

Semantic and Codematic Comparisons of Introduction Sections in Academic Papers across Different Disciplines from the Perspective of Legitimation Code Theory

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Abstract: This study has shown how analyzing the semantics and codematics of introduction sections in academic papers reveals important differences between disciplines in how knowledge claims are constructed. By applying Legitimation Code Theory, we've gained a deeper understanding of how disciplinary norms shape writing conventions and influence how knowledge is presented and validated. Comparing different fields revealed the unique ways in which epistemological values and research expectations impact the structure and content of introductions. These differences reflect the broader intellectual traditions and the specific standards for validating knowledge in each discipline. Through this analysis, we gain a clearer understanding of how disciplinary identities are shaped through language, and how these conventions reflect the cognitive and social practices that guide academic writing. Overall, the findings contribute to our understanding of academic writing as a socially embedded practice, influenced by both epistemological frameworks and the legitimizing structures of individual disciplines. Future research could examine how these patterns evolve over time or explore how other sections of academic papers, such as literature reviews or conclusions, show similar semantic and codematic distinctions across disciplines.

1. Introduction

The introduction section of an academic paper is vital for setting the stage, outlining the purpose, and highlighting the importance of the research. However, the presentation of these aspects varies significantly across academic fields, influenced by each discipline's unique norms, expectations, and underlying epistemological values. This paper examines the semantic and codematic characteristics of introduction sections from academic papers across different disciplines, using Legitimation Code Theory (LCT) to explore how disciplinary conventions shape writing styles and the process of legitimizing knowledge. LCT, which focuses on the relationship between language and knowledge, offers a framework for understanding how disciplines construct and validate knowledge claims in their introductory sections. Through a comparative analysis, this study reveals

the distinct ways academic writing is shaped by disciplinary norms and practices, showing how choices in language and structure reflect deeper epistemological beliefs. The findings underscore the influence of disciplinary context on the organization and presentation of academic arguments, with broader implications for research communication and the dissemination of knowledge. Ultimately, the study aims to enhance our understanding of how language, discipline, and knowledge construction intersect in academic writing.

2. Semantic and codematic comparisons reveal distinct disciplinary approaches to constructing introduction sections in academic papers

The introduction section of an academic paper plays a crucial role in establishing the context, purpose, and significance of the research. However, the way in which these elements are presented varies considerably across disciplines, reflecting the unique norms, expectations, and epistemological values inherent in each field. This paper explores the semantic and codematic features of introduction sections in academic papers from various disciplines, drawing on Legitimation Code Theory (LCT) to examine how disciplinary conventions shape writing styles and knowledge legitimation [8]. LCT, with its focus on the relationship between knowledge and language, provides a framework for understanding how different disciplines construct and legitimize knowledge claims in their introductory sections (see table 1).

Table 1: The core contents of Legitimation Code Theory

Knowledge Structures	Codes of Legitimation	Specialization and Differentiation	Boundary Work
Pedagogical Implications	Power Dynamics	Identity Formation	Societal Impact

Through a comparative analysis, this study highlights the distinctive ways in which academic writing is shaped by disciplinary norms and practices, revealing how semantic and codematic choices reflect deeper epistemological assumptions. The findings emphasize the role of disciplinary contexts in influencing the structure and presentation of academic arguments, shedding light on the broader implications for research communication and knowledge dissemination. Ultimately, this study aims to contribute to a better understanding of the interplay between language, discipline, and knowledge construction in academic writing.

2.1 The introduction section plays a crucial role in establishing the context, purpose, and significance of the research

The introduction section of an academic paper serves as the first point of engagement for readers, setting the stage for the rest of the paper. By outlining the background, objectives, and research questions, the introduction provides the necessary framework for understanding the scope of the study. In many cases, it also highlights the research gap that the paper aims to address, giving readers a clear sense of why the study is important and what it seeks to contribute to the existing body of knowledge [12]. As such, the introduction is an essential component of academic writing, as it shapes the reader's expectations and guides their understanding of the research.

However, the way in which these elements are presented varies considerably across disciplines. Each academic field has its own set of conventions and norms that govern the structure and style of writing. These differences reflect the unique epistemological values and methodological approaches that are inherent in each discipline. For instance, in the humanities, the introduction may focus more on theoretical frameworks and literature reviews, while in the sciences, it is often more centered around hypotheses, research methods, and expected outcomes. These variations highlight the diverse ways in which knowledge is constructed, communicated, and legitimized within different academic traditions.

This paper explores the semantic and codematic features of introduction sections in academic papers from various disciplines. Semantic features refer to the content and meaning conveyed in the introduction, such as the use of key terms, concepts, and the overall structure of the argument. Codematic features, on the other hand, involve the linguistic choices and conventions that shape how the content is presented. By examining these elements, the paper seeks to shed light on how different academic communities construct their introductory sections and establish credibility for their research. Drawing on Legitimation Code Theory (LCT), the study analyzes how these semantic and codematic features align with disciplinary expectations and contribute to the legitimation of knowledge.

2.2 LCT provides a robust framework for understanding in their introductory sections

LCT, with its focus on the relationship between knowledge and language, provides a robust framework for understanding how different disciplines construct and legitimize knowledge claims in their introductory sections. According to LCT, knowledge is not just a set of facts but is also shaped by the way it is expressed and validated through language. By focusing on both the semantic (meaning) and codematic (code) dimensions of academic writing, LCT allows for a detailed examination of how specific linguistic choices contribute to the authority and legitimacy of knowledge claims in academic papers (see table 2).

Table 2: The advantages of Legitimation Code Theory in analyzing abstracts

Understanding Knowledge Structures	Identification of Legitimation Codes	Boundary Work Analysis	Pedagogical Insights
Power Dynamics	Identity Construction	Cultural and Social Context	Clarity in Communication

This framework offers valuable insights into the complex interplay between language, knowledge, and discipline, providing a deeper understanding of how academic writing functions as both a communicative and epistemological tool. Through a comparative analysis, this study highlights the distinctive ways in which academic writing is shaped by disciplinary norms and practices. By comparing introduction sections from papers across different fields, the study reveals how academic writing is not a monolithic practice but rather a diverse set of conventions that vary according to the goals and values of each discipline [15]. For example, while the introduction in a social sciences paper may emphasize the social relevance of the research, the introduction in a natural sciences paper may be more focused on the technical aspects of the research design. These differences underscore the role of disciplinary norms in shaping the structure and content of academic arguments.

The findings emphasize the role of disciplinary contexts in influencing the structure and presentation of academic arguments. The way in which researchers introduce their studies, frame their research questions, and justify their approach is deeply influenced by the disciplinary context in which they are writing. These contextual factors not only determine the content of the introduction but also shape how knowledge is framed, communicated, and legitimized. Understanding these influences is crucial for scholars who seek to navigate the complex landscape of academic writing and communicate their research effectively to a wide range of audiences. Ultimately, this study aims to contribute to a better understanding of the interplay between language, discipline, and knowledge construction in academic writing. By examining how different disciplines construct their introduction sections, the study provides insights into the broader processes of knowledge production and dissemination. It highlights the ways in which disciplinary conventions shape the way research is presented and how knowledge is constructed, communicated, and accepted within academic communities. This understanding is essential for anyone involved in academic writing, as it illuminates the complex dynamics between language, discipline, and the

production of knowledge in the academic world.

3. Legitimation Code Theory offers insights into how disciplinary norms shape academic writing styles and conventions

Legitimation Code Theory (LCT), developed by linguists and sociologists such as Maton, provides a robust framework for understanding how knowledge is constructed, transmitted, and legitimized across different disciplines. One of the central tenets of LCT is that academic writing is not merely a neutral or transparent conveyance of information, but is rather shaped by social practices, epistemological structures, and cultural norms. These norms are often discipline-specific and inform the ways in which knowledge claims are presented, substantiated, and recognized [5]. LCT, therefore, offers valuable insights into the underlying mechanisms that shape academic writing styles and conventions, particularly in the introduction sections of academic papers.

LCT posits that knowledge itself is not uniform but is instead structured according to varying degrees of complexity and integration. In this sense, different disciplines prioritize different ways of organizing, presenting, and legitimizing knowledge. In academic writing, these differences are most evident in the genre conventions of various disciplines. Legitimation, according to LCT, involves the process by which knowledge claims are validated and accepted within specific communities of practice. This process can be analyzed through a comparison of both semantic and codematic structures in writing, with a particular focus on how knowledge is positioned, constructed, and validated in introductory sections of academic papers.

3.1 LCT views knowledge structures as guides for academic text production

One key concept within LCT is the idea of 'knowledge structures', which refers to the underlying configurations of knowledge that guide how disciplinary communities produce and evaluate academic texts. These structures are composed of semantic codes and codematic codes. Semantic codes are concerned with the meanings that are conveyed through the use of language, while codematic codes refer to the ways in which these meanings are organized and communicated in relation to disciplinary expectations. These two types of codes interact to establish the specific writing practices that are characteristic of each discipline. In the context of academic introductions, these codes play a critical role in determining how scholars position their work within the broader field of knowledge. For example, in the natural sciences, introductions often emphasize the identification of a research gap or problem, the establishment of a hypothesis, and the presentation of empirical evidence [6]. The language used in these sections tends to prioritize clarity, precision, and objectivity, with an emphasis on describing observable phenomena and establishing the relevance of the research question. This reflects the epistemological values of the discipline, which prioritize empirical verification and systematic inquiry. The codematic structures in these papers typically adhere to a clear and concise format, where each element of the introduction is carefully structured to follow a logical progression from the identification of the problem to the formulation of the research question.

In contrast, in the humanities and social sciences, the introduction sections may place more emphasis on framing the research within a theoretical or historical context. Here, the focus is often on positioning the study within ongoing scholarly debates, drawing on existing literature, and critically analyzing different perspectives. In these disciplines, the introduction may feature a more complex and varied structure, with multiple voices and perspectives being introduced to highlight the significance of the research. The use of language in these introductions may be more interpretative and subjective, reflecting the discipline's emphasis on analysis, critique, and theoretical exploration. Codematic structures in these papers often allow for more flexibility in how

ideas are presented, with a greater emphasis on argumentation and the articulation of the researcher's stance.

3.2 LCT's legitimization codes govern knowledge acceptance/rejection in specific fields

Another important aspect of LCT is the concept of 'legitimation codes', which are the social mechanisms that govern how knowledge is accepted or rejected within a particular field. These codes help to define what counts as valid knowledge and how knowledge claims are justified. In academic writing, the legitimization codes for different disciplines can be understood as the criteria by which knowledge is evaluated and recognized. For example, in the hard sciences, the primary legitimization code is empirical verification. Knowledge claims are deemed valid if they can be empirically tested and supported by data [1]. In contrast, in fields such as philosophy or literary studies, knowledge claims may be legitimated through logical reasoning, theoretical coherence, or historical significance. These varying legitimization codes shape the way academic introductions are constructed, with different disciplines prioritizing different forms of evidence and justification. The structure of academic introductions can therefore be seen as a reflection of these underlying legitimization codes. In the sciences, for instance, the introduction often begins with a clear statement of the research problem, followed by a review of existing literature that highlights the gap in knowledge. The introduction then transitions into the research objectives and the hypothesis, culminating in a discussion of the expected results. This structure is designed to establish the credibility of the research by demonstrating its alignment with empirical practices and its potential to contribute to the body of scientific knowledge. The legitimization code in this case emphasizes the importance of empirical evidence, clarity, and the systematic testing of hypotheses.

In contrast, in disciplines such as sociology or cultural studies, the introduction may begin with a more expansive discussion of the broader social or theoretical context in which the research is situated. This is followed by a review of relevant literature, which may draw on a range of theoretical frameworks and empirical studies. The introduction may then outline the research questions, followed by a discussion of the methodology and theoretical approach. In these fields, the legitimization code places greater emphasis on theoretical innovation, critical engagement with existing scholarship, and the articulation of a unique research perspective. The introduction is often more discursive, as it aims to demonstrate the researcher's ability to engage with and contribute to ongoing intellectual debates. The differences in the ways knowledge is legitimated across disciplines are also reflected in the linguistic features of academic introductions. In fields where empirical verification is prioritized, introductions tend to use more formal, impersonal language, with a focus on objective description and factual representation. In contrast, in fields where theoretical engagement is more prominent, introductions may use more evaluative language, with a focus on presenting different viewpoints and engaging with complex ideas. These linguistic choices reflect the distinct epistemological values of each discipline and the different ways in which knowledge is constructed and legitimized.

3.3 LCT defines epistemic access as entry to field's discursive practices

LCT emphasizes the role of 'epistemic access', which refers to the ways in which individuals gain entry into the discursive practices of a particular field. Different disciplines have different expectations for how knowledge should be presented, and these expectations often reflect broader social and cultural norms. The introduction section plays a key role in this process, as it serves as a gateway for establishing the legitimacy of the research and gaining access to the disciplinary community. By examining the semantic and codematic features of academic introductions, we can gain valuable insights into how disciplinary norms shape the writing practices that govern academic

discourse [4]. LCT (Legitimate Conceptual Theory) places significant importance on the concept of 'epistemic access,' a term that refers to the various ways individuals are able to enter and participate in the discursive practices specific to a particular academic field. This notion highlights how the methods through which knowledge is gained and shared are not uniform but rather are deeply tied to the conventions and expectations of different disciplines. Each field has its own set of criteria for how knowledge should be presented, and these expectations are influenced by the broader social and cultural norms that shape the field's identity.

Understanding these norms is crucial, as they inform how academic work is perceived, evaluated, and accepted within the community. For example, what is considered legitimate knowledge in one discipline might be viewed as irrelevant or untrustworthy in another. This variability underscores the importance of understanding the specific rules and expectations that govern the way knowledge is constructed and communicated within a particular academic tradition. The introduction section of an academic paper is especially critical in this context. It serves as a gateway not only for introducing the topic at hand but also for establishing the credibility and legitimacy of the research. In many cases, the introduction functions as a tool for positioning the research within a larger disciplinary framework, showing how it aligns with or challenges existing theories, methods, or debates. This positioning is vital for gaining access to the disciplinary community and for persuading readers of the research's value and relevance.

By closely examining the semantic and codematic features found in academic introductions, we can gain important insights into how these texts reflect and reinforce the specific writing practices and conventions of a discipline. These features include the vocabulary used, the structuring of arguments, and the ways in which sources and prior research are cited. By analyzing how these elements are employed, we can better understand how disciplinary norms shape the expectations for what constitutes scholarly writing and how new contributions to the field are framed. Through such an analysis, it becomes clear that the introduction is not just a summary of the research but a strategic entry point into the larger conversation within the discipline [13]. Legitimation Code Theory offers a powerful framework for understanding how disciplinary norms shape academic writing styles and conventions. By analyzing the semantic and codematic structures of academic introductions, we can gain a deeper understanding of how knowledge is constructed, legitimized, and transmitted across different disciplines. These insights not only help us to appreciate the diversity of academic writing practices, but also shed light on the broader epistemological values and social mechanisms that underlie academic discourse.

4. The analysis highlights variation in how different disciplines legitimize knowledge claims in introductory sections

The analysis reveals notable variation in how different academic disciplines legitimize knowledge claims in the introduction sections of their papers, and this variation reflects the epistemological and cultural values specific to each field. The role of the introduction section in any academic paper is to frame the research question, establish the context, and justify the study's contribution to existing knowledge. However, the manner in which these objectives are achieved is highly influenced by the norms, expectations, and conventions prevalent within a particular discipline. This section explores the key differences in the strategies employed by scholars from various fields to assert the legitimacy of their knowledge claims.

4.1 Academic writing varies in semantic and codematic dimensions

At the core of these variations lies an important distinction between two key dimensions of academic writing: the semantic dimension and the codematic dimension. The semantic dimension

primarily focuses on the content and the meaning that is conveyed within the introduction of a piece of academic work. This includes how the research problem is clearly defined, as well as the ways in which the significance or importance of the research is framed for the reader. In other words, the semantic dimension deals with what is being communicated and why it matters in the context of the study. The codematic dimension refers to the structural and linguistic choices that shape how knowledge claims are presented within the text (see table 3).

Table 3: The characteristics of academic writing that vary in semantic and codematic dimensions

Specialized Vocabulary	Complex Syntax	Formal Register	Objective Tone
Citation and Referencing	Logical Organization	Critical Analysis	Consistent Style Guidelines

This encompasses the various rhetorical strategies employed by the writer, the specific language structures chosen, and the overall organizational patterns that help to establish the credibility of the research. Essentially, the codematic dimension governs the form and style through which the content is delivered, ensuring that the presentation aligns with disciplinary conventions and expectations. To better understand these differences, Legitimation Code Theory (LCT) serves as a valuable analytical framework. LCT offers insights into how particular disciplinary practices are both a reflection of and a reinforcement for the deeper epistemological foundations that underpin each academic field [10]. By using this theoretical lens, researchers can examine how the interplay between semantics and codematics contributes to the unique ways knowledge is constructed and legitimized across different disciplines.

In some disciplines, particularly in the natural and physical sciences, knowledge claims in the introduction are typically framed as objective truths or discoveries. The introduction often follows a clear, linear structure that builds from established knowledge toward the research question. In these fields, there is a strong emphasis on empirical evidence, reproducibility, and the generalizability of results. The legitimacy of knowledge claims is often derived from adherence to scientific methods and the ability to produce objective, verifiable findings. For example, in disciplines like chemistry or physics, the introduction may begin with a broad discussion of fundamental principles, narrowing down to the specific problem at hand. The researcher's role is portrayed as one of discovering or verifying objective truths about the natural world, with little emphasis on the researcher's subjectivity or theoretical framework. In the humanities and social sciences, knowledge claims are often framed within a more interpretive and subjective context. The introduction in these fields typically includes a detailed discussion of theoretical frameworks, historical context, and ongoing debates. Rather than positioning the research as an objective inquiry into universal truths, the introduction often highlights the ways in which the researcher's perspective or theoretical lens influences the research process. In fields like sociology, philosophy, or literary studies, legitimacy is granted through the engagement with existing theories and the demonstration of how the new study contributes to or challenges prevailing intellectual paradigms. The introduction is therefore not just about positioning the research question, but about asserting its relevance within a specific intellectual tradition. Knowledge claims in these disciplines are often legitimized through the researcher's ability to engage with and critique existing literature, offering a new perspective or interpretation rather than an empirical confirmation of pre-existing ideas.

4.2 Economics vs. anthropology highlights semantic-codematic contrast

A particularly striking example of the difference between academic disciplines can be observed when comparing fields such as economics and anthropology. These two areas of study approach knowledge and research in distinct ways, which is reflective of their different intellectual traditions and methodologies. Economics, particularly in the subfield of microeconomics, heavily relies on quantitative analysis and mathematical modeling to formulate and support its claims [3]. In this

discipline, the core focus is on constructing models that are mathematically precise and capable of predicting economic behaviors with a high degree of accuracy. These models are often designed to represent complex economic systems through simplified assumptions, and they require a level of mathematical sophistication that is not typically emphasized in other fields like anthropology (see table 4).

In the context of economic research, the introduction of a paper usually begins by identifying a gap in the existing literature. Researchers acknowledge that certain aspects of economic behavior or market dynamics have not been fully understood or explained, and they present their work as a solution to this gap. However, unlike in other disciplines where the introduction might explore various qualitative aspects of a problem, in economics, the primary emphasis is on how the proposed model or analysis can enhance the accuracy or reliability of conclusions drawn about the issue at hand. This sets the stage for the more technical discussion of methodologies that will follow, which is often the focal point of the entire paper. The legitimacy of the knowledge claims made in economic research is closely tied to the strength of the methodology employed. Economists place a premium on the robustness of their models and the rigor of their data analysis. The more mathematically sound and empirically supported the methodology, the more convincing the research findings are considered to be. In fact, much of the value of an economic paper is measured by how well it improves or refines existing models or theories. New economic insights are often evaluated not just by their novelty, but by how they contribute to making existing models more precise and applicable to real-world scenarios. Thus, economic knowledge is often advanced through incremental improvements, with an emphasis on quantitative rigor and predictive power.

Table 4: Differences in the semantic-codematic contrast highlighted by economics & anthropology

Specialized Terminology	Theoretical Frameworks	Citation Practices	Objectivity vs. Subjectivity
Methodological Approaches	Narrative Styles	Audience and Purpose	Language Registers

4.3 Anthropology takes a more qualitative approach to knowledge construction

The introduction to an anthropological paper may begin with a detailed exploration of the cultural or social context in which the study is situated, followed by a discussion of how the researcher's positionality and perspective shape the research process. The legitimacy of knowledge claims in anthropology is often tied to the researcher's ability to interpret and make sense of the complexities of human behavior, emphasizing the subjective nature of knowledge and the importance of context[14]. Here, the introduction serves not just to present a research problem but to position the researcher within a particular intellectual tradition, drawing on concepts such as ethnography or participant observation to justify the chosen approach.

The variation in how knowledge claims are legitimated is also apparent when examining disciplines that engage with interdisciplinary or applied research. In fields like engineering, for example, the introduction will often highlight the practical implications of the research, framing the knowledge claim in terms of its potential to solve real-world problems or improve technological outcomes. The legitimacy of the research is often rooted in its applicability and utility, with the introduction providing a clear rationale for how the findings could be translated into practical solutions. Engineering papers, especially those involving design or innovation, may prioritize a problem-solving framework that demonstrates how the research advances technical knowledge and contributes to societal progress. This focus on applicability distinguishes engineering introductions from those in more theoretical disciplines, where the legitimacy of knowledge claims may be less focused on practical outcomes and more concerned with advancing theoretical understanding or intellectual debate. The introduction in disciplines like law or political science may place greater emphasis on the normative and ethical dimensions of the research [2]. Knowledge claims in these

fields are often legitimated through their potential to influence policy, challenge existing laws, or propose new frameworks for governance. The introduction typically provides a critical analysis of existing legal or political structures, situating the research within broader societal issues. Here, the legitimacy of the research is often derived from its potential to contribute to meaningful social change or reform, positioning the researcher not just as an objective observer, but as an active participant in the shaping of public discourse.

Across all disciplines, there is also a growing trend toward emphasizing the interdisciplinary nature of academic work. In fields like environmental science, for example, knowledge claims are increasingly framed in terms of their ability to bridge multiple disciplinary perspectives, combining insights from biology, economics, and policy studies. The introduction to such papers often seeks to legitimize the research by highlighting the integrative approach taken and the ways in which the study brings together diverse sources of knowledge to address complex, multifaceted problems. In these cases, legitimacy is not just a function of disciplinary norms but also of the ability to synthesize knowledge from multiple domains and present it in a coherent, interdisciplinary framework. Overall, the analysis highlights that the ways in which knowledge claims are legitimized in academic introductions are deeply influenced by the disciplinary contexts in which they are produced. These variations reflect the differing epistemological commitments, values, and conventions that shape academic writing across fields. In some disciplines, knowledge is presented as objective, universal truth, while in others, it is framed as context-dependent and shaped by the researcher's perspective. The role of the introduction is to establish the legitimacy of the research, but the strategies for doing so vary greatly depending on the disciplinary context. Understanding these differences provides valuable insights into the complex ways in which academic disciplines construct knowledge and the rhetorical strategies employed to assert the validity of new research.

5. Semantic and codematic differences in introductions reflect underlying epistemological values and disciplinary expectations in research

The introduction section of an academic paper serves as a critical entry point to the research, shaping how the study is positioned within its respective discipline. This section not only outlines the research problem and objectives but also reflects deeper epistemological values and disciplinary norms. While academic writing across disciplines shares certain structural conventions, it is also influenced by unique ways of knowing and legitimizing knowledge in different fields. Drawing on Legitimation Code Theory (LCT), this paper investigates the semantic and codematic differences in the introduction sections of academic papers across various disciplines [7]. By examining how language is used to establish authority, justify research, and present knowledge, we aim to explore how disciplinary expectations shape the communication of scholarly work. Through this analysis, we seek to provide insight into the broader relationship between language, discipline-specific epistemologies, and the practices of legitimation in academic discourse (see table 5).

Table 5: Main manifestations of semantic and codematic differences in the introduction sections

Research Problem Statement	Audience and Language Register	Research Questions/Hypotheses	Theoretical Frameworks
Purpose and Significance	Research Methodology	Literature Review	Structure and Organization

5.1 Academic paper introductions set research context in their field

The introduction section of an academic paper plays a pivotal role in framing the research within the context of its respective field. It sets the stage for the entire study, providing readers with essential background information and guiding them through the rationale behind the research. The

introduction is not just a simple summary of the topic; it serves as the entry point for understanding the objectives and significance of the study, providing the intellectual framework that underpins the entire work. In this way, it functions as a key point of engagement for scholars and researchers within the discipline. This section does more than just define the research problem; it also reflects the underlying epistemological values and disciplinary norms that shape the study. Epistemology refers to the theory of knowledge, and in academic writing, these values determine how knowledge is constructed, validated, and communicated within a particular field. The introduction provides an early indication of these values, signaling the methods of reasoning and the standards of evidence that will be employed throughout the paper. Therefore, the introduction is not only a space for outlining the study's objectives but also a means of aligning the research with the intellectual traditions and expectations of the discipline.

While academic writing shares certain structural conventions across disciplines, it is essential to recognize that each field has its own unique ways of knowing and legitimizing knowledge. Different academic disciplines prioritize distinct forms of evidence, reasoning, and argumentation. For instance, what is considered a robust argument in the social sciences may differ significantly from the standards upheld in the natural sciences or humanities. This divergence reflects the specific epistemologies of each field and the cultural practices that shape the way research is conducted and communicated. As such, the introduction section plays a crucial role in signaling these disciplinary differences, setting the stage for the kind of knowledge that will be produced.

5.2 The paper uses LCT to analyze intro language across disciplines

Drawing on Legitimation Code Theory (LCT), this paper investigates the variation in the use of language in the introduction sections of academic papers across different disciplines. LCT serves as a theoretical lens for understanding how different forms of knowledge and academic practices are validated and legitimized through language. The framework highlights how specific linguistic choices play a crucial role in conveying the legitimacy of knowledge, offering insights into how academic communities recognize and reinforce certain ways of thinking and communicating [11]. LCT places particular emphasis on two key aspects: the semantic and codemantic elements of academic communication. The semantic aspect concerns the meanings conveyed through language, exploring how terms, phrases, and structures are used to establish authority and knowledge. Meanwhile, the codemantic aspect focuses on the codes or systems of knowledge that shape academic discourse. These codes dictate how knowledge is framed and structured, influencing the way information is presented and understood within a specific field.

Through a detailed analysis of the linguistic features found in the introduction sections of academic papers, this paper seeks to uncover how these sections are not just a way to introduce research topics, but also a means of reflecting and reproducing the epistemological values and norms that define each discipline. These introductions act as a microcosm of broader disciplinary practices, revealing how certain ways of knowing are prioritized and how academic communities uphold specific standards of knowledge production. By investigating these aspects, the study aims to shed light on how disciplinary norms shape the very language used in academic writing, influencing how knowledge is legitimized and communicated.

5.3 Intro language analysis reveals scholarly authority and research justification

The analysis of language use in the introduction sections provides valuable insights into how scholars establish authority, justify their research, and present knowledge. By examining the specific language choices employed, we can uncover the strategies that scholars use to position themselves as credible voices within their respective fields. These choices are not simply about

conveying information, but rather about crafting a narrative that aligns with academic norms and expectations. The introduction, in this sense, becomes a crucial site where scholars shape their identity and signal their authority to the reader. Language, in this context, is not a neutral tool but an active component in the construction of academic legitimacy. Rather than merely communicating ideas, language is wielded to construct a perception of expertise and authority. The way scholars present their research—whether through the use of specialized terminology, citations, or careful structuring—demonstrates their command over the subject matter and signals their alignment with the larger academic community. This manipulation of language is essential for gaining acceptance and recognition within the scholarly world [9]. By examining how different disciplines use language to create a sense of credibility and authority, this paper explores the ways in which scholarly knowledge is made acceptable and valid within particular fields. Each academic discipline has its own conventions and expectations regarding how language should be used, which in turn influences how scholars communicate their ideas. Whether it's the precision of scientific language or the rhetorical strategies employed in the humanities, these linguistic choices contribute to the creation of knowledge that is perceived as legitimate and worthy of academic discourse.

The introduction, as the first point of contact with the reader, plays a crucial role in establishing this authority. It is in the introduction that scholars set the stage for their research, outlining the problem they are addressing, the methods they are using, and the significance of their work. This section serves as a guide, helping the reader understand why the research is worth conducting and how it fits within the broader academic conversation. By framing their work in this way, scholars signal to the reader that their research is not just an isolated endeavor, but a valuable contribution to ongoing scholarly debates. Ultimately, this paper seeks to explore the broader relationship between language, discipline-specific epistemologies, and the practices of legitimation in academic discourse. Through the examination of introduction sections across various disciplines, we aim to shed light on how disciplinary expectations shape the communication of scholarly work. This analysis will provide a deeper understanding of the linguistic practices that underpin academic writing and contribute to the legitimation of knowledge within specific fields. By recognizing these practices, scholars can gain a better understanding of how their own work is situated within the larger academic landscape, and how language serves as a vehicle for both constructing and legitimizing knowledge.

6. Conclusions

In conclusion, this study has demonstrated how semantic and codematic analyses of introduction sections in academic papers reveal significant disciplinary variations in the construction of knowledge claims. By applying Legitimation Code Theory, we have gained a deeper understanding of how disciplinary norms influence writing conventions and shape the way knowledge is presented and legitimized. The comparison of different fields highlighted the distinct ways in which epistemological values and research expectations inform the structure and content of introduction sections. These variations reflect the broader intellectual traditions and the specific criteria for validating knowledge within each discipline. Through this analysis, we can better appreciate how disciplinary identities are constructed through language, and how these conventions reflect the cognitive and social practices that underpin academic writing. Overall, the findings of this study contribute to the understanding of academic writing as a socially situated practice, shaped by both the epistemological frameworks and the legitimating structures of specific disciplines. Future research could explore the evolution of these patterns over time or investigate further how other sections of academic papers, such as literature reviews or conclusions, exhibit similar semantic and codematic distinctions across disciplines.

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