

Rhetorical patterns in abstracts of undergraduate students in a public university in Ghana

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ABSTRACT

This study investigates project abstracts of undergraduate students across three faculties in a public university in Ghana. It examines two research questions: What rhetorical patterns can be identified in undergraduate students' abstracts? What functions do these rhetorical patterns perform within the abstracts? This study was qualitative, and the research design was a case study. A total of 20 were randomly sampled from the Faculty of Computing and Information Systems (FoCIS), the Faculty of Engineering (FoE), and the Business School (BS). However, only 18 abstracts were included in this study, as two of the projects did not have an abstract. The research instruments were the students' abstracts and focus group interviews. The framework we adopted for an in-depth analysis of the rhetorical patterns in the abstracts was Hyland's five move patterns. The product of this study indicated that the students applied different rhetorical patterns in the abstracts. The participants' most significant rhetorical moves and choices were manifested in the sequencing and placement of these moves within the rhetorical patterns. The responses from the participants on the functions of abstracts in research were positive. The researchers concluded that there should be rules and conventions in writing abstracts across the disciplines and the writing of abstracts should be guided by a framework and carefully supervised to enhance the students' writing skills.

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1. INTRODUCTION

An abstract is a piece of writing with limited words that serve as a road map for a research paper. It provides guidelines to the readers that give them access to the research and an in-depth overview of the topic and associates content with keywords beneath it [1]. The abstract provides a brief roadmap for the entire research which encompasses the research topic, introduction, objectives, literature, framework for the study,

research instruments, methodology, findings, and a conclusion. Well-structured rhetorical patterns facilitate readers' comprehension of the research. The abstract helps writers with specialized academic expertise to communicate with both readers in the discipline and outside the discipline to understand the article.

In academic publications, an abstract serves the significant purpose of providing readers with a clear and straightforward understanding of the research because of the rhetorical patterns that provide clues on the content of the paper [2], [3]. Bhatti *et al.* [2] describe the abstract as an independent genre in projects, dissertations, conference papers, and provide a summary of the paper. The number of words in an abstract is limited and compressed with all the vital components in the research which is written such that it encapsulates the underlying information to the discourse community so, it should be written effectively.

Nevertheless, writing abstracts is difficult for some students and they are unable to write effective abstracts [4], [5]. Despite the importance of abstracts in research, studies on rhetorical patterns in the fields of Science, Technology, Engineering, and Mathematics are limited. Hence, this study examines the rhetorical patterns found in project abstracts written by undergraduate students at a public university in Ghana. It also explores the functions of these rhetorical patterns by addressing the following research questions: What rhetorical patterns are present in undergraduate students' abstracts? What functions do these rhetorical patterns serve in the abstracts?

This section reviews the underpinning theories of the study and related empirical works on rhetorical patterns in undergraduate students' abstracts. Specifically, the areas covered include the theoretical framework and the empirical review. Hyland's [6] five patterns were adopted in analyzing rhetorical patterns in the undergraduate students' abstracts. This framework guided the researchers in identifying the rhetorical patterns present in the students' abstracts and elucidated the rhetorical structure of the project abstract [3], [7]–[9]. The detailed nature of the framework highlighted both the differences and similarities in patterns across three disciplines: Information technology (IT), business, and engineering. As noted in Bhatti *et al.* [2], a pattern gives a genre its distinctive characteristics, allowing individuals to better interpret that genre. In this study, the purpose component included the problem statements in the students' abstracts, while the methodology section reflected the frameworks identified in the business abstracts. Hyland's [6], framework used “products” instead of “findings”, which was also evident in the abstracts analyzed in this study.

Again, the rhetorical structure theory (RST) was initially put out by Mann and Thompson [10], Hou *et al.* [11]. Comprising a thorough theory of textual order, the RST, since Marcu's earlier publications on RST parsing and its uses in-text summarizing, has been used in various high-level applications [11]. Among the most often used discourse structures theories nowadays is RST. RST offers a structure for examining text organization including abstracts. RST claims that in academic writing, good communication depends on the clear articulation of ideas via rhetorical gestures [11]. It is for this reason that the RST is appropriate for the study of the rhetorical patterns in undergraduate students' abstracts.

The research abstract is an essential aspect of research because it is the gateway to the research and provides an overview of the entire research to the readership. Its significance and urgency in research have drawn the attention of many scholars to investigate this genre. This study reviews related studies in abstract writing and their significance in research. Mintah [12] examined the rhetorical structural patterns of postgraduate theses abstracts of related disciplines: a genre study. A sample size of 90 theses abstracts from the three disciplines: English language studies, literature studies, and linguistics studies (Ghanaian languages) revealed varying degrees of rhetorical patterns with Hyland's [6] genre model. The data showed inconsistencies in the rhetorical patterns in the abstracts across the disciplines with the Purpose move being cut across the disciplines while the other moves were optional. Additionally, English language studies and linguistics had the informative presentation approach, but the Literature studies had the inductive presentation approach. There should be disciplinary-specific moves to enhance unified and coherent ideas in the abstracts.

Similarly, Kurniawan [13] analyzed dissertation abstracts from higher education institutions in two different contexts, England and Indonesia, to uncover the rhetorical organization and linguistic features of the abstracts. In particular, the researcher examined doctoral dissertation abstracts in the humanities, specifically linguistics, literature, and law, from four leading universities between 2014 and 2019. Hyland's [6] model served as the analytical framework for the study. The results showed a shared pattern of rhetorical moves in the abstracts from both groups, namely introduction-purpose-method-product. This indicates that students rarely included a conclusion in their dissertations, making it the least represented move in the data. However, the product moves in the linguistics discipline stood out in the way research findings were presented. In addition, the study found differences in linguistic features, particularly in the use of relational verbs, between the Indonesian students and their English counterparts, while similarities were noted in verb tense usage, voice, and modality preferences.

The study concluded that despite the differing cultural backgrounds and academic environments, there were no significant differences in the dissertation abstracts from the four universities. A similar study

on rhetorical patterns in abstracts was conducted by Nav and Link [14], on exploring rhetorical structure, hybridization, and innovation. In contrast, the researcher applied Santos's [15] five-move model to identify the rhetorical moves in 40 research articles published in two English Studies journals. The cross-disciplinary analysis revealed distinctions between the rhetorical structures of 20 linguistics abstracts and 20 literature abstracts. The findings showed that the linguistics abstracts made explicit reference to the research scope, methodology, and results, whereas the literature abstracts situated the research within a broader context and provided a more cautious reference to the findings. Some abstracts had limited moves a testament of incompetence in writing this genre and depriving the readership of accessing information in the unmentioned moves which are key in understanding the overall research from the outset.

The study concluded that close attention should be given to rhetorical patterns in abstracts and they should be clearly outlined with emphasis on their contribution in the research to enable the readership especially those who are outside the discipline to understand the academic discourse in the disciplines. Also, Alyousef [16] investigated move patterns in 120 political science abstracts from six high-impact journals. The findings indicated variations in the moves as in introduction-purpose-methodology-results-discussions, introduction-purpose-methodology-results, and introduction-purpose-results-discussions. The results move was mandatory in the abstracts; however, some of the abstracts had no discussions of the results which will prevent readers especially those outside the discipline from understanding and interpreting the results and the methodology move was the least heightened in the patterns. Similarly, Tankó [17] examined rhetorical moves in abstracts from a high-impact journal, and the study revealed four regular moves as the background, purpose, methodology, and outcomes of research where the students highlighted the relevance and impact of their research to draw the readers.

Putri *et al.* [1] examined rhetorical moves in 60 social science thesis and dissertation abstracts from a university's online repository, written in Indonesian along with their English translations. The researchers employed Hyland's [6] five-move analytical model to study the rhetorical moves. The findings indicated variations in the rhetorical moves across the theses and dissertations, depending on the students' educational level. All five moves were identified in the abstracts. In terms of frequency, the study revealed a total of 565 moves across the data. Specifically, 284 moves occurred in the Indonesian versions, while 281 moves were found in the English translations. Among these, the Methodology move was the most frequent, appearing 171 times across the educational levels. The findings demonstrated that regardless of the difference in the students' educational levels, they included all five moves in their thesis or dissertation abstracts. A testament to the relevance of the moves in academic writing to the students.

In another context, Kurniawan [13] investigated the effects of the Scopus journal quartile on the rhetorical organization and linguistic realizations of applied linguistics research articles. The researcher sampled 28 abstracts from four applied linguistics journals with different quartiles. Hyland's [6] model was adopted as a framework to guide the move patterns. The study identified all the moves in the framework and that the purpose and findings move were obligatory in all the journals. It was revealed that the abstracts from the quartile one journal applied the indicative-informative move while those from the quartile two to four applied the informative typology or classification. The findings concur with Mintah [12] whose study revealed the purpose move as compulsorily stated across the disciplines. However, the quartile one to four abstracts in Kurniawan [13] showcased the indicative-informative move and the informative move respectively, meanwhile, Mintah's [12] findings evidenced informative and inductive moves. The study concluded that journal quartile does not influence the standard rules of the research article abstracts' rhetorical organization and linguistic realizations in applied linguistics journals. In a similar context, Ahmed [18] analyzed over 35 tourism abstracts and identified variations in the rhetorical patterns. The types of abstracts examined by the researcher included informative abstracts, indicative abstracts, and structured abstracts. Each played a significant role in shaping the rhetorical patterns that contributed to the study. The sequence purpose-methodology-product-conclusion was commonly observed in both informative and structured abstracts. In contrast, the indicative abstracts included the Approach, with the Product treated as an optional move.

Gustina [19], analyzed 150 published Science abstracts and found that students were inconsistent in applying rhetorical patterns. While some demonstrated awareness of Hyland's [6] move structure, others employed different forms of patterns. In a related context, Tamela's [9] study focused on identifying abstracts in journals and examining the rhetorical patterns researchers use to present their complete body of knowledge within a specific discipline to the academic community. The study highlighted an increasing trend in research publications on abstracts. Its objective was to apply a qualitative approach, employing Hyland's [6] framework, to carry out a structural analysis of articles in those publications.

The results confirmed the trends identified in the research abstracts, revealing that rhetorical patterns played a key role in helping researchers structure their work for effective communication. Similarly, Moghadam and Meihami [20] employed Hyland's [6] rhetorical move model to analyze 300 Master of Arts thesis abstracts written by undergraduate students at an Iranian university. They examined abstracts from

1988 to 2015 to determine the prevailing patterns. The findings showed that the purpose, method, and product moves were the most frequently used in the first period (1988-1997), with purpose remaining the most dominant in the second and third periods (1998-2007 and 2008-2015). Across all three intervals, the introduction and conclusion moves were the least common. The study further revealed that researchers did not consistently adhere to all the stages outlined in Hyland's [6] model.

Furthermore, Darabad's [3] study on abstracts examined both the soft sciences and the hard sciences, analyzing 63 rhetorical patterns. These patterns were emphasized in the analysis, and the study concluded by outlining the educational implications of rhetorical patterns as a tool for developing students' writing skills. Krajáková [21] investigated postgraduate students' abstracts from two different sources: conference abstracts and those published in journals. In total, more than 60 abstracts were analyzed. The focus of the study was similar to that of Putri *et al.* [1], who emphasized the sentences students employed in writing abstracts. The findings revealed that in thesis abstracts, the present simple tense was predominantly used, especially in the motivation, problem statement, and conclusion sections. On the other hand, the past simple and present perfect tenses were mainly employed in the methodology and results sections. In all, the product of the study was transmitted to the discourse community to know the outcome of the study, and this is very important as researchers share research findings with the community. Contrary to the rhetorical pattern of an abstract in texts is the graphical abstract, which communicates ideas in a compressed format using graphics [22]. The 90 graphical journal abstracts in biology, chemistry, and engineering indirectly express the semantics of the content in scientific discourse, unlike the textual abstracts, where the texts express the semantics of thoughts directly. It presented the verbal and visual of the graphical abstracts. The graphical presentations provoke the readers to critically think and extract the meaning the abstract conveys. The study identified five moves on the grounds of Jiang and Hyland's [23]. Move patterns as a reference to visuals, background of the research, results, interpretation of results, and implication of the study. Overall, the results and overview of the research received the highest graphical presentation in the research.

This section of our review discusses the major functions of rhetorical patterns. One of the main functions of rhetorical patterns is to ensure cohesion and coherence [24]. A study by Kurniawan *et al.* [24] identified thematic and rhetorical patterns in abstracts of Thai EFL engineering students. The findings indicated that students often favored constant thematic progression, which can lead to a lack of cohesion in their writing. This suggests that understanding rhetorical structures is essential for constructing coherent abstracts that effectively communicate research ideas.

Also, research utilizing Hyland's [6] five-move model revealed that undergraduate students frequently employ specific rhetorical moves such as introduction, purpose, method, product, and conclusion. This structure helps students organize their thoughts and present their research clearly, which is critical for acceptance in academic journals [11]. The study emphasized the importance of teaching these moves to enhance students' abstract writing skills. Moreover, studies have shown that different disciplines exhibit distinct rhetorical patterns. For instance, engineering abstracts often follow an introduction-method-results-discussion (IMRD) structure more rigidly than those in the humanities, where contextualization may take precedence over methodological detail [25]. This highlights the necessity for students to adapt their writing according to disciplinary conventions.

Finally, a comparative analysis indicated that cultural backgrounds influence how students construct their abstracts. For example, English and Arabic abstracts displayed different organizational strategies, suggesting that cultural context plays a role in shaping rhetorical patterns [12]. The empirical evidence underscores the critical role that rhetorical patterns play in enhancing the clarity, coherence, and effectiveness of undergraduate students' abstracts. By teaching students to master these structures, they can improve their academic writing skills and better communicate their research findings. The foregoing discussion depicts that the theoretical and empirical reviews provide a robust foundation for exploring the rhetorical patterns in abstracts of undergraduate students in Ghana.

2. METHOD

The study adopted a qualitative approach with a case study design. The research instruments employed were students' abstracts and focus group interviews [18]. A total of 20 project abstracts in the fields of IT, engineering, and business were initially selected for analysis. However, only 18 abstracts were included in this study, as two of the projects did not have an abstract. Since the abstracts were written in groups of three students, and in some cases two, they were collectively produced by 46 students during the 2019/2020 academic year.

The abstracts from the Business School comprised both diploma and degree students. Gustina [19] and Phuong [26], modes of selection, guided our selection of the content. The researchers read

carefully each abstract several times and identified the rhetorical patterns. Afterward, the patterns were classified by the researchers accordingly.

The researchers found that two out of the seven student projects did not contain abstracts for analysis. Consequently, 18 abstracts were examined in this study. Moghadam and Meihami [20] reviewed 332 theses produced between 1988 and 2015, and upon comparing the digital versions with the print copies, they discovered that 23 theses lacked abstracts while the digital versions of nine theses were missing. In the end, they analyzed 300 abstracts from the theses. In the present study, the rhetorical patterns were coded using the English alphabet for easy identification and analysis. The data were examined through a descriptive-analytical approach, and frequencies were used to calculate percentage results.

During the interview sessions, the four respondents who willingly participated were prompted to provide detailed answers to the interview guide questions for descriptive analysis [27]. Out of the four interviewees, two of them represented the Business School, and the other two were from Faculty of Computing and Information Systems (FoCIS) and Engineering. By adapting Morris's [27] interview approach, the researchers framed the questions that mainly focused on the functionalities of the rhetorical patterns and their contributions to writing effective abstracts. Table 1 shows the distribution of the abstracts obtained from the disciplines.

Table 1. Distribution of the abstracts obtained from the various disciplines

Disciplines	Number of abstracts	Number of students who produced the abstract
Information technology	5	11
Business diploma	3	9
Business	6	18
Engineering	4	8
Totals	18	46

The 11 students from the FoCIS produced five abstracts. From the business diploma program, nine students submitted three abstracts. For the business (degree) program, 18 students submitted six abstracts. Lastly, eight students from the Engineering Faculty contributed four abstracts.

3. RESULTS AND DISCUSSION

The study investigated rhetorical patterns in abstracts of undergraduate students in a public university in Ghana. The Hyland [6], five patterns supported the analysis of the data. These included introduction, purpose, methodology, product, and conclusion (I-P-M-Pr-C). To answer the first research question: What are the rhetorical patterns in the undergraduate students' abstracts? Hyland's [6] rhetorical pattern framework was applied in the analysis. Based on this, the rhetorical patterns identified in the students' abstracts across the disciplines are presented in Table 2. In all, we identified eight different rhetorical patterns in the 18 abstracts. The rhetorical patterns of the abstracts were labeled as; A, B, C, D, E, F, G, and H in Table 3.

Table 2. Rhetorical patterns of the undergraduate students' abstracts

Number	IT	Business diploma	Business	Engineering
1.	I-P-M-C	P-M-Pr-C	P-M-Pr-C	I-P-M-Pr-C
2.	I-P-M-Pr	P-M-Pr-C	I-P-M-Pr-C	P-Pr-C
3.	P-M-Pr-C	I-P-M-Pr-C	P-M-Pr-C	P-M-Pr-C
4.	I-P-M-C		I-M-Pr-C	P-I-M
5.	M-Pr-P-C		I-P-M-Pr-C	
6.			I-P-M-Pr-C	

Table 3. Rhetorical patterns labelled

Number	Pattern	Label
1.	I-P-M-Pr-C	A
2.	P-M-Pr-C	B
3.	P-Pr-C	C
4.	P-I-M	D
5.	I-P-M-C	E
6.	I-P-M-Pr	F
7.	M-Pr-P-C	G
8.	I-M-Pr-C	H

The standard and criteria of writing abstracts were not consistent across the disciplines. This means the students displayed differences and diversities in the patterns of the abstracts. This supported a study conducted by Bouziane and Metkal [28] who found disciplinary differences in rhetorical patterns. Other researchers assert that the rhetorical pattern is not needed to follow a specific pattern, and the most important thing is to record these patterns in the abstract. But such abstracts will not be coherent, and readers will miss other relevant aspects of the genre. The students presented the patterns without aligning them to any framework in mind. The findings align with Ahmed’s [18] study and Herlyna *et al.* [5]. The procedures varied across faculties, leading to inconsistencies in the rhetorical patterns. Consequently, the rhetorical structures in the abstracts appeared disorganized. The participants gave little consideration to this aspect of writing. The researchers observed that the students had limited or no awareness of rhetorical patterns in the genre or of the conventions within their discipline or community of practice. Some students’ projects lacked abstracts altogether; nevertheless, supervisors graded them without drawing the students’ attention to correct this. Figure 1 presents a pie chart illustrating the percentage distribution of the rhetorical patterns. In addressing the research question two: What are the functions of the rhetorical patterns in the abstracts? The responses from the focus group interview were put into themes for the analysis in Table 4.

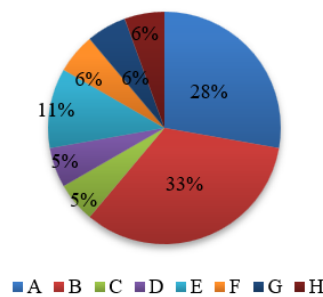


Figure 1. Pie chart showing the percentage distribution of the rhetorical patterns functions of the rhetorical patterns

Table 4. Functions of the rhetorical patterns from the interviewees

Rhetorical patterns	Functions
Introduction	Readers become aware of what the project is about. You become aware of the scope of the study. It tells readers the importance of the research topic. It also identifies the research gaps.
Purpose	It tells why we are writing the research. It states the need for us to write the project.
Methodology	It tells readers information such as sample size. You tell readers of the project approach and design. It states the steps to follow in the project writing.
Product	It makes people know the outcome of our projects. You become aware of others’ views. It presents the main findings of the project and gives feedback on the entire or whole project.
Conclusion	It compares the results with other studies and identifies the differences and similarities of the results. It summarizes the entire project. The researcher presents areas of further studies at this level.

Table 4 depicts the functions of the rhetorical patterns. The students interviewed emphasized the rhetorical patterns and their related functions within academic or research writing. Examining these rhetorical devices critically reveals how each one helps to organize a research endeavor, thereby enabling the researcher as well as the readers in comprehending and interacting with the work.

According to the participants, the introduction provides a foundational role by setting the stage for the entire investigation. It does more than only describe the topic; it helps orient readers by making them aware of the extent and the importance of the study. Furthermore, pointing up research gaps not only makes the project relevant but also helps to establish it as filling in-demand requirements in current knowledge. According to critical thought, introductions must balance clarity and depth; if too short, they might not grab readers; if too lengthy, they might overwhelm them. Introductions must effectively convey the research challenge as well as the researcher’s authority in the relevant field.

The statement of the purpose directly relates to the reason behind the study. It reveals the researcher’s drive and provides support for starting the project. This is crucial if one is to persuade the readers of the relevance and need of the research. A rigorous assessment reveals that an unclear or poor purpose decreases the perceived value of the research. Furthermore, the goal must fit the research gaps described in the introduction, and this guarantees logical flow and coherence in the article. Again, the

methodology section details the research strategy, including sample size and steps involved, which makes it crucial for the credibility and replicability of the research. It is not simply about telling readers what was done, but also about explaining why the chosen methodologies are acceptable for addressing the research questions. Critically, a strong technique increases the study's reliability, whereas a defective or poorly stated approach might impair the research's validity. The challenge arises in describing a process that is thorough enough for replication without being unduly technical for ordinary readers.

The product of the research, sometimes referred to as the outcomes or findings, exhibits the outcome of the effort. This part not only informs readers of the project's important outcomes but also situates them within the broader academic discussion by comparing them with current literature. The critical function here is twofold: providing fresh findings and engaging in a scholarly dialogue through comparison with past work. This pattern involves a careful balancing act—the researcher must avoid mere reporting of data and instead focus on interpreting the results in ways that progress the field.

The conclusion does more than describe the findings; it extends the value of the project by identifying areas for further research. This crucial feature ensures that the research does not live in isolation but contributes to continuing scholarly activities. In examining this pattern, it is vital to remember that a strong conclusion connects the entire research together, emphasizing the purpose while acknowledging the limitations of the study and proposing options for future work. If underdeveloped, a conclusion can leave readers with unresolved questions, thereby reducing the overall impact of the research. In essence, the rhetorical patterns in research writing are interrelated and must operate cohesively to guide both the researcher and the reader through the endeavor. The introduction and purpose provide the groundwork, methodology gives the plan, the result delivers vital insights, and the conclusion brings everything together while providing space for future work. A critical study of these patterns demonstrates that their usefulness depends mainly on how well they are integrated. When each pattern is done skillfully, they jointly enhance the clarity, relevance, and impact of the research.

It was revealed that many students did not follow the IMRD framework, which is consistent with the study of Nguyen [29] on the rhetorical moves in undergraduate abstracts. The inability of students to follow the IMRD framework can produce abstracts lacking coherence and clarity, therefore compromising the general caliber of the research presentation. It has been revealed in this study that undergraduate students in Ghana who took part in this study find difficulty writing abstracts. These comprise ignorance of the rhetorical structures that improve clarity, a lack of acquaintance with the rules of academic writing, and trouble simply expressing difficult concepts. It was discovered that some students did not even write abstracts, and those who wrote the abstracts did not have any comprehensive understanding underlying rhetorical methods, which can result in lack of originality and coherence in their writing.

Moreover, the study shows that writing abstracts presents difficulties for undergraduate students in Ghana. Among these difficulties are: Firstly, university students are not familiar with scholarly standards. In other words, it was found in the students' abstracts that they lack sufficient instruction in the standards of academic writing, which results in poorly organized abstracts failing disciplinary criteria [30]. Also, the students struggle to succinctly outline their study while nevertheless giving enough background. This produces either too ambiguous or too thorough abstracts that compromise their efficacy [31]. Moreover, this study reveals that whereas some students effectively apply rhetorical patterns, others do so inconsistently, therefore lacking coherence and flow in their abstracts, which is consistent with Santos [15].

3.1. Pedagogical implications

The results of this study imply certain instructional implications for raising the quality of abstracts written by university students: lecturers or teachers of English should give self-explanatory instructions on the IMRD framework and other rhetorical devices explicitly. This can improve students' writing and allow them to better arrange their abstracts [26].

Again, including peer review and feedback systems will help to improve knowledge and application of rhetorical devices. Through the strengths and shortcomings identified in the abstract writing, students will improve and overcome their writing difficulties [29]. Moreover, teaching students about the linguistic features of academic writing, including the use of formal language and exact terminology, would help to greatly increase the professionalism and clarity of their abstracts [32]–[35].

Reviewing empirical studies emphasizes the need for knowing rhetorical tendencies in abstracts produced by undergraduate students. Although many students show knowledge of the required rhetorical gestures, their linguistic realization and execution nevertheless suffer. By means of self-explanatory pedagogical instructions and consistent practice, addressing these issues can help students develop good abstracts to enhance their academic writing skills and participation with scientific communication [36]–[38].

Future research should keep looking at creative instructional approaches to help university students become masters of abstract writing. Furthermore, it is pedagogically prudent to include clear guidelines on rhetorical patterns and structures into the course to guarantee the development of the quality of abstracts

produced by undergraduate students. Pedagogically, it is wise to stress instructional techniques like peer review and group writing that can help students improve their grasp of successful abstract writing. Basically, lecturers can improve their capacity to generate coherent and strong abstracts by familiarizing students with thematic progression and rhetorical maneuvers. The findings from various studies indicate a pressing need for instructional strategies focused on the rhetorical structures of abstracts. Educators are encouraged to integrate genre-based approaches into their curricula to help students understand the significance of these patterns in academic writing [39]–[42].

4. CONCLUSION

This study examined the rhetorical patterns in abstracts written by undergraduate students at a public university in Ghana. The abstracts were drawn from three faculties: the Faculty of Computing and Information Systems, the Faculty of Engineering, and the Business School. The study addressed two research questions: What rhetorical patterns are evident in undergraduate students' abstracts? What functions do these rhetorical patterns serve in the abstracts? A total of 18 abstracts from 46 students were analyzed, and the findings revealed inconsistencies in the rhetorical patterns across the disciplines.

The findings of this study identified eight distinct rhetorical patterns, indicating that some abstracts did not conform to the established framework. The placement of moves within these patterns also reflected the participants' key choices and priorities. Overall, the students did not employ consistent rhetorical patterns in their abstract writing. The researchers recommended adopting a structured framework for writing abstracts to ensure they are well-organized and promote effective communication, given that abstracts serve as the cornerstone of research. They further advised that students follow established norms, writing conventions, procedures, and rubrics to enhance the consistency and quality of their project abstracts.

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C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : Writing - **O**riginal Draft

E : Writing - Review & **E**ditting

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

INFORMED CONSENT

We have obtained informed consent from all individuals included in this study.

DATA AVAILABILITY

The data supporting the findings of this study are available from the corresponding author, [MOT], upon request.





REFERENCES

- [1] F. Putri, B. Hermawan, and R. D. Muniroh, "Rhetorical move analysis in students' abstracts across degrees," in *Thirteenth Conference on Applied Linguistics (CONAPLIN 2020)*, 2021, pp. 162–167, doi: 10.2991/assehr.k.210427.025.
- [2] I. A. Bhatti, S. Mustafa, and M. Azher, "Genre analysis of research article abstracts in linguistics and literature: a cross-disciplinary study," *International Journal of English Linguistics*, vol. 9, no. 4, pp. 42–50, Jun. 2019, doi: 10.5539/ijel.v9n4p42.
- [3] A. M. Darabad, "Move analysis of research article abstracts: a cross-disciplinary study," *International Journal of Linguistics*, vol. 8, no. 2, pp. 125–140, 2016, doi: 10.5296/ijl.v8i2.9379.
- [4] S. Arsyad and Arono, "Potential problematic rhetorical style transfer from first language to foreign language: a case of Indonesian authors writing research article introductions in English," *Journal of Multicultural Discourses*, vol. 11, no. 3, pp. 315–330, Jul. 2016, doi: 10.1080/17447143.2016.1153642.
- [5] H. Herlyna, R. Ramadhina, and R. Romla, "Rhetorical moves in students' abstracts," *JELL (Journal of English Language and Literature) STIBA-IEC Jakarta*, vol. 9, no. 02, pp. 283–290, Aug. 2024, doi: 10.37110/jell.v9i02.249.
- [6] K. Hyland, *Disciplinary discourses: social interactions in academic writing*. Harlow: Pearson Education, 2000.
- [7] S. Ebadi, A. R. Salman, T. T. L. Nguyen, and H. Weisi, "Rhetorical structure variations in abstracts and introductions of applied linguistics master's theses by Iraqi and international students," *Iranian Journal of Language Teaching Research*, vol. 7, no. 1, pp. 101–117, 2019.
- [8] B. Ghasempour and M. Farnia, "Contrastive move analysis: Persian and English research articles abstract in law discipline," *The Journal of Teaching English for Specific and Academic Purposes*, vol. 5, no. 4, pp. 739–753, 2017, doi: 10.22190/JTESAP1704739G.
- [9] E. Tamela, "Move structure analysis on research article abstracts in national and international SCOPUS indexed journals," in *Proceedings of the International Conference on English Language Teaching (ICONELT 2019)*, Paris, France: Atlantis Press, 2020, pp. 12–17, doi: 10.2991/assehr.k.200427.004.
- [10] W. C. Mann and S. A. Thompson, "Rhetorical structure theory: toward a functional theory of text organization," *Interdisciplinary Journal for the Study of Discourse*, vol. 8, no. 3, pp. 243–281, 1988, doi: 10.1515/text.1.1988.8.3.243.
- [11] S. Hou, S. Zhang, and C. Fei, "Rhetorical structure theory: a comprehensive review of theory, parsing methods and applications," *Expert Systems with Applications*, vol. 157, Nov. 2020, doi: 10.1016/j.eswa.2020.113421.
- [12] K. C. Mintah, "Rhetorical structural patterns of postgraduate theses abstracts of related disciplines: a genre study," *Discourse and Interaction*, vol. 17, no. 1, pp. 73–93, 2024, doi: 10.5817/DI2024-1-73.
- [13] E. Kurniawan, "Humanities dissertation abstracts in Indonesian and English universities: a comparative move analysis," *Journal of Language Studies*, vol. 23, no. 2, pp. 57–74, May 2023, doi: 10.17576/gema-2023-2302-04.
- [14] S. N. Nav and S. Link, "Multimodal genre analysis of video abstracts: exploring rhetorical structure, hybridization, and innovation," *English for Specific Purposes*, vol. 78, pp. 17–32, Apr. 2025, doi: 10.1016/j.esp.2024.11.002.
- [15] M. B. D. Santos, "The textual organization of research paper abstracts in applied linguistics," *Text*, vol. 16, no. 4, pp. 481–499, 1996, doi: 10.1515/text.1.1996.16.4.481.
- [16] H. S. Alyousef, "Structure of research article abstracts in political science: a genre-based study," *SAGE Open*, vol. 11, no. 3, pp. 1–8, Jul. 2021, doi: 10.1177/21582440211040797.
- [17] G. Tankó, "Literary research article abstracts: an analysis of rhetorical moves and their linguistic realizations," *Journal of English for Academic Purposes*, vol. 27, pp. 42–55, May 2017, doi: 10.1016/j.jeap.2017.04.003.
- [18] S. Ahmed, "Rhetorical organization of tourism research article abstracts," *Procedia-Social and Behavioral Sciences*, vol. 208, pp. 269–281, 2015, doi: 10.1016/j.sbspro.2015.11.203.
- [19] A. R. Gustina, "Move analysis of undergraduate theses and undergraduate students' published research articles abstracts," Universitas Pendidikan Indonesia, 2020.
- [20] A. Z. Moghadam and H. Meihami, "A rhetorical move analysis of TEFL thesis abstracts: the case of Allameh Tabataba'i University," *Issues in Language Teaching (ILT)*, vol. 5, no. 1, pp. 1–23, 2016, doi: 10.22054/ilt.2016.7714.
- [21] D. Krajiňáková, "Genre analysis of English-written master's theses and dissertation abstracts in the setting of Prešov University," *Studia Anglica Resoviensia*, vol. 12, pp. 30–39, 2015, doi: 10.15584/sar.2015.12.3.
- [22] Y. Ma and F. Jiang, "Verbal and visual resources in graphical abstracts: analyzing patterns of knowledge presentation in digital genres," *Iberica*, no. 46, pp. 129–154, Dec. 2023, doi: 10.17398/2340-2784.46.129.
- [23] F. Jiang and K. Hyland, "Changes in research abstracts: past tense, third person, passive, and negatives," *Written Communication*, vol. 40, no. 1, pp. 210–237, Jan. 2023, doi: 10.1177/07410883221128876.
- [24] E. Kurniawan, A. H. Lubis, D. Suherdi, and A. A. Danuwijaya, "Rhetorical organization of applied linguistics abstracts: does Scopus journal quartile matter," *GEMA Online Journal of Language Studies*, vol. 19, no. 4, pp. 184–202, Nov. 2019, doi: 10.17576/gema-2019-1904-10.
- [25] I. Al Farisyi, I. A. Samad, and S. Marhaban, "The pattern of undergraduate thesis background rhetoric of two universities in Aceh," *Premise: Journal of English Education*, vol. 11, no. 2, pp. 257–278, 2022, doi: 10.24127/pj.v11i2.4237.
- [26] C. T. H. Phuong, "A move analysis of conference abstracts in applied linguistics-pedagogical implications for teaching and learning English for academic purposes," *VNU Journal of Foreign Studies*, vol. 34, no. 4, pp. 1–23, Aug. 2018, doi: 10.25073/2525-2445/vnufs.4284.
- [27] A. Morris, "Developing the interview guide," in *A Practical Introduction to In-Depth Interviewing*, London: SAGE Publications Ltd, 2018, doi: 10.4135/9781473921344.
- [28] A. Bouziane and F. E. Metkal, "Differences in research abstracts written in Arabic, French and English," *English Studies at NBU*, vol. 6, no. 2, pp. 233–248, 2020, doi: 10.33919/esnbu.20.2.4.





- [29] M. H. Nguyen, "Rhetorical moves and linguistic realisations of economics research article abstracts in international and Vietnam-based journals," *SAGE Open*, vol. 15, no. 2, 2025, doi: 10.1177/21582440251338936.
- [30] K. Özmen, "Rhetorical analysis of the doctoral abstracts on English language teaching in Turkey," *i-manager's Journal on English Language Teaching*, vol. 6, no. 1, 2016, doi: 10.26634/jelt.6.1.4808.
- [31] W. Amnuai, "Analyses of rhetorical moves and linguistic realizations in accounting research article abstracts published in international and Thai-based journals," *SAGE Open*, vol. 9, no. 1, Jan. 2019, doi: 10.1177/2158244018822384.
- [32] A. Galaidin, "A genre of research article abstracts in linguistics and engineering: a cross disciplinary study based on contrastive analysis of micro structures," *Language Culture Politics International Journal*, vol. 1, pp. 47–56, Dec. 2021, doi: 10.54515/lcp.2021.1.47-56.
- [33] D. Al-Zubi and S. Fareh, "English and Arabic abstracts in medical research articles: a contrastive study," *Cogent Arts and Humanities*, vol. 10, no. 2, pp. 1–15, Dec. 2023, doi: 10.1080/23311983.2023.2273602.
- [34] J. Zheng and J. P. Zompetti, "'I'm not a virus': Asian hate in Donald Trump's rhetoric," *Asian Journal of Communication*, vol. 33, no. 5, pp. 470–503, Sep. 2023, doi: 10.1080/01292986.2023.2246509.
- [35] J. Jose, "Rhetoric of natural law in the public discourse of Benedict XVI," *Church, Communication and Culture*, vol. 9, no. 1, pp. 37–58, Jan. 2024, doi: 10.1080/23753234.2024.2322548.
- [36] Y. Khajavi and A. Rasti, "A discourse analytic investigation into politicians' use of rhetorical and persuasive strategies: the case of US election speeches," *Cogent Arts and Humanities*, vol. 7, no. 1, pp. 1–15, Jan. 2020, doi: 10.1080/23311983.2020.1740051.
- [37] G. A. Praminatih, "Reporting verbs in hard and soft sciences of journal article abstracts: an insight from Indonesia," *Cogent Arts and Humanities*, vol. 10, no. 1, pp. 1–14, Dec. 2023, doi: 10.1080/23311983.2023.2225326.
- [38] H. S. Alotaibi, "The thematic structure in research article abstracts: variations across disciplines," *Cogent Arts and Humanities*, vol. 7, no. 1, pp. 1–12, Jan. 2020, doi: 10.1080/23311983.2020.1756146.
- [39] A. A. Wornyo, "Rhetorical strategy preferences in newspaper editorials," *Cogent Arts and Humanities*, vol. 9, no. 1, pp. 1–16, Dec. 2022, doi: 10.1080/23311983.2022.2146636.
- [40] R. Browdy and E. Milu, "Global black rhetorics: a new framework for engaging African and Afro-Diasporic rhetorical traditions," *Rhetoric Society Quarterly*, vol. 52, no. 3, pp. 219–241, May 2022, doi: 10.1080/02773945.2022.2077624.
- [41] E. Kurniawan and N. A. A. Sabila, "Another look at the rhetorical moves and linguistic realizations in international and Indonesian journal articles: A case of tourism research article abstracts," *Indonesian Journal of Applied Linguistics*, vol. 11, no. 2, pp. 318–329, Sep. 2021, doi: 10.17509/ijal.v11i2.32055.
- [42] S. Arsyad *et al.*, "The rhetorical structure and research gap strategies in journal article abstracts in language-related fields published in high-impact international journals," *LEARN Journal: Language Education and Acquisition Research Network*, vol. 16, no. 1, pp. 703–725, 2023.

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