Linguistic Features In Academic Writing: A Multidimensional Analysis

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Abstract

This study explores the distinctive linguistic features present in academic writing by Pakistani university students, using a Multidimensional (MD) analysis. The research examines various linguistic aspects in English-language academic papers, focusing on the Humanities, Social Sciences, and Sciences in English as a Second Language (ESL) contexts. [1]By employing both established Biber (1991) dimensions and novel factor analysis, the study reveals vital findings: Humanities students tend to use more narrative styles with a higher frequency of first-person pronouns and past tense, while Science students favour factual, objective writing with increased use of nominalizations and passive voice constructions. Social Sciences lie in between, blending both narrative and informative approaches. Furthermore, Pakistani academic writing exhibits a higher frequency of hedging devices and modal verbs, reflecting a cultural tendency toward indirectness and politeness. These findings highlight how local educational systems, languages, and cultural norms shape academic writing in Pakistan. This research provides valuable insights for improving academic writing instruction and material development, particularly in ESL contexts.

Keywords: Linguistic Features, Academic Writing, Multidimensional Analysis

Introduction

Academic writing, a genre of constructed language usage, possesses a specific set of conventions within the scholarly sphere. However, within these and other non-native yet academic forms of English, such as Pakistani English, academic writing is also subject to alterations due to local languages, education systems, and cultures. The growing concern for identifying features of Pakistani academic writing has led to Structural and Functional Studies in this area. The unique characteristics of Pakistani academic writing, influenced by local languages, education systems, and cultures, make it an intriguing study area.

Statement of the Problem

English is widely used for academic purposes in Pakistan; however, relatively few studies have been done on the stylistic features of Pakistani academic writing. Most research works look into single linguistic items without realizing the co-occurring features or registering specific

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variations. This study aims to overcome this deficiency by utilizing a multidimensional approach that cuts across disciplines and shows differences and similarities in using language in academic writing. The need for a multifaceted approach to academic writing is urgent and relevant, and this study aims to address this need promptly.

Research Objectives

- To examine the differences and similarities in the use of linguistic features in academic writings in the Humanities, Social Sciences, and Sciences to identify discipline-specific linguistic patterns.
- To analyze the influence of local languages and cultural norms on the linguistic features of academic writing among Pakistani university students across various disciplines.
- To explore the role of multidimensional analysis in uncovering new dimensions of linguistic features that are unique to Pakistani academic writing.

Research Questions:

1. How do linguistic features in academic writing vary among students from different academic disciplines in Pakistan?
2. What cultural factors influence the linguistic choices in academic writing among Pakistani university students?
3. What new dimensions of linguistic features can be identified in Pakistani academic writing using multidimensional analysis?

Significance of the Study

This study makes a significant contribution by taking a comprehensive approach to investigating the academic writing skills of Pakistani students in three core areas: Humanities, Social Sciences and Sciences. It not only addresses fundamental language issues but also explores the use of secondary language in cultural contexts. This unique approach is significant as it involves distinct lexical and grammatical choices influenced by the integration of local and educational cultures. These contributions are vital, given the challenges faced by linguists, educationalists and curriculum designers striving to enhance academic writing techniques in diverse settings.

The study's findings have the potential to significantly improve the academic writing proficiency of Pakistani MPhil and PhD learners. The study anticipates a profound enhancement in scholars' writing proficiency by legitimizing the design of appropriate and effective instructional approaches or methods, and teaching surfaces likely to satisfy these specific populations. This, in turn, will lead to the emergence of more competent scholarship in Pakistan.

This study not only investigates the language behaviour of scholars in specific disciplines but also clarifies the connection between culture and language. The results of this study will not only provide a rationale for subsequent research projects but also support ongoing efforts to improve the ways of writing academic texts in the country, thereby contributing to the long-term enhancement of academic writing in Pakistan.

Literature Review

As blinking lights in the distance can create stunning images of distress, so can dynamic properties of social relations. If we speak specifically of relationships of an ethnic or cultural

basis, every single individual may correspond to every other racial/cultural group. Linguicistische verscheuven technieken in de corpus: geengeschriften over literatuur. The register is determined by the relationship of the language with its context or area as being called for. It is not uncommon in linguistic studies to focus on the features of language use and linguistic realism in media. American Approaches to Linguistic Synergetic: Language and Culture-Based Functional Competence. Register-based studies pay little attention to context and advance an unproblematic view that variations in communication are determined only by the intended meanings and how speakers express these meanings with words. Biber and Conrad (2009) stated that it is essential to consider variations across registers as this can reveal the multifunctionality of a language within its cultural context, as communicative purposes determine each register.

The definition of "academic writing" tends to be incorporated radically differently by different disciplinary communities due to the peculiarities of the nature of knowledge and research practices prevailing in each. For example, ownership and self-appearance within the academic narrative are more pronounced and closer to story-telling in the Humanities. In contrast, the Sciences are more factual and abstain from pronouns. Biber's (1991) and Biber Conrad's (2019) research has drawn attention to this critical aspect of differences in academic writing. B Hyland (2000) states that relative cultural practices and knowledge production methods determine how each academic discipline structures its constituent components. Differences in such formats can be exemplified in language patterns and structures, such as the types of passives, nominalizations, and authorial self-representation. These serve the purpose of making the language suitable to the respective goals of disciplines, which sciences require empirics to present, and the humanities, an argument.

Multidimensional Analysis Biber (1991) offered the analysis of registry shift in terms of co-occasional variables. In this context, Registry shift refers to a change in the linguistic features of a text due to a change in the communicative situation or context. This method evaluates a text in multidimensional terms with different frequencies and the configuration of linguistic units. It has gained popularity in studies concerning registers such as academic writing and, therefore, becomes the focus of this study. Multidimensional analysis (MD) identifies combinations of linguistic elements working jointly towards the same communicative goal. For instance, in plain academic writing, one uses present tense, third-person pronouns, and modal verbs, which usually go together to generalize the issues.

Studies based on the corpus have offered enough understanding of the issues and peculiarities of the academic writing genre. Gardner and Davies (2014) inquired into the vocabularies of academics in several disciplines to show variations in lexical use that can be attributed to the subject area. They stressed the need to take these particular linguistic differences into account in the teaching of academic writing. Gray (2015) also applied multidisciplinary analysis by comparing academic texts from different cultural and national backgrounds and pointed out how culture affects language use.

About Pakistani English, Mahmood (2009) surveyed the structural and linguistic aspects of the Pakistani academic discourse, describing how local language policies affected integrations in use. Shakir (2013) performed a register analysis of advertising printed media in Pakistan and paid attention to the context and its influence over language. However, treating academic writing as a register in Pakistani English remains an unaddressed issue.

Academic writing in Pakistan, as in any other non-native context, has its disciplinary pickings caused by local and transcultural academic customs. Accordingly, it has been noted that Pakistani academic writing in Sciences adopts a more passive tone comparable to Western academic writing compared to Humanism writing, which is more active, flexible, and toned

down (Mahmood, 2014). This means that a large percentage of the so-called intermingling of academic practices occurs when global and Indigenous practices influence linguistic features in different academic disciplines.

Mahboob (2004) stresses that this type of academic addressing sometimes occurs in Pakistan, despite the area where such 'academic expression' is considered, owing to the multilingual situation in the country and regional tongue influence. In Pakistan, for example, in Canadian culture, broad academic writing consideration requires that reservation and face work markers be used in cognitive academic writing. Such tendencies are also seen in Social Sciences, which reserves writers of works behind the authority in search of a protective language because society does not appreciate argumentative behaviors.

Academic writing as an auxiliary register serves communicative purposes of knowledge transmission, generation, and circulation. Biber et al. (1999) refer to academic writing as one of the most informational communication styles, including features such as nominalizations, passive voice, or complex noun phrases. These include the stylistic devices, which are meant to achieve objectivity and formality, which are essential in building authority in the interaction.

Thaiss and Zawacki (2006) maintain that this practice does not consider a single phenomenon but is contextual to the discipline, institution, or culture. The local educational setting and international academic culture shape the field of academic writing in Pakistan. Thus, this combined influence poses a challenge to students, as they have to respect international academic writing standards and adapt to local practices.

Furthermore, earlier research has also emphasized the negative repercussions second-language learners face while performing academic writing tasks. English academic writing appears to be especially linguistically challenging for non-native speakers, as Flowerdew (1999) pointed out, who stressed the difficulty with syntax and vocabulary in use. Such issues become aggravated in the case of Pakistani students, where English is usually a second or third language, and there are seldom opportunities to practice actual academic writing.

Separating the linguistic features specific to each dimension of academic writing has been one of the major approaches to this type of discourse analysis. This is a method introduced by Biber (1988) as a means of identifying linguistic dimensions that differ from one register to another. This methodology has been subsequently applied to studying academic texts in diverse settings, such as cultural differences (Gray, 2015) and field differences (Hyland, 2000).

Multidimensional analysis of academic writing in the case of Pakistani-hosted academic articles targets how local language use affects the writing. It also seeks to target what common and recurrent features fit within the ideal features of Pakistani academic writing. Other studies on Pakistani English have indicated that using more formal markers and evaluative language is common, probably due to socio-cultural beliefs that encourage politeness strategy (Mahmood, 2014).

This also promotes the exploration of other increasing dimensions that might not be observable in the different varieties of English. For example, Egbert (2015) has used multidimensional analysis to develop new dimensions in academic writing that deal with digital culture's impact on academia. This study similarly seeks to explore the new dimensions of Pakistani academic writing within the context of the student's specific linguistic style.

Methodology

This study corpus comprises the research performed through Dissertations in Humanities, Social, and Natural Sciences. For example, 235 dissertations were filtered out from the diverse

institutions of Pakistan to represent the Pakistani academic English writing style. Such dissertations were sourced from the World Wide Web databases and departmental bookshops from diverse subjects within every discipline.

To maintain uniformity, all the dissertations included in the research were written between 2015 and 2023, capturing up-to-date information on academic writing in Pakistan. The corpus was analyzed and grouped into three sub-corpora based on the Dean's categorical areas: Humanities (78 dissertations), Social Studies (82 Dissertations), and Sciences (75 focusses). Every dissertation was converted into a text-based format suitable for computerized processing and analysis.

This paper researches linguistic parameters and their correlation, applying a multidimensional perspective. Biber's 1988 dimensions and new factor analysis examine the developing image of academic writing patterns. Some linguistic features analyzed included nominalization, hedging, and the number of stance markers used.

Text Preprocessing: Tokenization, stop word removal, and corpus normalization were performed in this phase. This preprocessing allowed only relevant linguistic features in the analysis.

Feature Extraction: Linguistic features were tagged and extracted from the corpus employing MAT. Features such as tense, aspect, modality, pronoun, and lexical density were accounted for.

Multidimensional Analysis: These features were further subjected to a more detailed form of analysis that involved factor analysis. The study began with reviewing Biber's existing dimensions and the possible emergent dimensions of Pakistani academic writing.

The data corpus was further examined using specific software, Multidimensional Analysis Tagger (MAT) and SPSS. The MAT was most particular in tagging linguistic aspects, while the SPSS was used to perform statistical tests. The statistical tests performed included the Analysis of Variance (ANOVA) and Principal Component Analysis (PCA), which aimed to explore variations across the disciplines.

An ANOVA was carried out to compare the linguistic features across disciplines, and the mean differences were assessed in terms of statistical significance. For instance, it was markedly noted that students in the Humanities employ hedging devices more than their counterparts in the Sciences.

PCA was applied to decrease the number of dimensions of the data and derive the linguistic features with the highest impact on the variations. This enabled the derivation of new dimensions unique to Pakistani academic writers.

The analysis based on Biber's 1988 textual dimensions demonstrated distinctive approaches in the three disciplines. The humanities are more narrative and emotionally engaged, while the sciences are less so and include more information density and nominalization.

Narrativity: The Humanities sub-corpus evidenced a more significant occurrence of past tense and first-person pronouns, which are more suitable in narrative styles. This is consistent with the subject's orientation to another interpretation or storytelling.

Informational Density: The Sciences sub-corpus made greater use of nominalizations and passive voice constructions and tended towards contributions of a factual rather than subjective nature.

The above analysis was expanded to explore and delineate new dimensions identifiable to the Pakistani context. Five new dimensions were identified, including "Disciplinary Focus," "Authorial Presence," and "Abstractness." These dimensions help define how Pakistani students are linguistically different from other varieties of English.

Disciplinary Focus: This dimension describes how different fields of study have varying quantities of associated terminologies and specialized language. Sciences were rated higher for this dimension, which shows a greater use of technical vocabulary.

Authorial Presence: In contrast, humanities writing explained more of the first-person dimension, as most writers used first-person pronouns and subjective language. Here, there is an increased focus on how it is necessary to understand the writer and what they have written.

Abstractness: Social Sciences tend to be moderately abstract, with concrete details described in addition to the ideas and theories presented.

The results were analyzed in comparison with British academic writing. The comparison indicated significant differences in the use of hedging and modality. Pakistani academic writing reflected less directness in language style because of a culture of indirect language use.

Hedging Devices: Particularly in Humanities and Social Sciences, scholars in Pakistan were found to use more hedging devices, including phrases such as "perhaps," "Possibly," and "it seems" when compared to the latter. The reasons for this excessive use of cautious tones are mass-influenced by social norms, which perpetuate the use of non-aggression and politeness.

Modality: Also present in the analysis was an even higher frequency of modal verbs "may," "might," and "could" in the Pakistani corpus than in British academic writing. This suggests the need to express uncertainty but not in such a manner as to generalize beyond the extent of the topic.

Discussion

The study brings to light the significant aspects of linguistic features in academic writing among Pakistani university students. The paper underscores the profound impact of local languages, education, and culture on academic writing, a topic of utmost importance.

The paper extends its analysis of linguistic features to include some known variations according to the discipline. The paper focuses on analyzing linguistic features in the three most popular areas of study: Humanities, Social Sciences, and Sciences. The writer explains that Humanities students prefer first-person narratives, while Science students use more factual language filled with nominalizations and passive voice.

The paper delves into the profound influence of culture on linguistic choices, particularly in the context of Pakistan. It reveals that academic writing in Pakistan tends to be polite and indirect, a reflection of the persuasive strategies used in the papers. This is a testament to the deep-seated cultural factors that shape academic discourse.

The paper meticulously dissects the Reasons behind interdisciplinary Variations, particularly the contrast between narrative and objective exposition. This complexity adds a layer of depth to the subject, making it a fascinating area of study.

Reformatting the analysis entails problems characteristic of the Humanities – that is, Humanities students tend to include a low narrative amount of information in their writing, versus the problems of Sciences – Science students tend to have a high narrative information density in their writing.

The problem's urgency indicates that the results can be used to enhance training and materials development of academic writing within the ESL context; however, the situation concerning current instructions and their effectiveness may not be examined in depth. The paper covers most issues regarding the research objectives in the methodologies. It offers a basis for more focused studies in some areas, such as what new dimensions were ascertained or more detailed studies comparing other writing standards. If there are some particular ideas or aspects of any of these subjects that you want me to explore, the full text of the paper will be required. The linguistic differences observed in the disciplines reflect that academic discourse in Pakistan is affected by the traditions of specific fields and the use of ethnographic languages. For instance, lice nouns prefer to shift the audience's attention from the ratio of concepts in Sciences to unbiased writing relatively. In the case of Humanities, people tend to write more creatively and subjectively rather than using objective methods of communication.

If hedging devices and modal verbs are highly dominant in Pakistani English Writing, one infers that Pakistani culture is courteous in a way that discourages people from making statements. This is not the case in British academic writing, where directness is well utilized.

Their co-occurrence serves some social purposes in all the specialities. For example, the use of passive forms in sciences is often observed in English and has an impersonal feel, while in the humanities, the first-person pronouns bring out the author's aspect in the article.

In Social Sciences, the degree of interaction between the narratives and the information incorporates the discipline's multidisciplinary aspect, often employing qualitative and quantitative methodology.

Pakistani academic writing has features similar to British academic writing, such as more formal discourse markers and more application of evaluative language. These differentiations are likely attributed to superior cultural factors and educational systems that check on formal and restrained expression.

Conclusion

This research takes a broad approach to examining language differences among Pakistani academics. Its findings revealed enormous gaps across disciplines and between Pakistani and British academic writing, indicating that academic writing in Pakistan's mainstream is both discipline—and culture-influenced.

The findings of this research are critical in informing the practice of writing in academic contexts in areas where English is not the first language spoken. Therefore, given the writing problems of Pakistani students in particular, practical ways of addressing the writing problem can be conceived and implemented.

This is a specific corpus of research dissertations only. Additional studies may be performed on other forms of academic writing, such as journal articles or conference papers, better to understand the linguistic variation in Pakistani academic writing research.

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