



Please cite this paper as follows:

Pournazmi Sis, M., Zoghi, M., & Asadi, N. (2025). Investigating the Role of Interpersonal Grammatical Metaphor in Scientific and Literary Texts of Azeri Turkish: A Comparative Study Based on Halliday's Framework. *International Journal of Foreign Language Teaching and Research*, 13 (55), 77-88. <https://doi.org/10.71962/jfl-2025-1211597>

Research Paper

Investigating the Role of Interpersonal Grammatical Metaphor in Scientific and Literary Texts of Azeri Turkish: A Comparative Study Based on Halliday's Framework

Masoumeh Pournazmi Sis¹, Masoud Zoghi^{2*}, Nader Asadi³

¹ Department of Linguistics, Ah. C., Islamic Azad University, Ahar, Iran

masoma.pournazmi@iau.ir

0009-0004-8890-7420

^{2*}Corresponding author: Department of Linguistics, Ah.C., Islamic Azad University, Ahar, Iran

masoud.zoghi@iau.ac.ir

0000-0001-6480-0478

³Department of Linguistics, Ah. C., Islamic Azad University, Ahar, Iran

n.asadi@iau.ahar.ac.ir

0000-0002-2284-8497

Received: May 07, 2025

Revised: June 11, 2025

Accepted: July 31, 2025

Abstract

Language, as the main tool of human communication, has diverse structures and features that play an important role in the transmission of meaning and social interactions. One of the important approaches in language analysis is functional grammar or systemic functional grammar, which examines how language functions in different situations. In this framework, grammatical metaphor is considered as one of the key concepts that can play an important role in shaping and representing meanings in different texts. Halliday introduced and distinguished three types of grammatical metaphors, including ideational, interpersonal, and textual metaphors. In this study, the extent and way of using grammatical metaphors in literary and scientific texts in the Azeri language from an interpersonal perspective was investigated. For this purpose, the analytical-descriptive research method was used. In this study, for the scientific genre, the book "Dil and Dilchilik" by Ali Dashkin and for the literary genre, selected articles from the magazine "Anna Varlig" were selected as the data and analyzed. The results showed that there was no significant difference in the use of interpersonal grammatical metaphors in the two genres of science and literature. Furthermore, the examination of the components indicated a significant difference in the use of grammatical metaphors of mode and modality between the two genres; so that modality was used significantly more in science texts than in literary texts, and mode was used more in literary texts than in science texts. These findings can pave the way for further research in the field of applied linguistics and text analysis, especially in Azeri Turkish. In addition, the results of this study can help improve language teaching methods and scientific and literary writing and highlight the role of grammatical metaphors in the effective transmission of concepts. Finally, this study emphasized the importance of functional analyses in a deeper understanding of the structure and function of language in different genres.

Keywords: *Grammatical Metaphor, Interpersonal Metaphor, Mood, Modality*



Introduction

Language, as the most important means of communication for humans, plays a fundamental role in shaping and conveying concepts. In academic writing, the use of a variety of linguistic tools is essential for the accurate and effective expression of concepts, and grammatical metaphor is one of these important tools. This type of metaphor helps writers express complex concepts in a more concise and understandable way, while at the same time using linguistic structures flexibly. The theory of systematic role-oriented grammar, proposed by Michael Halliday, provides an efficient framework for analyzing this linguistic phenomenon and emphasizes the use of language in different situations. In this framework, grammatical metaphor is recognized as one of the important mechanisms in producing meaning and conveying concepts in scientific, literary, and administrative texts. Studying and better understanding this phenomenon can help improve the quality of academic writing and a deeper understanding of the semantic structures of language.

In other words, grammatical metaphor is one of the effective and important tools in academic writing that plays a significant role in conveying complex concepts and structuring the semantics of the text. According to Michael Halliday's theory, grammatical metaphor occurs when ideas and concepts expressed in the form of a specific grammatical structure, such as a verb, are reconstructed in the form of another grammatical structure, such as a noun. This type of metaphor, which is widely used in administrative, scientific, and academic texts, is an important part of systematic functional linguistics. Functional linguistics, which is one of the prominent approaches in language studies, examines the use of language in social contexts, and systematic grammar is a subset of this approach developed by Halliday. The main goal of this theory is to apply language analysis in such a way that language is seen not simply as a set of rigid rules, but as a dynamic and choice-based system for constructing meaning. In this view, grammar is defined as a network of options and choices, each of which serves specific communicative and semantic purposes. In contrast to the traditional view that focuses only on grammatical structures, this approach pays special attention to the interaction between grammar and meaning, as well as the role of language in social exchange. Therefore, grammatical metaphor in this framework is recognized as a tool for representing more complex meanings and conveying concepts in an indirect and creative way that contributes to the enrichment of scientific and academic texts and allows for a more precise and multifaceted expression of concepts. The development of this concept shows that systematic functional linguistics, by emphasizing the different functions of language in social situations, has been able to provide a comprehensive framework for the analysis of language in which grammar and meaning are examined in an integrated manner. This theory allows researchers to look beyond mere grammatical rules to gain a deeper understanding of how meanings are formed and the role of grammatical metaphors in the production of specialized and scientific texts. In this way, grammatical metaphor is not only a linguistic phenomenon, but also an efficient tool for representing complex concepts and interpersonal interactions in language, which plays a key role in various texts, especially in academic writing.

Human language takes on a specific and specific form in each of its fields of application, and each language, based on the living conditions and social relations of humans, uses specific lexical, semantic, and syntactic structures and features that distinguish it from other language types. Scientific and literary language types are no exception to this rule, and each has specialized vocabulary, special terms, specific syntactic structures, and unique discourse features that make them stand out in their field. From the perspective of science, language is considered the best tool for recognition, understanding, and comprehension, and all scientific productions are expressed and transmitted in the form of language; in other words, science and knowledge are created with language and are manifested in it. Scientific texts, as one of the important language types, play a fundamental role in the transmission of knowledge, research, and specialized findings. These



texts are usually written in precise, formal, and specialized language and include technical vocabulary, specific terms, and regular syntactic structures that help convey concepts clearly and accurately. In Azeri Turkish, scientific texts have a special place and are published in the form of books, articles, research reports, and educational texts. For example, the book "Dil and Dilchilik" by Ali Hosseinzadeh Dashgin is one of the important sources in the field of Azeri Turkish language and literature that analyzes language scientifically and professionally. From a literary perspective, literary texts, as a part of language, are a special and artistic manifestation of the use of language to express human feelings, thoughts, and experiences. These texts include various types of poetry, stories, plays, and literary criticism, each of which uses language in a creative and aesthetic way to convey deep and complex concepts. In Azeri Turkish, literary texts also have a special place and are published in the form of various works such as classical and contemporary poems, short stories and literary articles. For example, the magazine "Ana Varliq" is one of the important research sources in the field of Azeri Turkish language, literature, culture and art, which is published quarterly and presents numerous articles and literary works in this field.

In this regard, the present study, using Halliday's systematic role-oriented grammar, examines the capabilities and characteristics of the Azeri Turkish language in two genres, scientific and literary. For this purpose, two text corpuses, including the magazine "Ana Varliq" as an example of literary texts and the book "Dil and Dilchilik" as an example of scientific texts, have been selected and analyzed. This study attempts to demonstrate the role of Azeri Turkish in conveying scientific and literary concepts more accurately and efficiently, using the theoretical framework of role-oriented grammar, and to examine the structural and semantic differences and similarities of these two genres in this language. Such research can contribute to a better understanding of the linguistic and discursive characteristics of Azeri Turkish and highlight its role in the development of knowledge and culture in the region.

Theoretical foundations of the research

Language plays a key role in encoding and decoding scientific experiences and transferring information between the minds of individuals and external realities. The linguistic diversity that results from different uses of language is known as valid linguistic styles and varieties within the framework of systematic role-oriented linguistics. Scientific discourse, as a special linguistic variety, has specialized vocabulary and special grammatical structures that distinguish it from other linguistic varieties (Halliday and Martin, 1993). On the other hand, literary texts, in addition to their artistic value, also play an important role in preserving and transmitting the culture and linguistic identity of each region and are known as a rich source for the study of language and literature. Also, examining the linguistic and discursive structures of scientific and literary texts can help to better understand the characteristics of language and the methods of scientific and artistic expression in a language and pave the way for comparative linguistic, literary, and scientific research.

In the framework of Halliday's systematic role-oriented grammar, grammatical metaphor is recognized as one of the important tools in shaping scientific discourse. Halliday has introduced three types of grammatical metaphors, including ideational, interpersonal, and textual, each of which has a specific role in representing meanings. Grammatical metaphor is of particular importance in both scientific and literary texts, and plays a key role in conveying complex concepts and enriching language. In scientific texts, grammatical metaphor is used as a tool to compress information, specialize content, and increase the clarity of concepts, allowing writers to express abstract and complex concepts in a structured and precise manner. On the other hand, in literary texts, grammatical metaphor manifests itself in a different way and is more in the service

of creating linguistic beauty, expressing emotions, and creating mental images that contribute to the artistic richness of the text.

Numerous studies (Eslami and Rezaei Jamkarani, 2021; Akbari and Valipour, 2016; Seifuri et al., 2016; Tampbolon and Sidabutar, 2025; Zhang, 2018) have been conducted on the use of grammatical metaphor in scientific and literary texts in Persian and English. These studies indicate the importance of grammatical metaphors in the formation and analysis of scientific and literary discourses. According to these studies, it is clear that the analysis of grammatical metaphor, especially within the framework of Halliday's systematic role-oriented grammar, is an efficient tool for better understanding specialized and artistic language and can contribute significantly to the development of applied linguistics research and language teaching.

According to the studies that have been conducted in this field so far, grammatical metaphor is of particular importance in the development of literary and scientific writings. Therefore, this research aims to investigate the issue of whether interpersonal grammatical metaphor is also important in Azeri Turkish scientific and literary texts by using Halliday's systematic role-oriented grammar methods with a specific grammatical structure as grammatical metaphor. Special focus on interpersonal grammatical metaphor is of particular importance because this type of metaphor plays a role in linguistic interactions and relationships between the speaker and the audience and can change the way the message is effective and how communication is established. According to Eslami and Rezaei Jamkarani (2021), interpersonal grammatical metaphor redefines social and communicative roles by changing grammatical structures and allows the speaker to convey his position, attitude, and feelings in a more effective way. This feature is especially important in scientific and literary texts that require precise or effective transmission of concepts. Therefore, analyzing and examining interpersonal grammatical metaphor can help to better understand how meanings are formed and transmitted in the two scientific and literary genres and show how language serves the different purposes of these two linguistic varieties.

In this study, the authors intend to analyze a collection of scientific and literary texts in Azeri Turkish, and to show the use of grammatical metaphor, especially from the perspective of interpersonal grammatical metaphor as one of the key elements in the transmission of meaning and the regulation of communicative relations in these two areas. Although numerous studies have been conducted in recent years on metaphor and its role in the linguistics of different languages, it seems that there is a significant lack of studies in Azeri Turkish, especially in the field of analyzing interpersonal grammatical metaphor, which highlights this research gap. Interpersonal grammatical metaphor, unlike ideological and textual metaphors, deals with how social relations and speech roles between speaker and audience are represented and regulated, and therefore is of particular importance in understanding linguistic interactions and how attitudes, feelings, and communicative positions are conveyed.

Since both scientific and literary discourse use language to communicate with the audience in some way, examining the use of interpersonal grammatical metaphor can help clarify how interpersonal relations are managed in these texts. Scientific language, by using specialized and precise structures, in addition to transmitting knowledge, also plays the role of regulating formal relations and maintaining scientific credibility; while literary language, by using interpersonal metaphors, creates a specific emotional and communicative atmosphere that adds to the artistic richness of the text. Therefore, analyzing these types of metaphors in the two scientific and literary genres of Azeri Turkish can lead to a better understanding of their linguistic and communicative differences and similarities.

The results of this research can be effective in facilitating the understanding of scientific and literary texts for different audiences and help students, researchers in linguistics,



dialectology, as well as Turkish language promotion associations to be more successful in producing and analyzing specialized and artistic texts by more accurately understanding the linguistic structures and functions of interpersonal grammatical metaphor. In general, this study, by filling the gap in Azeri Turkish research, highlights the role of interpersonal grammatical metaphor in shaping and transmitting meanings and regulating linguistic relations in scientific and literary texts and will pave the way for deeper and more practical research in this field.

Considering the above, it can be acknowledged that by reviewing the previous studies introduced in the background section, it was found that so far, a comprehensive and complete study has not been conducted on the study of grammatical metaphors from the perspective of Halliday's functional linguistics in the Azeri Turkish language, and the existing studies seem insufficient. Therefore, this study is considered new and innovative. Therefore, the use of Halliday's systematic functional grammatical framework in analyzing the structure of the Azeri Turkish language allows for a faster and easier understanding of meaning. Also, the use of grammatical metaphor in understanding the content of scientific and literary texts can greatly help reduce the grammatical and semantic complexities of these texts. The main purpose of this study is to investigate the use of interpersonal grammatical metaphor in scientific and literary texts in the Azeri Turkish language, which can lead to the enrichment of linguistic analyses and improved understanding of specialized and artistic texts in this language.

The authors are trying to analyze their data and compile the present study to provide an appropriate answer to this question in the results of this study.

RQ1: To what extent are grammatical metaphors used in the interpersonal dimension (facet and aspect) in the scientific and literary genres of the Azeri Turkish language?

Considering the question raised, the following hypothesis has been designed:

H1: The extent of use of grammatical metaphors in the interpersonal dimension varies in the scientific and literary genres of the Azeri Turkish language.

Background of the study

System-based role-oriented grammar is a model of grammar that Michael Halliday developed in the 1960s, in which three types of grammatical metaphors are defined: ideational, interpersonal, and textual. The introduction of grammatical metaphor is recognized as an important step in the progress of systematic role-oriented linguistics. In this approach, metaphor means diversity in the expression of meaning, not simply diversity in the use of words. In other words, the difference in the message is a kind of semantic variation that Halliday (1994) calls grammatical metaphor. Halliday also emphasizes that grammatical metaphor plays an important role in conveying rhetorical meanings. Accordingly, grammatical metaphor refers not only to lexical changes but also to structural and syntactic changes, and this variation in grammatical forms provides a basis for creating new and richer meanings in the language.

Rezapour and Arabani Dana (2016) believe that grammatical metaphor is one of the key concepts in functional linguistics that refers to the change of grammatical structures to express new meanings. Unlike lexical metaphors that are based on the substitution of words, grammatical metaphor involves the use of different syntactic structures to convey complex and abstract concepts. Michael Halliday, the founder of systematic role-playing grammar, has identified three types of grammatical metaphor: ideational metaphor, interpersonal metaphor, and textual metaphor. Ideological metaphor refers to changes in structures related to the expression of experiences and concepts, interpersonal metaphor refers to changes in structures related to social relationships and speech interactions, and textual metaphor refers to changes in the organizational structures of a text.

Taverniers (2003) defined interpersonal grammatical metaphor as the doubling of semiotic meaning and the doubling of context in terms of meaning. This grammatical metaphor is

concerned with the prevailing relations between the speaker and the addressee(s), their degree of familiarity and intimacy, and such factors. Interpersonal metaphors represent the meanings of speech-role in a different way than non-metaphorical interpersonal expressions, and experiential grammatical metaphors represent the intended meanings in a different way than non-metaphorical empirical expressions. Interpersonal grammatical metaphor includes two types of grammatical metaphors: Mood and Modality (Halliday & Matheson, 2004).

Mood grammatical metaphor

According to Halliday (1994), mood expresses the speech roles of phrases, questions, suggestions and requests, each of which has its own standard and assumed encodings, i.e., for example, a question phrase is expressed with an interrogative clause. In fact, the variety of mood is called mood metaphor, which transforms one mood into another, and one mood can reflect two or more linguistic roles. That is, when we mean a question phrase, we use a news clause instead of using the congruent form, which is the same as the interrogative clause.

Halliday (2004) considers mood as a part of the grammatical metaphor of mood. According to Halliday, mood metaphor has at least two main features that are related to each other. First, these metaphors are based on the relationship between the categories of speech roles of news, interrogative, imperative and suggestion on the one hand and the expression of these categories through different types of mood on the other hand. Second, the distinction between Exchange of information and Exchange of goods and services plays an important role in identifying and defining metaphors of mood; because in the exchange of information, two main speech roles are involved, including news and question, and in the exchange of goods and services, two main speech roles are involved, including suggestion and command, and in fact, mood is the representative of speech roles. Therefore, news and interrogative moods are related to the exchange of information, and imperative moods are related to the exchange of goods and services. In the metaphor of mood, the mood of the clause changes and in fact, one mood can represent two or more language roles. For linguistic reasons, the speaker can use the interrogative mood instead of using the news mood; for example, instead of using the news mood, the speaker can express "Salt and sugar are harmful to humans" as the interrogative mood "Do you know that salt and sugar are harmful to humans?"

Modality Grammatical Metaphor

Xu (2009) believes that in direct orientation, modality clauses are used to express psychological processes to highlight the speaker's direct views and the speaker is responsible for judgments and suggestions; while in indirect orientation, such clauses are used to express relational processes and the speaker's views are reduced and the speaker is not responsible for judgments. In the metaphor of added modality, modality becomes a clause, for example, the clause "Ali is likely to go to school tomorrow" is expressed as "Ali is likely to go to school tomorrow". In fact, one clause becomes two clauses. Modality is expressed in the form of modal verbs. However, in the metaphorical case, it is expressed with a small clause. For example, when we mean "probably," we use the phrase "I think," and when we mean "definitely," we use the phrase "I believe." In fact, the aspect is a judgment about things. An aspect expressed by a small clause is metaphorical. The aspect clause, as the main clause, performs the function of representing the speaker's attitude towards the occurrence of the proposition (the subordinate clause), and in fact, the aspect clause in the metaphorical form replaces the aspect addition in the homogeneous form. The main functions of the aspect metaphor in political texts are to objectify ideologies, express the author's attitude and the degree of certainty of the occurrence of the proposition, and highlight ideologies (Rezapour, 2015).



Studies on the role of interpersonal grammatical metaphor in scientific and literary texts of Azeri Turkish are relatively limited based on Halliday's perspective, but some studies have examined the types of grammatical metaphors in other languages, which can pave the way for comparative research in this area. Studies such as the study of metaphor in Azeri Turkish address phrases (Marzi et al., 2021) have paid attention to the communicative and interpersonal aspects of language and have shown that linguistic metaphors, especially in address phrases, play an important role in expressing emotions and regulating social relations.

Also, studies related to conceptual metaphors in Azerbaijani Turkish poetry, such as the study of "Ayriliq Conceptual Metaphors" by Shahidi Tabar and Pourqasemian (2021), show that metaphors in Azeri Turkish literary texts are deeply connected to culture and environment and play an important role in shaping artistic meanings.

Huang & Yu (2021) stated in a study titled "A Comparative Study of Grammatical Metaphors in Chinese Master's Theses Abstracts and Scientific Articles" that grammatical metaphor is widely used in scientific and academic texts. This study, using Halliday's systematic role-based theory, compared the abstracts of master's theses and research articles. The results showed that in both types of texts, the use of grammatical metaphors was high and no statistically significant difference was observed between them. However, the frequency of grammatical metaphors was reported to be higher in articles than in theses.

Zhou (2024) conducted an article in the field of academic texts and interpersonal metaphor. Drawing on diachronic and contemporaneous ensemble analyses, this paper examines the interpersonal metaphor preferences of the facet, which are realized by explicit subjective orientation, explicit objective orientation, and implicit objective orientation, in the academic disciplines of the Contemporary American English (COCA) ensemble. Findings indicate that explicit subjective orientation is generally avoided by academic writers in the later stages of COCA and is used less frequently in the natural sciences than in the social sciences and humanities. Explicit objective orientation, which expresses a low modal value of probability, i.e. possible, and a medium value of commitment, i.e. important and necessary, is not sensitive to the three stages and academic disciplines in COCA. Implicit objective orientation, involving possibility and importance, significantly uses probability and necessity, which express a medium value of probability and a high value of commitment, respectively, to conceal the subjective judgments of researchers about the proposition under consideration. This research is important in clarifying the use of the interpersonal metaphor method in academic writing across disciplines.

Research Method

Data Text

Given the difficulty of finding scientific texts in Azeri Turkish during the data collection process of this study, the only source appropriate to the research method was the book "Dil and Dilchilik". Therefore, the statistical volume of data for the analysis of literary texts was determined based on the number of pages and paragraphs of this book in order to provide a logical match with the volume of scientific texts. In other words, to maintain balance in the studies, the sample size of literary texts was considered to be in line with the volume of scientific texts. The corpus of this study consists of two main parts: the literary part, which includes a collection of articles and texts published in the magazine "Ana Varliq" and the scientific part, which includes the book "Dil and Dilchilik" written by Ali Dashkin. The magazine "Ana Varliq", which is published quarterly, covers literary, artistic, cultural and historical fields and has a special focus on the Turkish language and dialects in Iran, Azerbaijan and the world. This quarterly also examines Turkish history, literature, culture and language policies related to the strengthening of the language The Turkish criterion in Iran. The samples used in this study include 10 volumes from 2016 to 2018 of this quarterly. On the other hand, the book "Dil and

Dilchilik", written by Ali Dashkin in 2009, is dedicated to general linguistics and has been selected as the main source of scientific texts in this study. This combination of scientific and literary sources allows for a more accurate and comparative analysis of the use of grammatical metaphors in Azeri Turkish and helps to better understand the structures and linguistic features in two different genres.

Research Methodology

In this study, the research method was descriptive-analytical and content analysis. To achieve the research objectives, all texts related to the two scientific and literary genres, including articles published in the journal "Anna Varlig" and the book "Dill and Dilchilik", were examined and analyzed using Halliday's (2004) theoretical framework. First, scientific texts were studied directly, and then literary texts were analyzed to accurately identify and describe interpersonal grammatical metaphor. In this process, the metaphors used in both genres were described in detail and analyzed in terms of mode and aspect based on Halliday's systematic role-playing approach. In addition, a comparison was made between grammatical metaphors found in scientific and literary texts to determine their differences and similarities in application in the two areas. This analytical method allows us to achieve a deeper understanding of their role in conveying meaning and regulating interpersonal relationships in scientific and literary texts, in addition to quantitative and qualitative descriptions. In this study, interpersonal grammatical metaphors, including metaphors of aspect and aspect, were first carefully examined in both scientific and literary genres. The results of these studies were presented in separate tables, and the number of each type of metaphor was accurately counted and recorded to determine the extent of use of each in each genre. In the next stage, in order to increase the validity of the data, all extracted data were provided to the supervisor to assess the accuracy and precision of the analyses. Then, in the third stage, the analyzed data were statistically analyzed using SPSS statistical software, and graphs and tables related to each type of metaphor in each genre were drawn. Finally, a comparison was made between the metaphors used in scientific and literary texts to determine their functional differences and similarities. The unit of analysis in this study was the "clause" and each clause on the pages was carefully counted, the results of which are presented in the relevant tables. This systematic and multi-stage method allows for a comprehensive and accurate analysis of interpersonal grammatical metaphors and helps to better understand the role of these metaphors in regulating speech relations and conveying meanings in the two scientific and literary genres.

Data Analysis

Given that in systematic role-based grammar, the clause is considered the central unit of analysis, this study, like similar studies in other languages, has based its unit of analysis on the clause. In this regard, all clauses in the texts of the two scientific and literary genres, as well as the grammatical metaphors used in them, were carefully counted. Then, considering the total number of clauses in each text, the percentage of grammatical metaphors used in each text was calculated to accurately determine the share and extent of use of these metaphors. In the next step, using statistical methods and the Chi-square test, the data obtained were analyzed and the frequency and abundance of grammatical metaphors in the selected texts were determined. The results of these analyses were presented in the form of frequency tables and graphs in a visual format so that the trend of metaphor use could be clearly seen.

To ensure the validity and reliability of the results, the test-retest method was used; in this way, after one month of the initial analysis, the corpus was examined again without regard to the previous results. This review showed that more than 90 percent of the analyses and findings were

consistent with each other, which indicates the high reliability of the data and the accuracy of the analytical method used in the research. This systematic and rigorous approach ensures that the results of the analysis of grammatical metaphors in scientific and literary texts are presented in a reliable and valid manner and can serve as a suitable basis for further studies in the field of role-oriented linguistics.

Results

Question 1: According to Halliday's role-oriented perspective, to what extent are grammatical metaphors used in the interpersonal dimension (face and aspect) in the scientific and literary genres of the Azeri Turkish language?

According to Table (1), it can be seen that according to Halliday's role-oriented perspective, in the interpersonal dimension of the scientific genre, out of 854 existing clauses, grammatical metaphors were used in 112 clauses (13%), which included 7 clauses (1%) of face and 105 clauses (12%) of aspect. In 742 clauses (87%), interpersonal grammatical metaphors were not used; in the interpersonal dimension of the literary genre, out of 855 existing clauses, grammatical metaphors were used in 51 clauses (6%), which included 12 clauses (1.5%) of face and 39 clauses (4.5%) of aspect. In 804 clauses (94%), interpersonal grammatical metaphors were not used.

Table 1

The extent of use of interpersonal grammatical metaphor in scientific and literary genres

Percentage	Number	Options	Genre Type	
1	7	Usage of Mood	Interpersonal (Mood / Modality)	Scientific Text
12	105	Usage of Modality		
13	112	Total Usage		
87	742	Non-Usage		
100	854	Grand Total		
1,5	12	Usage of Mood	Interpersonal (Mood / Modality)	Literary Text
4.5	39	Usage of Modality		
6	51	Total Usage		
94	804	Non-Usage		
100	855	Grand Total		

First hypothesis: According to Halliday's role-oriented perspective, the level of grammatical metaphor usage in the interpersonal dimension is different in scientific and literary genres of Azeri Turkish.

According to the chi-square test (χ^2) conducted and based on the information in Table (2) to examine the difference in the use of grammatical metaphor in scientific and literary genres, it is observed that the level of usage of metaphors of aspect in the scientific genre was 7 items (6.3%) and in the literary genre was 12 items (23.5%); also, the level of usage of metaphor of aspect in the scientific genre was 105 items (93.8%) and in the literary genre was 39 items (76.5%). Based on the information in Table (3), a significant difference was observed between the level of usage of grammatical metaphor of aspect and aspect in the two scientific and literary genres ($p=0.05<$, $\chi^2 = 8.55$), and the use of aspect in the scientific genre was significantly more than in the literary genre, and the use of aspect in the literary genre was also more than in the scientific genre.

Table 2

Frequency distribution of differences in the use of interpersonal grammatical metaphors in scientific and literary genres

Total	Genre Type		Variables		
	Literary	Scientific			
19	12	7	Number	Mood	Interpersonal
11.7	23.5	6.3	Percentage		
144	39	105	Number	Number	
88.3	76.5	93.8	Percentage		
163	112	112	Number	Total	
100	100	100	Percentage		

Table 3

Results of the univariate chi-square test

χ^2	8.55
df	1
P	0.003

Discussion and Conclusion

According to the chi-square test conducted to examine the difference in the use of grammatical metaphor in scientific and literary genres, it is observed that the amount of use of metaphors of form in the scientific genre and in the literary genre, as well as the amount of use of metaphor of form in the scientific genre and in the literary genre, has shown a significant difference, and the use of form in the scientific genre is significantly higher than in the literary genre, and the use of form in the literary genre is also higher than in the scientific genre.

These differences are due to the different nature and goals of these two genres. Scientific texts are more likely to convey accurate information, while literary texts focus on expressing feelings and attitudes. The use of form in literary texts allows the author to express his feelings and attitudes in a more subtle way. Form allows writers to express complex concepts more precisely by using specific linguistic structures. This type of expression can help readers to easily understand information and reduce ambiguity. Facets can help attract readers' attention. By using attractive and meaningful language structures, writers can establish a better connection with their audience and encourage them to better understand the concepts.

In this regard, the results of Rezapour's (2015) research show that the main functions of the metaphor of facet in political texts are the objective representation of ideologies, the expression of the author's attitude, the degree of certainty of the occurrence of the proposition, and the highlighting of ideologies. Mubarak and Heydar Nasab (2014) have reached results that are not in line with the current research; in their opinion, in the metaphor of facet, based on the semantic relationship, in the metaphorical case, a small clause replaces grammatical roles; in other words, in compound sentences, the subordinate clause is a clause that replaces a grammatical role (nominal, complement, object, adverb, etc.), and this replacement has caused the text to be extensive. In the narrative text of this story, this type of grammatical device transfer is widely used, and due to the simple and explicable context of the dialogue between the actors, most grammatical roles are used in the form of a small clause that plays the role of a follower in a complex sentence.

Halliday (2004) considers the figure of speech as a part of interpersonal grammatical metaphor. According to Halliday, the figure of speech metaphor has at least two main features that are related to each other. First, these metaphors are based on the relationship between the speech role categories of news, interrogative, imperative and suggestion on the one hand and the expression of these categories through different types of modalities on the other hand. Second, the distinction between information exchange and the exchange of goods and services plays an important role in identifying and defining modality metaphors, because in the exchange of information, two main speech roles are involved, including news and question, and in the exchange of goods and services, two main speech roles are involved, including suggestion and command, and in fact, modality represents speech roles. According to the results obtained, this has been more evident in literary texts. The results of the studies conducted in the scientific and literary genres of the Turkish language indicate that grammatical metaphors play an important role in creating semantic coherence and cause texts to be continuous in terms of semantic flow. In general, according to the research findings, it can be stated that each linguistic community has a specific type of culture in which it presents the concepts, thoughts, and meanings it needs. The meanings in this format create a social system specific to a language. Human and social communication, as well as the thoughts of a human society, are developed according to the concepts in the language. In this regard, the position and role of grammar in the application and promotion of concepts is significant. A specific concept can manifest itself in different grammatical formats.

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