A Comparative Study of Evaluation in Chinese and Foreign Scholars' Forestry Academic Papers

-- Based on Local Grammar

Guihua Luo[a], Zixin Pan[b] and Linglin Xiang[c]

School of Foreign Languages, Central South University of Forestry and Technology, Changsha 410000, China

[a]Luowenting8552@126.com, [b]790768716@qq.com, [c]784923456@qq.com

Abstract

In recent years, Local Grammar research has become a hot topic in linguistics, and the study of evaluation language is always receiving great prominence. However, just a few scholars have explored the similarities and differences of evaluation language among scholar groups with different cultural backgrounds in the same discipline from the perspective of local grammar. This paper collects academic papers from forestry journals and builds two comparable corpus, and then in the corpus retrieve evaluation patterns and local grammar patterns using software AntConc. Afterward, this paper compares the frequency of the evaluation patterns in the two corpus, and obtains the top three evaluation patterns "n v-link ADJ to-inf.", "it v-link ADJ to-inf." and "it v-link ADJ that", of which the most used local grammar patterns are analyzed. The research results show that Chinese and foreign forestry scholars share three evaluation patterns and most of the top local grammar patterns of the three evaluation patterns, but the differences in its constituent characteristics and frequency of use are also obvious.

Keywords

Local Grammar; Evaluation Language; Forestry Academic Papers.

1. Introduction

"Evaluation" is the expression in discourse of what a writer or speaker thinks and feels. It is often discussed under the heading of "stance" or "the subjectivity". (Hunston & Thompson 2000). It is the core function of language and an important resource for constructing and maintaining social relations. Nevertheless, since evaluation does not have its own grammar, few scholars can give a detailed description of the evaluation language. Based on this, some corpus linguistic scholars link evaluation with Local Grammar and put forward the concept of Local Grammar of Evaluation.

The theoretical subjects of Local Grammar stem from the Restricted Language of Firth (1968) and the Sublanguage of Harris (1968). Based on the analytical framework of modes of meaning, Firth (1968) proposed the concept of "Restricted Language", and made clear that It is important for participants to use specialized vocabulary, grammar, and style in related situations, and unique grammar and vocabulary are the key to the expression of meaning in Restricted Languages. However, due to the limitations of various aspects (such as technology), Firth's Restricted Language failed to establish a more refined meaning research model, and lacked more analysis and description techniques. Therefore, Harris (1968) further developed the Restricted Language into Sublanguage. He took scientific and technological texts as a special research area and put forward Sublanguage. It could be defined as a subset of scientific and technology texts in the overall language, with limited vocabulary, structure, and meaning.

Firth's Restricted Language and Harris's Sublanguage gave Gross great inspiration. Gross (1993) found that scientific and technological texts contain a lot of fixed expressions such as idioms and dates. But there are fairly fixed interdependencies within these structures, and it can be regarded as a kind of "finite state language", so it is appropriate to describe them from "local grammar". On this basis, Hunston & Sinclair (2000) conducted further research and established "Local Grammar of Evaluation". It is the first one identify language functions by patterns, which has strong exploratory characteristics. Currently, local grammar is divided into the following types: "local grammar of definition (Barnbrook 2002)", "local grammar of evaluation (Hunston & Sinclair 2000)", "local grammar of cause and effect" (Allen 2005)", "local grammar of affect (Bednarek 2008)", "local grammar of judgment (Su 2015)", "local grammar of movement (Sui 2015)", etc..

Among the types of local grammars listed above, the local grammar of evaluation based on the significance of valuation have more in-depth discussions and more research results. Hunston and Sinclair (2000) noticed that the implementation of evaluation meaning in natural language is very limited, so they tried to describe evaluation meaning based on patterns and construct Local Grammar of Evaluation. Based on the six evaluation types identified by Francis et al. (1998) established as the operation objects "Evaluator", "Evaluation category", "The evaluated" and "Evaluation response", and matched them with the language structural categories, and then successfully construct Local Grammar of Evaluation.

Till now, local grammar of evaluation has made great achievements in theory construction and application. Since the local grammar of evaluation has been proposed, foreign scholars have made further developments, studying its patterns and constructs (Hunston & Su 2019), as well as the refinement of local grammar of evaluation (Laporte 2007). It has also been applied to different fields, such as academic discourse (Hunston 2011) and legal discourse (Pontrandolfo & Goźdź-Roszkowski, 2014). China have also witnessed the application of researches on the local grammar of evaluation in different discourses, cinluding business letter (Cao, 2020), media discourse (Liu 2021), and especially on the comparison of characteristics of Local grammar of evaluation patters in academic discourses, including law academic discourse (Zhang & Wei 2017), medical academic discourse (Tian, 2019), business academic discourse (Liu et al 2021), and etc. in recent years. All these have promoted the development of local grammar of evaluation in China.

However, as discourse of several disciplines has been included from the perspective of local grammar of evaluation, forestry academic discourse has been neglected. Since forestry is an important academic field, this paper will focus on the local grammar of evaluation in forestry academic papers. Local grammar of evaluation is used as the theoretical framework to analyze the evaluation patterns in the two corpus. In this way, we hope to throw some light to the development of forestry academic studies.

2. Research Design

2.1.   Corpus and Research Method

This paper uses self-built corpus of academic papers of forestry scholars, including the foreign scholars' forestry corpus (FOREST-En) and the China scholars' forestry corpus (FOREST-Ch). The corpus comes from research papers in CNKI, VPCS, and International Periodicals, etc. 15 papers with a storage capacity of 294 953 words are included FOREST-En and 15 papers with a storage capacity of 230 442 words in FOREST-Ch.

Referring to the adjectives and co-occurring patterns related to the meaning of evaluation in Francis et al. (1998) and Zhang & Wei (2017), this paper uses AntConc to retrieve evaluation patterns in the two corpus. Afterwards, all the examples which express the meaning of evaluation are checked by reading line by line all the retrieved patterns. And finally 10 most

used evaluation patterns are obtained, and the local grammar characteristics of the top three evaluation patterns are discussed in details.

2.2. Concepts of Local Grammar of Evaluation

Based on Zhang & Wei (2017), the basic concepts in local grammar of evaluation related to the discussion of this paper are introduced as follows:

(1) Evaluation pattern: It is an important concept in local grammatical analysis, which is composed of specific evaluative words and co-occurring words or structures, and expresses certain evaluation meaning. For example, the pattern "it v-link ADJ to-inf." is composed of "it", "link verb", "adjective" and "infinitive structure", and the evaluative meaning is evolved with each word in the pattern, especially the ADJ, which is the specific evaluative word.

(2) Functional category: used to describe the functional roles embodied in the components of the pattern. Functional categories related are defined and exemplified in Table 1.

Table 1. The main functional categories

Functional category	Definition and example
Evaluation category	It refers to the evaluation opinions and attitudes expressed by the evaluation subject. e.g.: It is necessary to plan more detailed further studies.
The evaluated	It refers to the topics discussed in the pattern, including people, entity, acts, propositions, and so on. e.g.: It is important to take into account the seasonal availability of crop...
Act	Act is performed or caused by the evaluated. e.g.: This thesis is able to provide an indication of the costs and GHG emissions of the configurations relative to each other.
Hinge	It is the connecting component between the evaluated categories or the formal subject "it" and the evaluation category.

(3) Semantic parameters: used to describe the features of meaning embodied in the pattern. Functional category and the evaluated are divided into further semantic parameters to describe the semantic distinction within the evaluation pattern at a finer granularity. See table 2 and 3 as follows:

Table 2. Semantic parameters of functional category

Semantic parameters	Definition and example
Likelihood	It refers to the uncertainty of behaviors, or statements, including "possible", "likely", "potential", "conceivable", and so on.
Certainty	It refers to the inevitability of acts, or statements, including "clear", "sure", "affirmative", and so on.
Difficulty	It refers to the level of hardship to complete certain job or reach a certain goal, including "hard", "painful", "difficult", "easy", "simple", and so on.
Importance	It refers to the significance of entity, acts, or statements, including "important", "significant", and so on.
Reasonabili-ty	It refers to whether entities, acts, or statements are reasonable or appropriate, including "appropriate", "suitable", "reasonable", and so on.
Desirability	It refers to the pros and cons, benefits or actual effects of entities, behaviors or statements, including "useful", "beneficial", "harmful", and so on.
Ability	It refers to the capacity or obligation possessed or given by a person (group of person) to perform actions, including "able", "capable", "responsible", and so on.

Table 3. Semantic parameters of the evaluated

The evaluated	Semantic parameters	Definition and example
forestry	Forestry entity	It refers to the people or entities involved in the forestry field, including "meteorology", "ecology", "farmland", "forestry" and so on.
	forestry activity	It refers to the behavior in the forestry process. e.g.: It is optimal **to maximize the amount of carbon sequestered……**
	forestry proposition	It refers to statement or point of view in the forestry field. e.g.: It is foreseeable that **forest farmers will have no interest in SFM and certification in the short term.**
Research	research entity	It means the people or entities involved in the research process. e.g.: **The seed mass hypothesis** is likely to explain why large ……
	research activity	It refers to the relevant behavior in the research process. e.g.: It is important **to do analysis of seasonal variations of four variables…… by choosing shorter periods of study.**
	research proposition	It means the statement about scientific study. e.g.: It is possible that **more complex thinking may be revealed by more detailed research.**
Physical world	physical world entity	It means the people or entities involved in the physical world. e.g.: **The Tung tree** is unique to China, covering a total area of 1.8 m^2.
	physical world activity	It refers to the relevant behavior in the physical world. e.g.: It is impossible to **predict the weather conditions** in the distant…
	physical world proposition	It means the statement about the physical world. e.g.: It is likely that the **frequency of heat waves has increased in large…**

(4) Local grammar pattern: It is composed of functional category and semantic parameters, and is the overall description of the functional or semantic features of the evaluation pattern. It can be exemplified as follows:

Table 4. Local grammar Pattern "n + v-link + ADJ + to"

The evaluated	Hinge	Evaluation category	Act
n	v-link	ADJ	to-inf
Certification	is	hard	to have in-depth impact forest management in a short term.

(5) Characteristic local grammar pattern: refers to the local grammar patterns whose frequency distributions are significantly different between the two groups. If the number of frequency is four or over, it can be called the characteristic local grammar pattern. The establishment of this concept aims to reveal the differences evaluative features of the two corpus.

3. Results Analysis

3.1. Top Three Evaluation Patterns in the Two Corpus

Three Characteristic local grammar patterns are obtained from the corpus, which are the pattern "n v-link ADJ to-inf", the pattern "it v-link ADJ to-inf.", and the pattern "it v-link ADJ that".

Table 5. Frequency distribution of top three evaluation patterns

Evaluation patterns	Foreign scholar		Chinese Scholar	
	Original frequency	Standard frequency (%)	Original frequency	Standard frequency (%)
n v-link ADJ to-inf.	54	183.1	73	316.8
it v-link ADJ to-inf.	52	176.3	54	234.3
it v-link ADJ that	41	139.0	68	295.1

According to the data from the table, we can see that the standard frequency of the three evaluation patterns in Chinese scholars' texts is higher than that of foreign scholars'. In particular, the frequencies of the patterns "n v-link ADJ to-inf." and "it v-link ADJ that" are significantly high in Chinese scholars' papers.

3.2.   Comparison of Local Grammatical Features

Table 6. Frequency distribution of "n v-link ADJ to-inf."

	Local grammatical patterns	Foreign scholar		Chinese scholar	
		original frequency	*Standard frequency (%)*	*Original frequency*	*Standard frequency (%)*
ELG1	the evaluated *[research entity]* + hinge + evaluation category *[reasonability]* + act	8	34.7	4	13.6
ELG2	the evaluated *[research entity]* + hinge + evaluation category *[certainty]* + act	7	30.4	6	20.3
ELG3	the evaluated *[physical world entity]* + hinge + evaluation category *[desirability]* + act	5	21.7	5	17.0
ELG4	the evaluated *[physical world entity]* + hinge + evaluation category *[certainty]* + act	5	21.7	15	50.9
ELG5	the evaluated *[physical world entity]* + hinge + evaluation category *[importance]* + act	4	17.4	3	10.2
ELG6	the evaluated *[research entity]* + hinge + evaluation category *[desirability]* + act	4	17.4	5	17.0
ELG7	the evaluated *[Research Entity]* + hinge + Evaluation Category *[ability / responsibility]* + act	3	13.0	3	10.2
ELG8	the evaluated *[physical world entity]* + hinge + evaluation category *[ability / responsibility]* + act	3	13.0	6	20.3
total		39	169.2	47	159.3

In this section, the top three local grammar patterns are discussed. The similarities and differences in their frequency distribution and local grammatical features are compared between Chinese and foreign forestry scholars' papers.

We labeled all the local grammatical features of the evaluation pattern "n v-link ADJ to-inf", and then sort up the types of local grammar patterns of this evaluation pattern. In this way, we get the original frequency of these local grammar patterns by counting and listing the top 5 local grammar patterns in foreign scholars' and Chinese scholars' papers according to the standard frequency. The following abbreviation ELG1-8 are the most used evaluation patterns, and their frequency distribution is shown in Table 6.

It can be seen from Table 6 that the top five local grammar patterns used by foreign scholars are ELG1, ELG2, ELG3, ELG4, and ELG5 in sequence, while in Chinese scholars' papers they are ELG4, ELG2, ELG8, ELG3, and ELG6 in sequence. ELG2, ELG3 and ELG4 are among the top 5 local grammar patterns in both corpus. The differences between the two groups are: 1) ELG1 and ELG5 are only in the top 5 of FOREST-En, and ELG6 and ELG8 only in the top 5 of FOREST-Ch. 2) Among them, ELG1 can be regarded as a characteristic local grammar pattern for foreign scholars according the standard mentioned above, while ELG4 is the characteristic local grammar patterns for Chinese scholars. 3) Differences in the characteristics of local grammar patterns are that foreign scholars tend to evaluate the [reasonability] of the research entity, while Chinese scholars tend to evaluate the [certainty] of the physical world entity.

3.2.1. Comparison of "it v-link ADJ to-inf."

Table 7. Frequency distribution of "it v-link ADJ to-inf."

Local grammatical patterns		Foreign scholar		Chinese Scholar	
		Original frequency	*Standard frequency (%)*	*Original frequency*	*Standard frequency (%)*
ELG1	it + hinge + evaluation category *[likelihood]* + the evaluated *[research activity]*	7	30.4	1	3.4
ELG2	it + hinge + evaluation category *[importance]* + the evaluated *[forestry activity]*	7	30.4	7	23.7
ELG3	it + hinge + evaluation category *[reasonability]* + the evaluated *[research activity]*	6	26.0	8	27.1
ELG4	it + hinge + evaluation category *[difficulty]* + the evaluated *[physical world activity]*	5	21.7	5	17.0
ELG5	it + hinge + evaluation category *[importance]* + the evaluated *[research activity]*	5	21.7	2	6.8
ELG6	it + hinge + evaluation category *[importance]* + the evaluated *[physical world activity]*	4	17.4	0	0
ELG7	it + hinge + evaluation category *[certainty]* + the evaluated *[physical world activity]*	4	17.4	2	6.8
total		38	164.9	25	84.8

In the pattern "it v-link ADJ to-inf", the top local grammar patterns in foreign scholars' and Chinese scholars' papers and their frequency distribution are shown in Table 7.

It can be seen from Table 7 that the five local grammar patterns used most frequently by foreign scholars are ELG1, ELG2, ELG3, ELG4, and ELG5, while in Chinese scholars' are ELG3, ELG2, ELG4, ELG5, and ELG7. Among them, ELG2, ELG3, ELG4, and ELG5 are among the top 5 in both corpus. The main differences between the two groups are: 1) ELG1 only appears in the top 5 of FOREST-En, and ELG7 only in the top 5 of FOREST-Ch. 2) ELG1 and ELG6 can be regarded as characteristic local grammar patterns for foreign scholar, while Chinese scholars do not have their characteristic local grammar patterns. 3) The difference in the constituent characteristics of the local grammar patterns is that foreign scholars tend to evaluate the [likelihood] of research activities and [importance] of physical world activity, and Chinese scholars are not good at using this evaluation pattern.

3.2.2. Comparison of "it v-link ADJ that"

Table 8. Frequency distribution of "it v-link ADJ that"

		Foreign scholar		Chinese Scholar	
Local grammatical patterns		*original frequency*	*Standard frequency (%)*	*original frequency*	*Standard frequency (%)*
ELG1	it + hinge + evaluation category *[desirability]* + the evaluated *[research proposition]*	6	26.0	3	10.2
ELG2	it + hinge + evaluation category *[certainty]* + the evaluated *[physical world proposition]*	5	21.7	8	27.1
ELG3	it + hinge + evaluation category *[reasonability]* + the evaluated *[research proposition]*	5	21.7	2	6.8
ELG4	it + hinge + evaluation category *[likelihood]* + the evaluated *[research proposition]*	5	21.7	10	34.0
ELG5	it + hinge + evaluation category *[reasonability]* + the evaluated *[physical world proposition]*	3	13.0	6	20.3
ELG6	it + hinge + evaluation category *[likelihood]* + the evaluated *[physical world proposition]*	3	13.0	5	17.0
total		27	117.2	31	105.1

The top local grammar patterns of the evaluation pattern "it v-link ADJ that" in the two corpus and their frequency distribution are shown in Table 8.

It can be seen from Table 8 that the five local grammar patterns used most frequently by foreign scholars are ELG1, ELG2, ELG3, ELG4, and ELG5, while in Chinese scholars' are ELG4, ELG2, ELG5, ELG6, and ELG1. Among them, ELG1, ELG2, ELG4, and ELG5 are among the top 5 local grammar patterns in both corpus. The main differences between the two groups are: 1) ELG3

only appears in the top 5 of FOREST-En, and ELG6 only in the top 5 of FOREST-Ch. 2) Pattern ELG4 is characteristic local grammar pattern for Chinese scholars, and there is no characteristic local grammar pattern in this evaluation pattern. 3) The difference in the constituent characteristics of the local grammar patterns is that Chinese scholars tend to evaluate the [likelihood] of research proposition, and foreign scholars do not use this evaluation pattern very often.

4. Discussion

From those analysis above, we can find that the similarities are greater than the differences. We can find that many of their high-frequency local grammar patterns in three evaluation patterns are the same. Furthermore, there are some differences:

Firstly, there are differences in using the local grammar patterns. There are differences in the functional categories, semantic parameters involved in the evaluative language of different sub-communities in the same discourse community. The number of characteristic local grammar of the two corpus are almost the same, but "it v-link ADJ to-inf." are more frequently used in foreign corpus, while "it v-link ADJ that" are more frequently used in Chinese corpus. This shows the different limitations of the two languages, and also shows different emotional preferences.

Secondly, foreign scholars prefer to evaluate the [reasonability], while Chinese scholars prefer to evaluate the [certainty]. This is also in line with the rational thinking that Westerners are accustomed to. As we can see, there are a lot of "maybe" in English, so compared to Western countries, Chinese people are likely to use more certain expressions. Besides, we also can find that Chinese and foreign scholars all like to use [likelihood] in their research. In scientifical epistemology, the sense of [likelihood] is a significant factor to understand the entity, proposition, and act of research. It reflects the prudent attitude of scholars towards the construction of accurate knowledge.

5. Conclusion

Based on the FOREST-En corpus and the FOREST-Ch corpus established for this paper, we takes the theoretical framework of local grammar to compare the differences of high-frequency local grammar patterns The results show that Chinese and foreign forestry scholars generally share three most used evaluation patterns, but their structural characteristics and characteristic local grammar patterns have certain differences. The analysis shows that due to the influence of their respective cultural epistemology, discourse function, research objects, and other factors, Chinese and foreign scholars have obvious different preferences in the use of evaluation categories and semantic parameters in the evaluative language, and thus form their own characteristic local grammar patterns of evaluation, such as "the evaluated [physical world entity] + hinge + evaluation category [certainty] + act" for Chinese scholar, and "it + hinge + evaluation category [likelihood] + the evaluated [research activity]" for foreign scholar.

Acknowledgments

References

[1] Allen, C.: A Local Grammar of Cause and Effet: A Corpus-driven Study, University of Birmingham, (2005).

[2] Barnbrook, G.: Defining Language: A Local Grammar of Definition Sentences (John Benjamins, Amsterdam/Philadelphia 2002).

[3] Bednarek,M.: Emotion Talk across Corpora (palgrave macmillan, London 2008).

[4] Firth,J.R.: Descriptive linguistics and the study of English, F.R. Palmer. (ed) Selected Papers of J.R. Firth 1952-1959 (Bloomington: Indiana University Press, 1968),p.96–113.

[5] Francis, G., Hunston S., and Manning E.: Collins Cobuild Grammar Patterns 2: Nouns and Adjectives (HarperCollins, London 1998).

[6] Gross,M.: Local grammars and their representation by finite automata,In Michael Hoey, ed., Data, Description, Discourse, (1993), p.26–38.

[7] Harris,Z.: Mathematical Structures of Language (Interscience Publishers, New York 1968).

[8] Hunston, S.: Corpus Approaches to Evaluation, Phraseology and Evaluative Language,(2011).

[9] Hunston, S. and J. Sinclair: A local grammar of evaluation, In S. Hunston and G. Thompson (ed.). Evaluation in Text: Authorial Stance and the Construction of Discourse(Oxford, 2000), p.74-101.

[10] Hunston, S. and H. Su: Patterns, Constructions, and Local Grammar: A Case Study of Evaluation, Applied linguistics, Vol. 40(2019) No.4, p.567-593.

[11] Hunston, S. and G. Thompson: Evaluation in Text: Authorial Stance and the Construction of Discourse (Oxford University Press, UK 2000).

[12] Pontrandolfo G. and S Goźdź-Roszkowski: Exploring the Local Grammar of Evaluation: The Case of Adjectival Patterns in American and Italian Judicial Discourse, Research in Language, Vol.12(2014) No.12(1), p.71-91.

[13] Su, H.: Judgement and Adjective Complementation Patterns in Biographical Discourse: A Corpus Study (Ph.D., University of Birmingham, UK 2015).

[14] Sui, X.: Local Grammars of Movement in Financial English (Ph.D., The Hong Kong Polytechnic University, China 2015).

[15] Cao Yongshi: A corpus-driven study on the evaluation styles of Chinese and American companies' letter to shareholders (Master, Guangdong University of Foreign Studies, China 2020).

[16] Liu Guobing, Wang Fanyu, Zheng Binghan: A study on the characteristics of the use of partial grammatical patterns in academic papers by Chinese and Western scholars. Foreign Languages and Foreign Language Teaching, (2021) No.2, p.62-70+149.

[17] Liu Yue: Research on Evaluation Local Grammar in Media Discourse (Master, Lanzhou University of Technology, China 2021).

[18] Tian Run: A comparative study of local grammatical patterns of medical terminology evaluation by Chinese and foreign scholars (Master, Henan Normal University, China 2019).

[19] Zhang Lei, Wei Naixing: A Comparative Study on the Evaluation of Local Grammar Patterns in Academic Papers by Chinese and Foreign Legal Scholars, Journal of PLA University of Foreign Languages, Vol. 40(2017) No3, p.10-18+159.