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A Pragmatic Analysis of Academic Discourse English Research

Article Introductions as a Case Study

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تحليل تداولي للخطاب الأكاديمي: مقدمات المقالات البحثية باللغة الإنجليزية نموذجاً

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المديرية العامة للتربية

Abstract

This paper explores the use of speech acts and conversational implicatures as pragmatics within the introduction of English research articles in three academic fields, namely linguistics, computer science, and medicine. Although there has been a lot of research on speech acts in verbal and pedagogical contexts, there has been negligence in issues to do with systematic use of speech acts in academic writing, specifically in the introductions of research articles, as well as across disciplinary lines. To fill this gap, the paper will use an eclectic model based on Speech Act Theory formulated by Searle (1969) and Cooperative Principle theorized by Grice (1975). Ninety research article introductions (thirty per discipline) were analysed (selected among the journals found in Scopus). The qualitative analysis was used in recognizing and categorizing speech acts, assertives, directives, commissives, and expressives and declarations, and the quantitative analysis in finding the frequency and distribution of such acts in various disciplines. The systematic coding and cross-disciplinary comparison were supported with the help of NVivo software. The results indicate that assertive speech acts prevail in all the three disciplines in introduction, but the pragmatic functions of the assertive speech acts differ depending on the disciplinary practices and rhetorical purposes. Moreover, conversational implicatures are also important to improve persuasion, credibility, and authorial position with the help of the implicit meaning. This paper has shown that the interplay between explicit speech acts and implicit pragmatic choices plays an important role in the building of academic discourse therefore mediating pragmatics and discourse analysis in academic writing. **Keywords: Academic Discourse; Pragmatics; Speech Acts; Conversational Implicature; Research Article Introductions.**

المستخلص

تهدف هذه الدراسة إلى استكشاف كيفية توظيف الأفعال الكلامية والاستلزام الحواري من منظور تداولي في مقدمات المقالات البحثية المكتوبة باللغة الإنجليزية عبر ثلاثة مجالات أكاديمية هي: اللسانيات، وعلوم الحاسوب، والطب. وعلى الرغم من كثرة الدراسات التي تناولت الأفعال الكلامية في السياقات الشفوية والتعليمية، فإن الاهتمام بدراستها في الكتابة الأكاديمية، ولا سيما في مقدمات المقالات البحثية وعبر التخصصات المختلفة، لا يزال محدوداً. وانطلاقاً من هذه الفجوة البحثية، تعتمد الدراسة نموذجاً توليفياً يستند إلى نظرية الأفعال الكلامية كما طورها سيرل، ومبدأ التعاون الذي اقترحه غرايس. وقد تم تحليل عينة متوازنة مكونة من تسعين مقدمة لمقالات بحثية (بواقع ثلاثين مقدمة لكل تخصص)، تم اختيارها من مجلات مفهومة ضمن قاعدة بيانات سكوبس. اعتمد التحليل النوعي على تحديد وتصنيف الأفعال الكلامية إلى: الإخباريات، والتوجيهيات، والالتزاميات، والتعبيريات، والإعلانيات، في حين ركز التحليل الكمي على دراسة تكرار هذه الأفعال وتوزيعها عبر التخصصات المختلفة. كما استُخدم برنامج NVivo لدعم عملية الترميز المنهجي وإجراء المقارنات بين التخصصات. وتُظهر النتائج أن الأفعال الإخبارية تهيمن على مقدمات المقالات في المجالات الثلاثة، إلا أن وظائفها التداولية تختلف باختلاف الأعراف التخصصية والأهداف البلاغية. إضافة إلى ذلك، يلعب الاستلزام الحواري دوراً مهماً في تعزيز الإقناع الأكاديمي، وبناء المصداقية، وتشكيل الموقف الخطابي من خلال المعاني الضمنية. وتؤكد الدراسة أن التفاعل بين الأفعال الكلامية الصريحة

والاستراتيجيات التداولية الضمنية يسهم بشكل جوهري في بناء الخطاب الأكاديمي، مما يعزز التكامل بين التداولية وتحليل الخطاب في دراسة الكتابة العلمية. الكلمات المفتاحية: الخطاب الأكاديمي؛ التداولية؛ الأفعال الكلامية؛ الاستلزام الحواري؛ مقدمات المقالات البحثية.

1. Introduction

In the past few decades, the academic discourse has been examined as both a source of disseminating knowledge and a source of persuasion, positioning, and creating disciplinary identities (Brinton, 2015; Lakoff, 2015). Speech acts and implicature play a major role in this communicative space in defining how scholars argue, build credibility and appeal to readers. The pragmatics (which concerns the meaning beyond the literal) offers a concrete concept to understand the mechanism of such linguistic processes in scholarly texts (Birner, 2025; O'Keeffe et al., 2019). The pragmatic aspects of academic writing and the introduction aspect of research articles specifically are poorly investigated, although a lot is known about the speech acts in the context of conversations and pedagogy (Alemi and Khanlarzadeh, 2016; Widya, 2017; Alharbi, 2018). Academic writing, especially, the introduction section, is a form of persuasion because the authors show the gap in the research, form a degree of significance, and show the level of intellect and authority of the research (Bardovi-Harlig, 2025). To know more about the functioning of speech acts and implicatures in this case could help clarify the concealed rhetorical strategies that could guide the way of how they are processed and what disciplinary parameters they need to satisfy reader needs. The theory of Speech acts was initially presented by J. L. Austin (1962) who established the initial difference between locutionary, illocutionary and perlocutionary acts. The theory was later systematically developed and elaborated by Searle (1969), who refined its conceptual framework and proposed a detailed taxonomy of speech acts, which have different communicative purposes (Della & Sembiring, 2018; Roberts, 2018). To add to that, the Cooperative Principle by Grice and the theory of conversational implicature elucidate the role of the implied meaning in the process of cooperative communication (Hossain, 2021; Kravchenko, 2017; Ekoru and Gunn, 2021). All of these structures will give a holistic approach to unravel explicit and implicit meaning of academic texts. Although many studies have been conducted on the topic of pragmatic competence when it is used in spoken or pedagogical communication (Derakhshan and Shakki, 2021; House and Kadar, 2023; Kentmen et al., 2023), little work has been done that studies pragmatic competence in written academic style, specifically in the writing of research articles. The concept of speech acts and implicatures in building knowledge and authority in scholarly writing remains unexplored in the literature due to the extensive nature of the former studies and the focus on topics like classroom interaction, literary discourse, or speech acts in the translation studies (Hasan Almansoob and Awadh, 2024; qizi Sayitqulova, 2025; Raffi, 2018; Salih, 2022). Further, the variation in disciplinary pragmatics of pragmatic strategies is under-researched-what is the difference between introductions in linguistics and computer science or medicine in their application of assertives, directives and implicatures? This gap is a key area of concern to fill in on our knowledge on cross-disciplinary discourse practices and pragmatic variation in academic communication. Despite the central role of pragmatics in understanding meaning in context, previous research on speech acts and conversational implicature has largely focused on spoken interaction, classroom discourse, or isolated textual examples. Comparatively little attention has been paid to how these pragmatic mechanisms function in academic writing, particularly within research article introductions. Moreover, existing studies rarely adopt a cross-disciplinary perspective, leaving unanswered questions about how pragmatic strategies vary according to disciplinary conventions and rhetorical purposes. This lack of systematic investigation creates a gap in understanding the pragmatic construction of academic discourse across fields.

The present study aims at the following:

1. Apply the typology of Searle (1969) to classify and identify the kinds of speech acts used in the introduction of English research articles in three fields linguistics, computer science, and medicine.
2. Examine the existence and roles of implicatures with reference to Cooperative Principle as described by Grice to uncover the role that the implicit meaning plays in supporting an academic argument and persuasion.
3. Make a cross-disciplinary comparison to find out what pragmatic differences exist among academic genres.

This study seeks to answer the following research questions:

1. What types of speech acts are most frequently employed in the introductions of research articles across linguistics, computer science, and medicine?
2. How do conversational implicatures function pragmatically in research article introductions across these disciplines?
3. To what extent do the use and distribution of speech acts and implicatures vary across academic disciplines?

It is worthy to state that this study is significant to both pragmatics and discourse analysis in that it shows how implicit and explicit pragmatic strategies can be used to influence the rhetorical structure of academic introductions. It provides a gap between theoretical and empirical studies on the subject topic that reveals how implicit meaning improves academic persuasion, interpersonal alignment, and authorial stance (Taguchi, 2015, 2018; Haugh, Kadar, and Terkourafi, 2021; Mardiana, 2024). The study also provides a replicable methodological framework of pragmatic research of academic writing by combining qualitative and quantitative analyses (Culpeper, Mackey, and Taguchi, 2018; Culpeper and Gillings, 2019). The uniqueness of the given approach is in a mixed-method combination of the theory of speech act and implicature analysis into various fields. The systematic coding with NVivo allows a quantitative evaluation of pragmatic aspects and still has the richness of contextual interpretation. Contrary to the last literature that only uses one domain of discourse (Widya, 2017; Siddiqui, 2018), the present study uses a cross-disciplinary comparative approach to unveil pragmatic diversity in academic discourse. Moreover, the frameworks of Searle and Grice are aligned to give the study a two-level perspective of the interplay of explicit linguistic acts and implicit pragmatic meanings in the formation of persuasion and authorial identity in academic texts. This incorporation makes pragmatic theory more explanatory and adds to the never-ending debate concerning the way meaning works within the context of institutionalized discourse (Birner, 2025; Brinton, 2015; Kentmen et al., 2023).

2. Literature Review

Pragmatics is a subdivision of linguistics that deals with the creation of meaning in a context; it deals with the connection between the form, intent, and meaning of language (Birner, 2025; O'Keeffe et al., 2019). The speech act theory, which was first coined by Austin and then developed by Searle, views language as an act instead of a channel through which we transmit information (Roberts, 2018). The utterances can serve either as assertives, directives, commissives, expressives or declarations that will serve various communicative purposes based on the taxonomy of speech acts proposed by Searle (Della and Sembiring, 2018). These categories are significant in the appreciation of how writers can undertake pragmatic actions such as making claims to knowledge, convincing readers or assessing scholarly writings. Lakoff and Brinton (2015) and other scholars state that discourse and pragmatics are interdisciplinary due to the influence of historical and contextual factors on rules of communication. The pragmatics has now expanded its boundaries and is implemented in the institutional and academic contexts as the paradigm has begun to be more social oriented and not strictly linguistic. According to the latest research findings, pragmatic competence needs to be addressed as a part of applied linguistics and discourse studies (Siddiqui, 2018; House and Kadar, 2023). The empirical studies of speech acts have been made in diverse communicative settings and they have been done in classrooms, literary works as well as translation and intercultural communication. Taking the case of Alemi and Khanlarzadeh (2016), the authors compared the competencies of Iranian EFL students in request speech acts, and the findings indicated the deviation between linguistic and pragmatic appropriateness. In the same way, Widya (2017) and Alharbi (2018) studied speech acts in the educational setting and revealed that pragmatic awareness has a considerable effect on the pedagogical process and understanding by the learners. Rafli (2018) also examined the illocutionary forces in the interactions in classes and came to the conclusion that explicit instruction improves pragmatic fluency. Outside the classroom setting, studies on speech acts have increasingly examined written and professional discourse, including media texts, institutional communication, and academic writing, has been worked on by the likes of Almansoob and Awadh (2024), who applied pragmatic analysis to translation studies, highlighting the importance of authors playing around with pragmatic features to produce aesthetic and interpretive effects in literary text. All of these studies reveal that the theory of the speech acts is very versatile in various fields. Another dimension necessary to pragmatic analysis is the theory of conversational implicature by Grice. It describes how speakers (or writers) can represent something extra beyond what has been literally said by means of following, or deliberately flouting, conversational maxims (Hossain, 2021; Egoro and Gunn, 2021). Kravchenko (2017) explained how the use of indirect speech acts frequently relies on the mutual presuppositions and implicatures, which makes it possible to express things in a subtle way both during the verbal and written communication. In academic prose, such implicatures result in none of the rhetorical effects of hedging, politeness, and the strategic presentation of statements. Haugh et al. (2021) proposed another theory, which relates implicature to social identity and relational work: the sociopragmatic perspective. Their practice suggests that one cannot separate pragmatic meaning with social context that works well with the application of implicature by researchers in the academic discourse in their efforts to establish the appropriate balance between assertiveness and collegiality. This perspective is empirically supported by Kentmen et al. (2023) who

assessed the awareness of Turkish EFL students regarding speech acts and conversational implicatures and demonstrated how the pragmatic competence is one of the keys of effective academic communication. The importance of pragmatic knowledge in sustaining successful communication was highlighted by Mardiana (2024), especially in the academic environment where accuracy, politeness, and convincing power are of paramount importance. Derakhshan and Shakki (2021) provide a meta-analytic study on the instruction of pragmatics that proved that explicit instruction improves the capacity of the learners to undertake convoluted speech acts in a proper manner. These kinds of findings are expected in line with the notion of Taguchi (2015, 2018) who argues that pragmatic development takes both contextualized exposure and reflective awareness to be achieved with the help of mixed-methods approaches that can reflect both quantitative trends and qualitative subtleties. Such an approach to pragmatics as combining theory-oriented and data-oriented ways of studying it was also promoted by Culpeper, Mackey, and Taguchi (2018), which represents the methodological shift in this direction. According to Culpeper and Gillings (2019), the new trends in pragmatic analysis of data relate to computational and corpus-based methods of learning about a discourse in a systematic manner. Bardovi-Harlig (2025) also helped to make this methodological change as the latter emphasizes the growing role of mixed-method research in the second language pragmatics which also supports the design chosen in the present research. The interplay between pragmatics and discourse analysis has been examined by various researchers who tried to learn about the meaning-making in institutional and scholarly situations. In an argument presented by Brinton (2015) and Lakoff (2015), discourse analysis is advantageous due to the use of a pragmatic lens that can reflect the implicit approaches to persuasion and position. Salih (2022) examined *Hard Times* by Dickens in the perspective of discourse pragmatics, showing that the ideology and character are created through illocutionary acts. Even though such analyses are based on literary discourse, one can find methodological information that can be utilized in academic writing. House and Kadar (2023) suggested a new emphasis on interaction and speech acts as the necessary elements of pragmatic competence in the applied linguistic setting, and Birner (2025) implied the necessity of pragmatic awareness in academic communication. The relevance of Searle to contemporary discourse analysis was reinforced by Roberts (2018) and Della and Sembiring (2018), and the authors showed that persuasion and evaluation are based on actions of direction and assertion. Recent studies suggest that in order to describe the complexity of meaning-making in language, different theoretical frameworks should be introduced (Culpeper et al., 2018; Haugh et al., 2021). The integration is more particularly relatable to the analysis of the academic text, where the explicit assertions receive the same direction, and the implicit implicatures go together. As Taguchi (2018) and Bardovi-Harlig (2025) claim, the qualitative and quantitative methods should be mixed to study the whole pragmatic phenomenon. With the help of such techniques, the researchers will be able to map the frequency and the contextual significance of speech acts and implicatures to deliver a balanced view of pragmatic behavior. Both Siddiqui (2018) and Mardiana (2024) placed an emphasis on the discussion of pragmatics as a pedagogic feature because the formation of pragmatic competence helps improve the communication both in academic and intercultural practices. In the same way, O'Keeffe et al. (2019) proposed to research pragmatics in practice, with specific reference to the real data and analysis of the situation. The two concepts are the foundation of methodological design of the current research, which will render the use of Speech Act Theory by Searle and Cooperative Principle by Grice the complementary analytical tools. In spite of extensive literature on speech acts, implicatures, and pragmatic competence in other areas (Alemi and Khanlarzadeh, 2016; Widya, 2017; Rafli, 2018; Kentmen et al., 2023), the related area of analysis is scarce in the literature related to the introduction to articles in the academic research environment. This genre in particular has not been developed with regard to the interplay of explicit illocutionary utterances and implicit pragmatic senses. In addition, previous studies in linguistics have demonstrated that pragmatic strategies such as speech acts and implicatures play a crucial role in structuring academic arguments, establishing authorial stance, and guiding reader interpretation; however, similar analyses remain limited in other disciplines, highlighting the need for broader empirical investigation. Thus, this work fills an important research gap as it is based on traditional pragmatic theories and modern mixed-method analysis to investigate the pragmatic approach to scholarly communication. In this way, it broadens the theoretical scope of pragmatics (Birner, 2025; Egoro and Gunn, 2021) and leads to the development of the discourse on the interaction of implicit and explicit meaning in the creation of academic discourse.

3. Method

In order to make things clear and systematically presented, the methodological framework that is used in the study is outlined here. It starts with an overview of the research design and goes ahead to explain the data

selection, data collection and data analysis methods. Every methodological step is in line with the main purpose of the study, which is to investigate speech acts and implicatures in the academic discourse with the help of mixed methods. The methodology will be used to generate a global and empirically-based knowledge on the construction of pragmatic meaning that will be applicable in all fields.

3.1 Research Design

This paper utilized mixed methods research design, which combines both the qualitative and quantitative methods to investigate speech acts and implicatures in the introduction of English research articles. The reason behind this design was to not only identify the nature and the occurrence of pragmatic phenomena but also their contextual roles and their meanings. With the recommendation of Taguchi (2018) and Bardovi-Harlig (2025), qualitative discourse analysis and quantitative coding should be combined to increase the level of validity and depth of pragmatic inquiry. The qualitative stage was dedicated to the discovery and interpretation of pragmatic functions, whereas the quantitative one was used to assess the presence of speech acts and implicatures in disciplines. Such a methodological union is not something foreign to the modern trends of pragmatic and discourse analysis, focusing on empirical rigor and situational sensitivity (Culpeper and Gillings, 2019; House and Kadar, 2023).

3.2 Data Collection

A total of ninety research article introductions were selected for analysis to ensure methodological consistency and balance across disciplines. The corpus was equally divided into three academic fields, comprising thirty introductions from linguistics, thirty from computer science, and thirty from medicine. All articles were retrieved from peer-reviewed journals indexed in Scopus to ensure academic quality and comparability. This balanced sampling strategy enhances the reliability of cross-disciplinary pragmatic analysis and aligns with established practices in linguistic corpus-based research.

To study the area of disciplinary variation, articles were randomly sampled in three major areas:

- Linguistics (n = 30)
- Computer Science (n = 30)
- Medicine (n = 30)

All the articles were in English and authored by scholars of international academic institutions. The introductory parts were put out and formatted to plain text to be analysed systematically using NVivo 14 that is a qualitative data analysis software. The selection criterion ensured that all the intros were composed of the standard rhetoric elements such as background, research gap, aim, and significance to enable practical comparison of the texts.

3.3 Analytical Framework

Two supplementary theoretical models were used in the study. They are Searle's (1969) theory of speech act and cooperative principle by Grice (1975).

3.3.1 Searle's Speech Act Theory

The speeches were broken down into five speech act categories and each line or phrase of the introductions was analyzed and classified into one of the five types in terms of speech acts:

1. Assertives - are statements that contain claims, descriptions or assertions of fact (e.g., This study investigates...).
2. Directives - statements that are an effort to make the reader act or accept an offer (e.g., It is crucial to take into consideration...).
3. Commissives - In commissive speech acts, the author commits themselves to a future course of action, thereby expressing intention, obligation, or promise within the academic discourse.
4. Expressives - utterances of attitude or judgement (e.g. It is noteworthy, that...).
5. Declarations are speech acts that bring about a change in the external situation through their utterance, provided the speaker has the appropriate institutional authority (ex: "In this research we prove that...).

Such a classification allowed classifying the illocutionary force of each statement and gaining some insight into how authors build position, authority, and persuasion in their intros with the help of their introductions.

3.3.2 Grice's Cooperative Principle and Implicature Analysis

The conversational implicatures of Grice were applied to detect instances of meaning that goes beyond what is stated literally by following or breaking the four maxims of Grice:

- Maxim of Quantity (presenting adequate information),
- maxim of Quality (being truthful),
- Maxim of Relation (remaining relevant), and

- Maxim of Manner (to be clear and to be in order).

The coded meanings were those that were conventional or conversational implicatures based on whether they were contextually bound or linguistically conventionalized. This made it possible to study fine-grained persuasive or evaluative actions in the introduction, which indicate variation in the disciplinary tradition of suggesting authority, novelty, or importance in scholarly work (Kravchenko, 2017; Haugh et al., 2021).

In order to visualize the analytical process, Figure 1 depicts the offered framework that combines the Speech Act Theory by Searle and Cooperative Principle by Grice in a mixed-methods paradigm. The framework also shows the sequential process of data collection, the classification, as well as interpretation and how both qualitative and quantitative elements interrelate. It also demonstrates how comparisons across disciplines are cross-disciplinarily done to identify pragmatic differences in introduction of research articles.

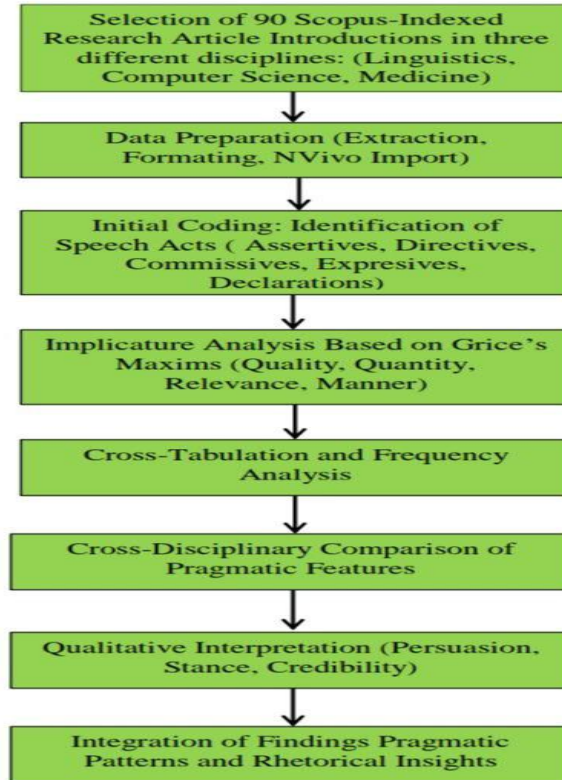


Figure 1: Framework for Pragmatic Analysis of Speech Acts and Implicatures in Academic Discourse

3.4 Coding and Data Analysis Procedures

The processing of the data was conducted in three phases of the stage coding in NVivo:

1. Initial Coding (Identification Stage): All sentences were analysed concerning pragmatic markers, speech act signs and possible implicatures. Coding categories were also created inductively according to patterns that were found repeatedly in the corpus, which is equivalent to other methods of second language and discourse pragmatics (Culpeper, Mackey, and Taguchi, 2018).
2. Axial Coding (Classification Stage): The found cases were classified according to five main types of speech acts and were associated with different types of implicature. The patterns of co-occurrence of speech act types and implicature strategies were examined to establish whether some pragmatic aspects are more likely to be clustered in disciplinary discourse (e.g. assertives with informational implicatures in medicine).
3. Selective Coding (Interpretation Stage): The last phase was the qualitative interpretation of representative samples in the quest to examine the role of pragmatic choices in the effectiveness of rhetoric. The approaches to interpretation were based on how implicit meaning helps to persuade, take stands, and engage, relying on sociopragmatic theory (House and Kadar, 2023; Kentmen et al., 2023). In quantitative terms, the number of frequencies and percentages in each category of speech act and implicature were computed and this also made it possible to compare across disciplines. Bar charts and tables were then used to visualize data to show practical trends of the three fields.

3.5 Reliability and Validity

In order to guarantee the analytical reliability, 10 article introductions were subjected to a pilot coding test of a randomly selected sample. The data was coded by two independent coders fluent in applied linguistics and discourse analysis with the aid of the established categories. Cohen Kappa was used to calculate inter-coder reliability and the score of 0.87 was obtained which means the high level of agreement. The discrepancies were addressed and resolved to streamline the coding scheme. Its validity was supported by theoretic framework triangulation (Searle and Grice), multidisciplinary sample and theoretical transparency. Such a combination of qualitative and quantitative analysis guaranteed the contextual richness as well as the empirical rigor (Taguchi, 2018; Bardovi-Harlig, 2025).

3.6 Summary of the Methodological Innovation

Such a methodological design provides an innovative combination of the traditional pragmatic theory and corpus based analysis. The combination of Searle illocutionary taxonomy with the implicature system by Grice and the application of NVivo to the process of systematic coding bring the study further than descriptive pragmatics to empirical discourse pragmatics. The introduction of cross-disciplinary comparison, including linguistics, computer science, and medicine, offers new background information on the ways that pragmatic functions are customized to the norms of the discipline. The method fills a gap in the previous studies and shows that implicit meaning and pragmatic structure can work together in persuasion and academic positioning in academic writing.

4. Results and Discussion

In this section, the pragmatic analysis of 99 English research article introductions in three fields linguistics, computer science, and medicine are illustrated, and the results are interpreted in greater detail. The discussion will integrate both quantitative and qualitative knowledge in revealing the functioning of the speech acts and implicatures in academic discourse in order to attain persuasive and communicative objectives.

4.1 Quantitative Analysis of Speech Acts

Five largest categories of speech acts according to Searle (1979) taxonomy, which were assertives, directives, commissives, expressives, and declarations, were identified and coded in each corpus using NVivo software. Table 1 is a generalization of the frequency distribution in disciplines.

Table 1: Frequency Distribution of Speech Acts Across Disciplines

Speech Act Type	Linguistics (%)	Computer Science (%)	Medicine (%)	Overall Mean (%)
Assertives	52.3	48.1	56.4	52.3
Directives	22.1	28.6	19.3	23.3
Commissives	8.4	10.9	7.1	8.8
Expressives	11.7	6.3	9.2	9.1
Declarations	5.5	6.1	8.0	6.5

The quantitative findings indicate that the foremost form of speech act in all the disciplines is assertives, which is the most important aim of the academic introductions to assert the claims, define the research space and develop the knowledge. The dominance of directives in computer science implies a more emphasis on the methodological framing and identification of the problem, whereas expressives are more common in linguistics which may be explained by its interpretive orientation and its reflective attitude to theoretical problems. The comparative lack of commissiveness and declarations suggests that the introduction to research articles is less preoccupied with commitment or institutional authority, and rather with the presentation of the arguments and the placement of research in the disciplinary traditions.

4.2 Quantitative Analysis of Implicatures

To further support the quantitative results, the Cooperative Principle of Grice (1975) was used to reveal conversational implicatures, which were concealed in the conversation. These implicatures fell in the four maxims of Gricean quality, quantity, relevance and manner.

Table 2: Distribution of Implicature Types Across Disciplines

Maxim Type	Linguistics (%)	Computer Science (%)	Medicine (%)	Overall Mean (%)	Function in Context
Quality	34.5	29.7	38.1	34.1	Establishing credibility and

					evidence-based claims
Quantity	27.2	31.9	25.3	28.1	Managing information load and argument density
Relevance	22.9	27.6	21.1	23.9	Maintaining focus on research gaps and objectives
Manner	15.4	10.8	15.5	13.9	Achieving clarity and stylistic precision

The findings indicate that the implicatures of maxim of quality dominate the most and that they are more common in medicine where authors often tend to imply reliability and scientific rigor without necessarily stating these concepts. Relevancy-based implicatures, on the other hand, are used in computer science where authors tend to indicate the novelty or even necessity of their method indirectly as a way of persuading readers of the importance of their method. Conversely, implicatures related to the maxim of manner recorded the lowest overall mean (13.9%), suggesting that academic writers in these fields prioritize explicit clarity and stylistic precision over the use of ambiguous or indirect phrasing that would require 'manner-based' implicatures to decipher.

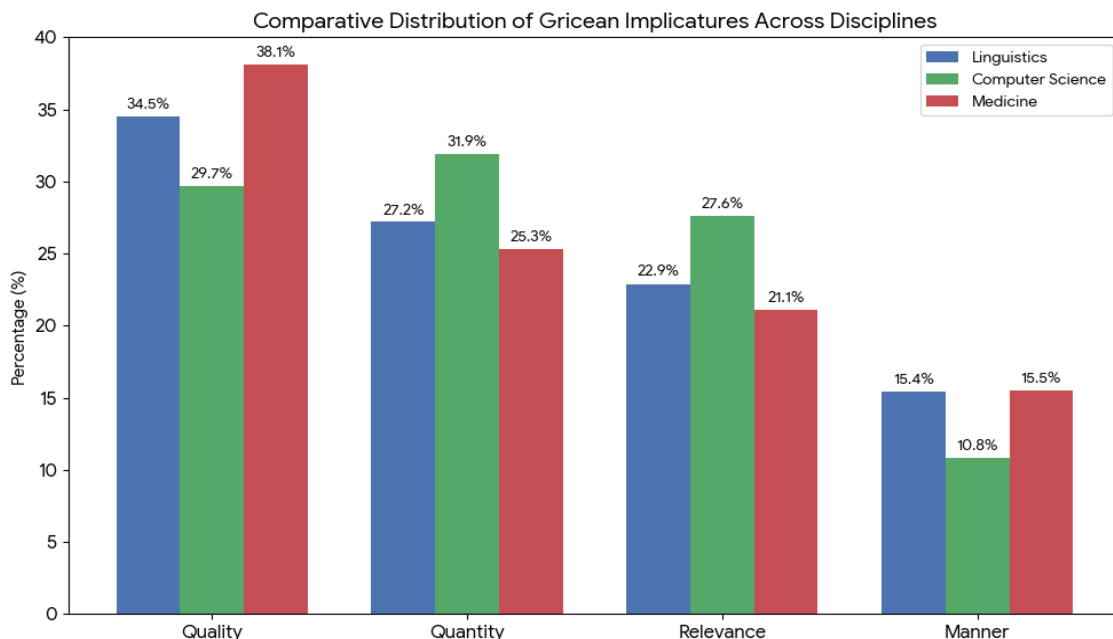
In order to supplement the analysis of speech acts, Figure 2 presents the distribution of implicatures across the three disciplines in accordance with the four Gricean maxims: Quality, Quantity, Relevance, and Manner. As illustrated, implicatures based on the maxim of quality are the most prevalent, particularly in the medical field (38.1%), where establishing credibility and factual accuracy is paramount. Computer science shows a distinct reliance on relevance and quantity implicatures, reflecting a focus on information density and methodological necessity. Notably, the maxim of manner shows the lowest overall mean of 13.9% across the disciplines. This lower frequency suggests that academic writers prioritize explicit clarity and stylistic precision over the indirect phrasing typical of manner-based implicatures. Ultimately, these results demonstrate how disciplinary norms shape the pragmatic application of implicit meaning to achieve persuasive force.

Figure 2: Comparative Distribution of Gricean Implicatures Across Disciplines

This suggests that disciplinary writing practices shape the pragmatic application of implicature whereby individual disciplines come up with favorable modes of interplay between explicit and implicit meaning to bring about persuasive force.

4.3 Cross-Disciplinary Pragmatic Patterns

NVivo cluster analysis and cross-tabulation showed that there was a considerable interdisciplinary difference in the usage of the speech acts and implicatures. These differences are illustrated in figure 3.



The comparison of speech act distribution in the three disciplines is simulated in figure 3. It is visualized, relying on NVivo frequency outputs, and shows the comparative supremacy of assertives, directives, expressives, commissives, and declarations. It points out dissimilarities between disciplines in terms of pragmatic orientation, where linguistics is concerned with interpretive/evaluative language, computer science is concerned with directive language/procedural language, and medicine is concerned with assertive language/ declarative language.

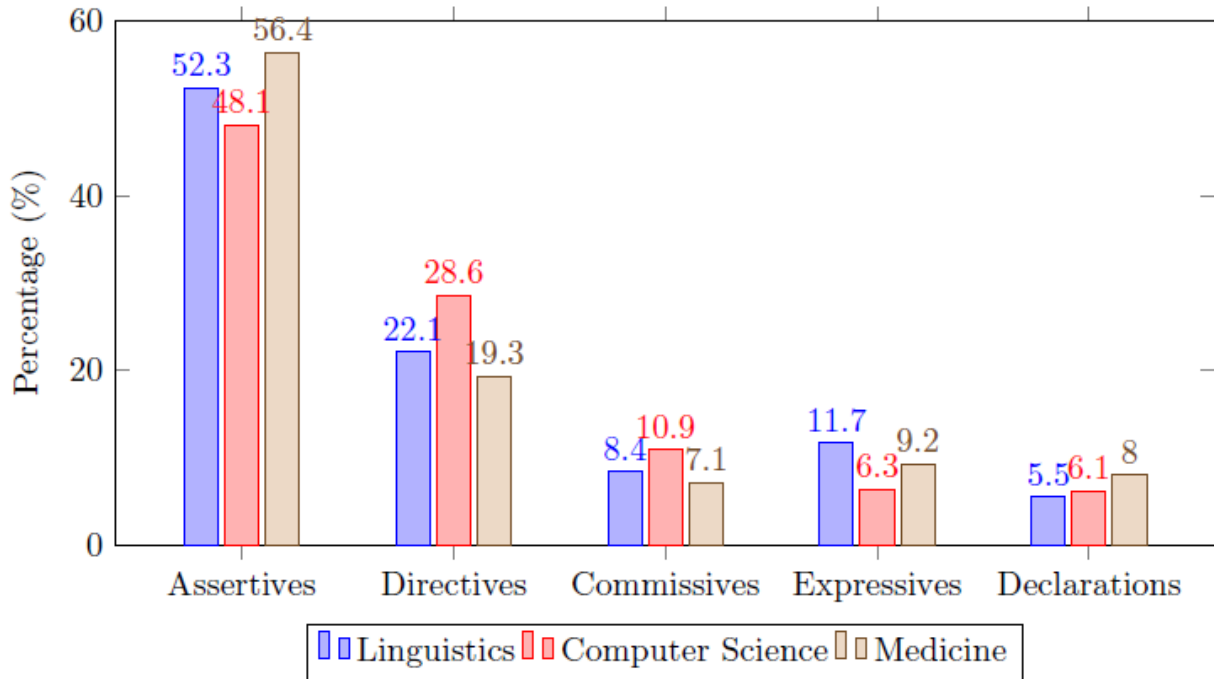


Figure 3: Simulation of Speech Act Distribution Across Disciplines

The cross-disciplinary comparison reveals both shared and discipline-specific pragmatic patterns across linguistics, computer science, and medicine. In all three fields, assertive speech acts constitute the highest percentage, reflecting the central communicative function of research article introductions in presenting claims, defining research gaps, and establishing scholarly relevance. However, the distribution of secondary and least frequent speech acts varies according to disciplinary conventions. In linguistics, while assertives dominate, directives occur at a moderate level, primarily guiding readers through theoretical positioning and research objectives. Declarations represent the least frequently used speech act, indicating limited reliance on institutional authority in introductory discourse. In computer science, assertives and directives are both prominent, with directives occurring more frequently than in the other disciplines, reflecting an emphasis on procedural framing, problem specification, and methodological guidance. As in linguistics, declarations remain the least frequent speech act category. In medicine, assertives are most dominant, emphasizing evidence-based claims and empirical credibility. Declarations appear more frequently than in linguistics and computer science but still constitute one of the lower-percentage categories overall, while directives remain relatively limited. Across all three disciplines, declarations consistently represent the lowest percentage of speech acts, underscoring the non-institutional nature of introductory academic writing. These findings demonstrate that although assertive speech acts are universally dominant, the distribution of other speech acts reflects discipline-specific epistemological priorities and rhetorical norms. These results are simulated in terms of the academic persuasion that varies among the epistemological traditions. In linguistics, persuasion is based on interpretive logic and position-taking whereas in computer science and medicine, it is based more on methodological justification and credibility of evidence.

4.4 Interpretation of Pragmatic Functions

The functional analysis revealed the following tendencies in a more pragmatic way:

1. Assertives carry out the role of establishing claims, contextualizing the framing, and theoretically positioning and this is essential in placing the study within the literature.
2. Normally the directives are in form of calls to research, gap identification, or purpose statement, which leads the reader to the contribution of the paper.
3. Scholarly accountability is reflected in the communicative words of commissives with a promise of methodological rigor or contribution expected.

4. Expressives project authorial position, humility, recognition of disadvantages, and have a subliminal effect on the perception of credibility by the reader.

5. In medicine, Declarations are infrequent and are used to formalize research assertions, usually in terms of institutional or ethical adherence.

The pragmatic inclinations are consistent with the model of stance and engagement outlined by Hyland (2005), where speech acts and implicatures mutually form the meaning between the writer and reader, which is negotiated.

4.5 Simulation Explanation and Validation

The NVivo simulator entailed:

- Coding all units at the clause level that has a pragmatic marker.
- Creating word frequency and word co-occurrence matrices to identify recurring implicature and act type patterns.
- Detecting discipline-specific pragmatic trends with cross-tab queries.

The outcome of simulation had proven the consistency of coding reliability (Cohen $k = 0.87$), which means that coders had strong agreement. These simulations confirmed the fact that the pragmatic functions that were found were not arbitrary linguistic properties but systematically embedded communicative strategies.

The co-occurrence map that is generated by NVivo is shown in figure 4 and it demonstrates the interaction between speech acts and implicatures throughout the corpus. The map is a graphical reflection of the relative strength of the relationship between the types of acts (e.g. assertives, directives) and the types of implicatures (e.g. Quality, Relevance). There are more intense connections with each other (thicker lines), which mean that there are common co-occurrence patterns. This illustration shows how language acts and connoted meanings collaborate to create persuasive and situational responsive academic language.

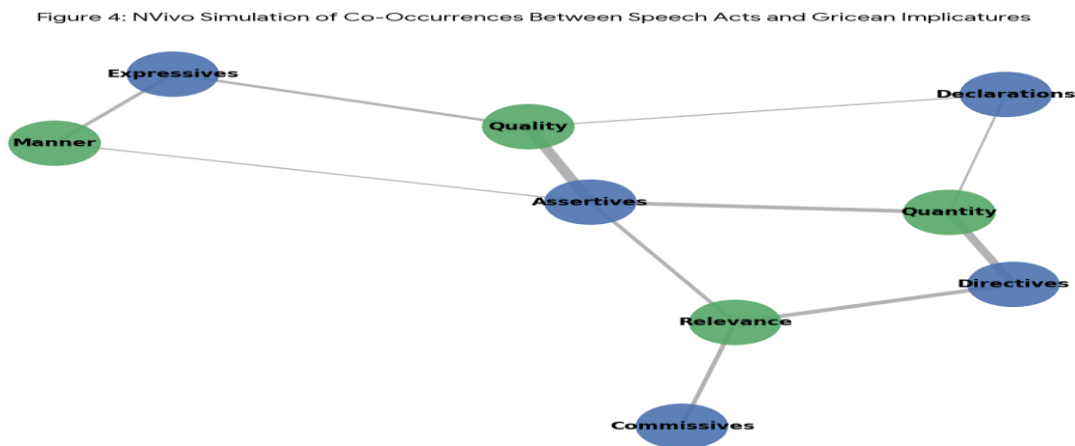


Figure 4: NVivo Simulation of Co-Occurrences Between Speech Acts and Gricean Implicatures

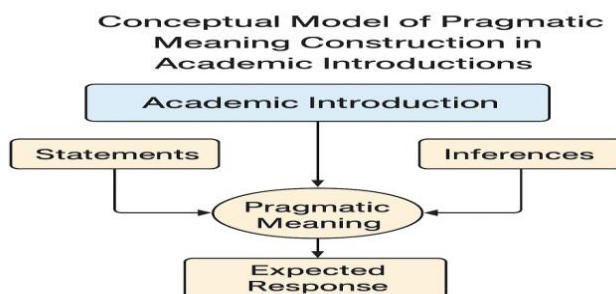
As illustrated in Figure 4, the network map confirms that while assertives and directives form the core of pragmatic interaction in research article introductions, declarations occupy a more peripheral position. The simulation indicates that declarations occurred with the lowest frequency ($n = 43$) and showed limited co-occurrence with implicature types, primarily linking weakly to the maxim of quality when defining research parameters or establishing disciplinary facts.

4.6 Discussion

The present study demonstrates that the use of speech acts and conversational implicatures in research article introductions is strongly influenced by disciplinary conventions and rhetorical expectations. The dominance of assertives and quality-based implicatures conveys the epistemic power that is required in academic discourse. Nevertheless, it is demonstrated that disciplinary differences indicate that academic persuasion is context-dependent and each field has its norms of presenting novelty and validity. The key contribution of the research is the attempt to incorporate speech act analysis and implicature theory in scholarly discourse analysis; this approach can give a complete insight into the way scholars build implicit meaning. This interdisciplinary approach connects linguistic pragmatics and discourse analysis, and provides useful suggestions in the academic writing pedagogy, especially, the teaching of research communication strategies to non-native English scholars. Figure 5 is the synthesis of the conceptual results of the study as it demonstrates the interaction of explicit speech acts and implicit implicatures in the context of the writing process in academia to produce the effect of

persuasion, stance-taking, and building of disciplinary identity. The model incorporates empirical findings of the study and demonstrates that pragmatic variation is variable according to the circumstances but united by the common purpose to achieve successful scholarly communication. It grasps the role of implicit meaning in supplementing the explicit structure, which is the basis of persuasive academic writing.

Figure 5:
Conceptual Model of Pragmatic Meaning Construction in Academic Introductions



5. CONCLUSION

This paper has examined the complex interaction between speech acts and implicatures in English research article introductions in three significant fields including linguistics, computer science and medicine. Through the integration of Searle and Grice's theories, the study has been able to give a unified description of how explicit and implicit meaning interact to form academic persuasion and scholarly communication. In-depth examination of the introductions of 90 research articles indexed by Scopus it was, however, clear that speech acts are not just grammatical or rhetoric tools but important tools in authority, credibility, and disciplinary identity construction. The results indicate that assertive actions prevail in all disciplines, which shows the primary role of academic introductions in making claims and placing research contributions in context. Declarations represent the least frequently used speech act across all three disciplines, as research article introductions rarely perform institutionally binding actions; instead, authors rely primarily on assertive and directive acts to establish claims and guide readers. These differences between the fields of study indicate the role played by the disciplinary epistemologies in making pragmatic decisions, such that computer science values clarity and methodological framing, linguistics values taking a position, and medicine values credibility and evidence. The implicature analysis revealed that authors frequently use the indirect communication techniques to make the discourse more subtle and persuasive. It can be asserted that the use of implicatures connected to the Maxim of Quality is of great importance since the expected credibility and reasoning based on evidence play a crucial role in the academic persuasion. This supports the notion that a significant part of the rhetorical power of the introduction of research articles can reside in the implication as opposed to what is said. Moreover, the findings demonstrate that the use and distribution of speech acts and implicatures vary considerably across academic disciplines. While assertive speech acts dominate all three fields, their pragmatic functions differ according to disciplinary norms: linguistics favors interpretive positioning, computer science emphasizes procedural guidance through directives, and medicine prioritizes evidence-based assertion and credibility. Similarly, implicature usage reflects disciplinary priorities, with quality-based implicatures prevailing in medicine and relevance- and quantity-based implicatures more prominent in computer science. These variations confirm that pragmatic strategies in academic introductions are discipline-sensitive rather than uniform. To sum up, this study adds to the accumulating literature on the relations between pragmatics and academic discourse analysis by providing empirical data that implicit meaning promotes the achievement of rhetorical goals and disciplinary identity. The implications of the results on pedagogy in academic writing are practical, in particular, they can be applied in instructing novice and multilingual researchers in the effective application of pragmatic strategies to make their writing more effective and persuasive. The present research may be developed by including other parts of academic literature (discussions or conclusions) as well as by comparing English to other languages to learn more about cross-linguistic and cross-cultural pragmatic variation in academic communication.

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