

A Case Study on the Distribution of Thematic Progression Patterns in English Research Article

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Abstract—This study aims to investigate the distributive features of thematic progression patterns in research article and analyze the reasons that cause such features based on Halliday's thematic structure theory and Huang Guowen's model of thematic progression patterns. Results showed that concentrated progression mainly concentrated in Introduction section, while derived progression appeared most frequently in Methods section. This study found that the communicative goals of four sections in IMRD structure and the features of research article influenced the distribution of thematic progression patterns.

Index Terms—IMRD structure, TP patterns, research article.

I. INTRODUCTION

Halliday puts forward that clauses can be divided into “theme” and “rheme” on the basis of communicative functions [1]. In this case, many scholars at home and broad have conducted a lot of researches on theme and rheme. However, clauses cannot exist alone, which should be combined to establish a text. Therefore, the relations among the themes and rhemes in clauses has also raised concerns. With the development of research, Danes names such relations as “Thematic Progression” (TP) [2]. Since Danes came up with the notion of thematic progression, it has been an important theory for discourse analysis, for it reflects the distribution of new and give information, thus demonstrating the implicit coherence of discourses.

Lots of scholars have contributed a lot to both theoretical and empirical studies on TP patterns: some scholars raise various models of TP patterns [3]-[6]; some apply TP theory to the foreign language teaching [7]; there are also some scholars introducing TP theory into translation practice [8]. Although the studies of thematic structure and TP have involved various aspects, there are few researches that investigate the distribution of thematic structure and TP patterns in different sections of research articles (RAs).

According to Bhatia [9], the choice of TP patterns is influenced by several factors, such as communicative goals, move-steps, and syntactic features of texts. Consequently, the familiarity with TP patterns could help readers a lot in exploring the constructive rules of RAs and furthermore understanding the information structure of RAs. Therefore, based on Halliday's thematic structure theory and Huang

Guowen's model of TP patterns, the present study aims to investigate the distributive features of six types of TP patterns in RA and to analyze the reasons of such distributive features in RA. One RA has been selected from the international linguistic academic journal *Modern Language Journal*.

II. THEORETICAL FRAMEWORK

A. Halliday's Thematic Structure Theory

Halliday puts forward that theme is “the element that serves as the point of departure of the message” and rheme is “the remainder of the message, the part in which the theme is developed” [1]. Furthermore, Halliday makes the classification of theme. Based on the complexity of the thematic structure, Halliday divided theme into simple theme, multiple theme and clausal theme.

Simple theme is composed of one structural element. Multiple theme contains more than one structural element, thus is further divided into three categories: textual theme, interpersonal theme and topical theme. Clausal theme refers to the main clause or the subordinate clause of a compound sentence that functions as the theme of the whole sentence.

B. Huang Guowen's Thematic Progression Pattern Model

Huang Guowen's TP pattern model includes six types of TP patterns: Parallel progression, continuous progression, concentrated progression, alternative progression, coordinate progression and derived progression.

In parallel progression, the themes are equal to or generated from the theme of the proceeding clause. Continuous thematic progression refers to the pattern that the rheme of a clause or part of it acts as the theme of the following clause. As for concentrated progression pattern, the clauses have the same rheme but different themes. In alternative progression pattern, the theme of one clause is the rheme or part of it of the next clause. Coordinate progression pattern refers to the pattern in which the themes in odd-numbered clauses are the same, and those in even-numbered clauses are the same. As for derived progression pattern, all the themes except that of the first clause are derived from the rheme or part of it of the first clause.

C. IMRD Structure

Hill *et al.* put forward the hour-glass diagram of “Introduction-Procedure-Discussion” to describe the macro-structure of RAs [10], based on which Bruce maintained “Introduction-Methods-Results-Discussion”

structure conformed to the inner logic of RAs [11]. Swales also approved of Bruce’s IMRD structure, and he put great emphasis on elaborating “moves” of each section [12].

The primary function or purpose of Introduction section is to indicate the significance of current study. The secondary function of Introduction section is to attract readers. In order to realize this function, authors of RAs need to introduce the research background and review related studies to show the deficiency of previous studies. Besides, it also needs to briefly summarize the contents of current study, such as research subject, research questions and so on [13].

Method section is “the narrowest part of the RA” [13], which simply gives a description of the process of conducting current study, including research procedures, data collection, research instruments etc. Authors seldom make other statements in this section.

The major function of Result section is to elaborate the research results or findings by manipulating the statistics collected in Method section, along with some comments on research results [13].

Discussion section functions as a summary of the whole current research. In this section, authors not only explain and evaluate the results or findings of current study, but also state the significance and implications of current study. In addition, authors of RAs review some statements that are made in Introduction section [13].

III. METHODOLOGY

In order to explore the distributive features of TP patterns in RA, the research subject is an English RA selected from *Modern Language Journal* published in 2014, which is titled as “Lexical Inferencing in First and Second Language Listening” written by Hilde Van Zeeland. The reason for choosing this RA is that it contains the four sections of IMRD structure and has clear limit of each section, satisfying the research purpose of investigating the distribution of TP patterns in IMRD structure of RA. In addition, it talks about the lexical inferencing in listening, which is a relatively familiar topic. The interpretation of the article makes the identification of various types of TP patterns easier.

Based on Halliday’s thematic structure theory and Huang Guowen’s model of TP patterns, this study manually tags the research data. After manual tagging, the software AntConc is used to make up for the deficiencies of manual tagging to ensure the statistic is accurate.

Different types of TP patterns in the selected RA are counted after tagging research data. The frequencies of each type in four sections of IMRD are then calculated. Based on the communicative goals of each section, this study tries to analyze the reasons that result in the distributive features of TP patterns in IMRD structure of RA.

This study is expected to investigate the overall distributive features of TP patterns in RA and the distributive features of TP patterns in IMRD, and to analyze the reasons for distribution of TP patterns in RA.

IV. RESULTS

A. Overall Distribution of TP Patterns in RA

This study adopts Huang Guowen’s model of TP patterns, which include parallel, continuous, concentrated, alternative, coordinate as well as derived patterns. The overall distribution of these six types of TP patterns are shown in the following Table I.

In the selected RA, the author totally employs various types of TP patterns 88 times. It can be found that continuous progression and parallel progression are the two patterns employed most frequently in RA, which account for 48.9% and 30.7% respectively. Compared with continuous and parallel progression, derived progression occurs less frequently in RA, occupying 10.3% of the total number of TP patterns. At the same time, concentrated progression, alternative progression and coordinate progression are used least frequently in the selected RA.

B. The Distribution of TP Patterns in IMRD Structure

The results reveal that there indeed exist some differences in the use of TP patterns in four sections of RA. The detailed distribution is shown in the following Table II.

In Introduction section, there exist five types of TP patterns that are used to build this section. Continuous and parallel pattern still occur most frequently, and alternative, coordinate and derived patterns are seldom used in this section. Moreover, it is worth noting that this section contains all of the concentrated patterns in the selected RA.

Similarly with Introduction section, continuous and parallel patterns are still dominant among six types of TP patterns in Methods section. However, the vast majority of derived patterns concentrate in this section, and concentrated, alternative, coordinate patterns are seldom used.

As for Results section, continuous patterns are employed most frequently. Despite the fact that parallel, alternative, coordinate, derived patterns are also adopted in this section, the frequencies of them are much lower than that of continuous pattern.

Most of the TP patterns that are employed in Discussion section are continuous and parallel patterns, while alternative pattern is used in this section as well. There is no concentrated, coordinate and derived pattern adopted in Discussion section.

V. DISCUSSION

A. Discussion of the Overall Distribution of TP Patterns

From Table I, it is clear that continuous and parallel progression are employed most frequently, while concentrated, alternative, coordinate and derived progression seldom appear in the RA. Such distribution demonstrates the clarity and coherence features of RA.

TABLE I: THE OVERALL DISTRIBUTION OF TP PATTERNS

Type	Frequency	Percentage
Parallel pattern	27	30.7%
Continuous pattern	43	48.8%
Concentrated pattern	4	4.5%
Alternative pattern	4	4.5%

Coordinate pattern	1	1.1%
Derived pattern	9	10.3%

TABLE II: FREQUENCIES OF TP PATTERNS IN IMRD

	Introduction	Methods	Results	Discussion
Parallel	9	10	2	6
Continuous	11	14	10	8
Concentrated	4	0	0	0
Alternative	1	1	1	1
Coordinate	0	0	1	0
Derived	1	6	2	0

Continuous progression means that the rheme of a clause or part of it acts as the theme of the following clause. Therefore, the given information is placed at the theme position, and new information at the rheme position. In the following clause, then, the new information becomes the given information. Such progression pattern can expand the content of previous clause and connect the clauses closely so that readers can follow the authors' thoughts easily and logically. Here is an example of continuous progression in the selected RA.

“Spoken language (T1) //is continuous, variable, and transitory compared with written language (R1). These characteristics (T2=R1) //make listening challenging for many L2 learners (R2). Learners (T3=R2) //often experience problems with speech segmentation, causing them to miss or forget parts of the speech stream (R3).”

In this example, “these characteristics” in T2 refers to “continuous, variable and transitory” in R1, and “learners” in T3 means “many L2 learners” in R2. By employing continuous pattern, the topic moves smoothly from the beginning to the end without interruption, making the text coherent and logical so that readers can easily understand the idea expressed in the text.

Parallel progression means the theme of the first clause is equal to the themes of subsequent clauses, while rhemes of the clauses are different. This progression can convey the different information around the same topic through the same theme and different rhemes. In parallel progression, given information is placed at the theme position. The repeated themes at the beginning of the clauses will effectively make readers understand and accept the coming rhemes and the development of the text without taking too much efforts, as this example shows.

“This study (T1) // assesses listeners’ success at inferencing the meaning of unknown words from listening (R1). It (T2=T1) //explores the effects of three variables found to affect lexical inferencing success: background knowledge, contextual clue types, and L2 vocabulary size (R2). It (T3=T1) //measures to what extent L2 listeners notice unknown vocabulary in listening inasmuch as this noticing is a prerequisite for any lexical inferencing to occur (R3). The study (T4=T1) //is carried out with both native speakers and nonnative speakers of English (R4).”

It is definite that in the above example, the four themes are all related to “this study”. By using parallel progression, the author of the RA can give detailed explanation and information about “this study”. Consequently, readers will clearly know what the passage is talking about. In addition,

the repetition of one topic can achieve the effect of emphasis, thus readers can focus on the text.

To sum up, compared with the other six progression patterns, continuous and parallel progression are more suitable for RA because placing the topic to be discussed in the pressing position and making all the other sentences develop with the topic can expose the information to be conveyed to the readers easily and clearly. In this case, continuous progression and parallel progression are more efficient for authors of RA to develop the topic, which coincides with the demand and communicative goals of RA.

B. Discussion of the Distribution of TP Patterns in IMRD

Although the general distribution of TP patterns in four sections of IMRD structure is quite similar, there still exist some differences in the use of TP patterns in four sections, which is caused by the different communicative goals of the four sections of IMRD structure.

For one thing, all of the concentrated patterns in the selected RA occur in Introduction section. Concentrated progression means that the rheme or part of the rheme in the first clause is used as the rhemes in following clauses. Similarly with parallel progression, concentrated progression also conveys the detailed explanation and new information around the same or similar topic. However, it is less direct than parallel progression for the new information is placed at the beginning of the clause, which increases the burden for readers to comprehend the text. Hence the frequency of concentrated patterns is relatively low in RA.

The reason why Introduction section contains all of the concentrated patterns in the selected RA is that in Introduction section there is the need to review the related literature that usually belong to the same research field. When reviewing previous studies, authors of RA are required to report their findings in the research field. Therefore, by using concentrated progression, authors of RA can better summarize and compare the related studies. For instance,

“Results (T1) //revealed a strong positive correlation between learners’ amount of sight vocabulary and their lexical inferencing scores (R1). Wesche and Paribakh (T2) //also reported strong correlations between the vocabulary knowledge and lexical inferencing success of French and Persian learners of English (R2=R1).”

In this example, the author of the RA adopts concentrated progression to elaborate the findings in the studies of lexical inferencing. It is clear that different scholars have conducted the similar researches and further got the similar results. By the use of concentrated progression, researches conducted by other scholars can be demonstrated in a clear and logical way so that readers can know about the present situation of the research field.

For another thing, the vast majority of derived patterns concentrate in methods section. Derived progression means that all of the themes except that of the first clause are derived from the rheme or part of the rheme of the first clause. This is used when one rheme is too complicated and needs to be elaborated separately in detail. Since the themes derived from the complicated rheme may be far part from each other in their positions, readers might get confused about the key point. Hence, derived progression is seldom used in RA.

However, in order to introduce the complex methodology in detail, this progression is also used in Methods section, as the following example shows.

“Half of the target items (T1) // were supported by a local clue, and half by a global clue (R1). Half of the local clues (T2 ∈ R1) // occurred in the same sentence as the target item (R2). Global clues (T3 ∈ R1) // were always positioned in an earlier paragraph so that listeners could use this previously heard information in making their lexical inferences (R3).”

It is clear to see that in the example, both T2 and T3 belong to R1. To introduce the “target items” in the research, the author of the RA separate it into several parts, including “local clues” and “global clues”, thus readers can have a better understanding of the methods adopted in the research.

VI. CONCLUSION

A. Findings of the Study

The major findings of this study include two aspects.

As for the distributive features of TP patterns in RA, continuous and parallel patterns are employed most frequently in RA, followed by derived patterns; concentrated, alternative and coordinate pattern seldom appear in RA. In terms of the distribution of TP patterns in IMRD structure, although four sections share the similar distribution of TP patterns, there still exist some differences, i.e. Introduction section contains all of the concentrated patterns and the vast majority of derived patterns concentrate in Methods section.

On the other one hand, the distributive features of TP patterns in RA are related to the communicative goals of IMRD structure and the characteristics of different types of TP patterns. The features of RA and different communicative goals of four sections in IMRD structure will influence the choice the themes and TP patterns.

B. Implications of the Study

This study researches thematic structure and TP patterns from a new perspective. Previous studies mainly probe into the distribution of thematic structure and TP patterns in part of RA or in other discourses. According to Halliday’s thematic structure theory and Huang Guowen’s model of TP patterns, the analysis of distributive features in RAs enriches the research of thematic structure and TP patterns. Based on the functions of four sections in IMRD structure, the reasons for the distributive features in RA are explored as well.

This study sheds light on the distributive features of thematic structure and TP patterns in RA, which can help authors of RA realize the functions of different types of themes and TP patterns in RA to successfully build a discourse. This study is also instructive to the teaching of academic writing. Teachers can put emphasis on the significance of communicative goals of each section, so as to help students be aware of the methods to employ different types of themes and TP patterns to realize the goals of four sections in academic writing.

C. Limitations and Suggestions for Future Studies

Although this study probes into the distributive features of thematic structure and TP patterns in RA and the possible

reasons for such distributive features in RA, it undoubtedly contains deficiencies. Some recommendations for future studies are put forward as follows.

For one thing, the amount of selected RA is one limitation of this research. This study only chooses one RA from *Modern Language Journal*. In future researches, it is expected to choose more RAs from different disciplines to figure out the more general distribution of thematic structure and TP patterns in RAs.

For another thing, the perspective of analyzing the reasons for the distributive features of thematic structure and TP patterns in the selected RA is limited. This study discusses and interprets the distributive features of thematic structure and TP patterns in RAs from the perspective of contents and communicative goals of each section of IMRD. In order to further the understanding and explanation of the distribution of thematic structure and TP patterns, other theories or factors should also be included in future researches.

CONFLICT OF INTEREST

The submitted work was carried out without a conflict of interest. The author declares no conflict of interest.

AUTHOR CONTRIBUTIONS

The author conducted the research, analyzed the data and wrote the paper.

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