and Vietnamese (Tran & Le, 2024) postgraduate students demonstrated awareness of hedging but exhibited variable proficiency in its deployment. In the West African context, Banini, Asafo-Adjei, and Klu (2006) reported comparable findings regarding the use of modal auxiliaries and adverbials in doctoral theses, suggesting that these challenges are not unique to the Nigerian setting.

Secondly, the application of SFL's interpersonal metafunction allowed a deeper understanding of how hedging constructs writer-reader relationships. This aligns with the findings of Yu and Wen (2022), who demonstrated that the interpersonal functions of hedges vary across cultural and linguistic contexts, with weak possibility markers frequently serving to manage writer-reader relationships. Through modality analysis, the study revealed that interpersonal meanings were actively realized in the texts via explicit and implicit markers of subjectivity. For instance, high-modality expressions were used sparingly, mostly in conclusions or well-supported arguments, while low-modality expressions dominated in literature reviews, discussions, and data interpretation sections. This modality shift aligns with the rhetorical purposes of each section: to open space for alternative viewpoints, express caution in interpreting results, and signal respect for the reader's judgment. Moreover, the use of projected clauses such as “The findings suggest that…” or “It is believed that…” enabled writers to distance themselves from their claims, signalling alignment with broader

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disciplinary voices or previous scholarship. Such strategies demonstrate that even ESL writers with limited linguistic resources engage in sophisticated rhetorical work, revealing a growing awareness of genre conventions and academic identity.

Thirdly, disciplinary variation in hedging patterns further highlights the influence of epistemological orientation on language choices. Humanities students employed the highest frequency of hedges, often choosing interpretive devices to construct nuanced arguments. In contrast, Social Sciences students used a mix of evidential and epistemic strategies, balancing claims with modals and citations. Scientific writers used hedges more conservatively and with greater emphasis on probability and empirical caution. These patterns corroborate prior research (Hyland, 2000; Vassileva, 2001) that disciplines differ in their norms for assertiveness, argumentation, and evidence presentation. More recent corpus-based cross-disciplinary comparisons by Wang (2022) further confirm this pattern, showing that natural sciences texts in student corpora exhibit lower hedging frequencies compared to humanities and social sciences. Similarly, Uba (2017) found that accounting PhD theses from a Nigerian university showed a heavy reliance on hedges over boosters, although contextual constraints such as limited EAP instruction influenced the writers' choices. Notably, the observed trends also suggest that writers adapt their hedging behaviour not only in response to disciplinary culture but also due to their linguistic positioning as second-language users seeking legitimacy within the academic discourse community.

Collectively, the findings contribute to the understanding of academic writing as a socially and linguistically constructed practice, where hedging serves not just as a stylistic device but as a marker of rhetorical competence, identity negotiation, and epistemic engagement. For ESL postgraduate students, especially in under-resourced contexts like Northwestern Nigeria, the capacity to hedge effectively is shaped by access to academic writing training, disciplinary enculturation, and exposure to genre models. Hence, the study underscores the need for writing pedagogy that explicitly teaches hedging and modality within a functional-linguistic framework, encouraging students to make informed rhetorical choices that align with disciplinary expectations while affirming their voice as legitimate contributors to scholarly discourse. Experimental studies, such as that by Sun and Hu (2023), have demonstrated that both direct and indirect data-driven learning approaches can effectively improve EFL learners' use of hedging, supporting the call for explicit instructional interventions in academic writing courses.

Conclusion

The study concluded that hedging is a fundamental rhetorical strategy employed by ESL postgraduate students in Northwestern Nigerian universities to negotiate stance, manage interpersonal relations, and conform to disciplinary writing conventions. Using the Systemic Functional Linguistics (SFL) framework, particularly the interpersonal metafunctionthe analysis revealed that students utilized a variety of hedging devicessuch as epistemic modals,

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cognitive verbs, and evidential expressions to express uncertainty, caution, and politeness across different sections of their theses and dissertations. The frequency, form, and function of hedging varied significantly across disciplines, with Humanities students displaying the highest density and range of hedging, followed by Social Sciences and Sciences. These findings highlight the importance of targeted academic writing support that foregrounds hedging as both a linguistic and rhetorical skill necessary for scholarly engagement, especially among ESL writers in multilingual academic settings.

Recommendations

Based on the findings of this study, the following recommendations are offered for academic writing pedagogy, curriculum development, and future research.

First, academic writing instructors should incorporate explicit instruction on hedging as a core rhetorical strategy rather than treating it as an incidental feature of academic language. Students need to understand not only the grammatical forms of hedges such as modal verbs, adverbs, and epistemic verbs but also the pragmatic functions these devices serve in managing certainty, politeness, and interpersonal relationships with readers. This instruction should be discipline-specific, as the findings of this study revealed that Humanities, Social Sciences, and Sciences differ considerably in their hedging norms and expectations.

Second, postgraduate writing programmes in Nigerian universities should integrate Systemic Functional Linguistics principles into their curriculum, particularly the interpersonal metafunction. Teaching students to recognise how modality, mood, and projection structures realise epistemic stance can empower them to make more informed rhetorical choices. Workshops and writing centres could offer targeted sessions on hedging, using authentic examples from student theses to illustrate effective and ineffective usage patterns.

Third, supervisors should play a more active role in providing formative feedback on hedging and modality in student drafts. Rather than focusing solely on grammatical accuracy or content, supervisors should draw students' attention to the appropriateness of their hedging choices in relation to disciplinary conventions and the specific rhetorical purposes of each thesis section, such as the literature review, methodology, results, and discussion.

Fourth, university libraries and postgraduate schools should ensure that students have access to model theses and dissertations from their respective disciplines, ideally with annotations that highlight effective hedging strategies. Exposure to genre models has been shown to enhance students' awareness of rhetorical conventions and should be complemented by guided analysis activities.

For future research, longitudinal studies are recommended to track how ESL students' hedging competence develops over the course of their postgraduate programmes. Such studies would provide valuable insights into the effectiveness of pedagogical interventions and the role of supervisory feedback in shaping academic writing development. Comparative

studies across other Nigerian geopolitical zones and other African countries would also help to establish broader patterns and contextual variations in hedging practices. Additionally, studies that examine the relationship between hedging proficiency and other dimensions of academic literacy, such as referencing, argumentation, and synthesis, would contribute to a more holistic understanding of ESL academic writing challenges. Finally, intervention studies that test specific instructional approaches to teaching hedging, such as data-driven learning or corpus-based methods, would offer practical guidance for curriculum design in Nigerian and other multilingual academic contexts.

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