A Corpus-Based Approach To The Use Of Grammatical Metaphor In Academic Writing: Distinguishing The Abstract Complexity Written In Linguistic And Science

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ABSTRACT

The objective of this research was to find out the types of grammatical metaphor in experiential function that are mostly used in both of the articles and to describe the distinguish of abstract written in linguistic and science article. The descriptive qualitative method was applied in this study of grammatical metaphor specifically in experiential function in the abstract written in linguistic and science. The findings were shown that the material processes in those types were most frequently applying on the linguistic and science abstract. It was showed that there were 12 categories (7 material process in linguistic article or 77.8% and 5 material process in science article or 62.5%) out of 35 categories of the sentences from both abstract selected. The use of from material process was dominating the abstract of linguistic and science, and it had been as the characteristics of the abstract in the experiential function specially in material process. The results of this research could be extra information in studying grammatical metaphor that focused on ideational metaphor that is experiential function and logical function, interpersonal metaphor, and textual metaphor.

Keywords: grammatical metaphor, linguistic, science, article

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1. INTRODUCTION

Language is a system of communication that consists of a set of sounds and written symbols that people in a specific area or region use for talking or writing. Text or speech is an example of written or spoken communication that is conveyed to the reader or listener by a writer or speaker and has significance. Provides two linguistic concepts. Language is defined in the first sense as a mode of communication between members of the public using sound signals produced by human speech utensils. Second, language is a communication system that employs arbitrary vowel symbols (speech sounds).

It is inextricably linked with the Corpora that have been used in language learning and instruction since the 1980s, when they first appeared in their contemporary form as systematically organized electronic collections of texts (Vyatkina and Boulton 2017: 1). With the introduction of computer technology, corpus linguistics has quickly claimed its position in language instruction and study. Researchers agree that corpus data enriches theprocess of learning languages and is an important resource in learning and teaching (Huang 2011: 482). Crystal (1997) defines corpus as "a large collection of linguistic data, either written texts or transcription of recorded speech, that can be used as a starting point of linguistic description or as a means of verifying hypotheses about a language,"As described in Dash (2008: 28). The corpus is defined in this definition as a collection of both written and spoken texts. These writings can be saved in machine-readable formats, allowing access to various types of linguisticdescription and analysis.

Computers now combine with traditional language teaching methods to generate what is known as Computer-Assisted Language Learning (CALL) or Computer- Assisted Language Teaching (CALT). Learners can now havedirect access to the corpus, even if they have no prior expertise, and develop examples and exercises for learning purposes, thereby improving their learning skills. Corpora provide learners with a wealth of examples for learning single words, phrases, clauses, and even entire

sentences. It provides learners with several demonstrations of grammar variation for a single assignment. It can help you acquire synonyms, vocabulary, collocations, idioms, proverbs, and so on. Meanwhile Corpus is considered as a relatively new trend in language teaching, but some hold back from incorporating them in the process of learningand teaching. Some argue that they are technically challenging and time-consuming and some raise the issue that some types corpus software do not have free access for learners and when accessing the free online corpus, students encounter large amount of data and therefore get confused. However, the researchers argue that these complaints can be regulated and resolved by having a good guidance from well-trained teachers. Meanwhile, the metaphor's arrangement is also consistent with the corpus.

Metaphor is derived from Greek meta-, „beyond" and phora, which is derived from pherein, „to carry". In its original, etymological sense, therefore, metaphor refers to a kind of movement from one thing to another: one thing is carried beyond itself to something different. A metaphor compares two things without using like or as between two different things. Metaphor is a familiar concept, and it is generally taken to be easy to recognize. In the following sentence, metaphor is seen as relating to the way a particular word is used, and the term metaphor is used as the opposite of literal, to describe the meaning word.

These main functions of metaphor are called meta functions. The definitions which follow are the more conventional and formal ways of describing the meta. what is known as Computer-Assisted Language Learning (CALL) or Computer- Assisted Language Teaching (CALT). Learners can now havedirect access to the corpus, even if they have no prior expertise, and develop examples and exercises for learning purposes, thereby improving their learning skills. Corpora provide learners with a wealth of examples for learning single words, phrases, clauses, and even entire sentences. It provides learners with several demonstrations of grammar variation for a single assignment. It can help you acquire synonyms, vocabulary, collocations, idioms, proverbs, and so on. Meanwhile Corpus is considered as a relatively new trend in language teaching, but some hold back from incorporating them in the process of learningand teaching. Some argue that they are technically challenging and time-consuming and some raise the issue that some types corpus software do not have free access for learners and when accessing the free online corpus, students encounter large amount of data and therefore get confused. However, the researchers argue that these complaints can be regulated and resolved by having a good guidance from well-trained teachers. Meanwhile, the metaphor's arrangement is also consistent with the corpus.

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These main functions of metaphor are called meta functions. The definitions which follow are the more conventional and formal ways of describing the meta.quality is realized by an adjective in lexico grammar. Logical metaphor is the metaphorical ways of realizing the consequential and temporal relation inside clauses. Types of ideational metaphor includes process types and nominalization. Process type consist of material, mental, relational, verbal and behavior. Nominalization is a process where by a verb or an adjective is transformed into a nominal group. Interpersonal metaphors in general is organized in two systems, mood and modality. In metaphors of modality, the grammatical variation which occurs is based on the logico semantic relationship of projection. Metaphors of mood, in a similar way as metaphors of modality: in this type of interpersonal metaphor, a mood meaning is not expressed in the clause, but rather as an explicit element outside the clause.

This research talks about the types of grammatical metaphor used in the linguistic and science articles and the distinguish between abstract complexity written in linguistic and science. The reason why the researcher chooses the object of this research because in the articles there are many clauses where one type of process is represented in another grammar or uses figurative language which is not real meaning.

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

The research design of this research is case study aimed to identify the kinds of grammatical metaphor focusing on the Ideational metaphor. Using a qualitative descriptive method, this research took data sources from two different types of articles, namely linguistic and science. After that, this research was carried out using the data collection method by grouping the data first, then classifying the data, coding the data, and interpreting the data based on the theory of Miles, Huberman and Saldana (2014). Then, to analyze the data the researcher also still used the theory of Miles, Huberman and Saldana (2014) with three stages, namely collecting data first then selecting data based on the type of ideational metaphor especially in the experiential function, then concluding the results obtained from the previous stages.
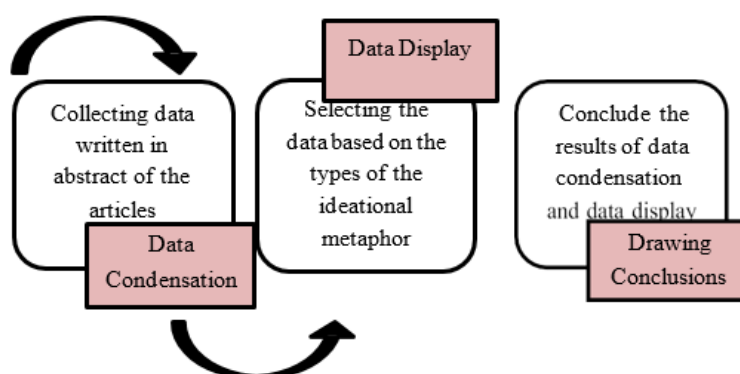

Figure 3.1 Components of technique analyzing data by Miles, Huberman,Saldana (2014)

3. RESULTS AND DISCUSSION (10 PT)

The two types of the different articles that focused on the abstract were taken by the researcher as the resource of the data in which it specified into sentences as the real data for grammatical metaphor analysis by using the Halliday's theory (1994) that was classified being the ideational metaphor in the experiential function that consists of threetypes that are process, participant and circumstances. The following were abstract data from the two different types of articles:

No	Source of Title	Title	Types of Article
1	a. Author: Timothy A. Keller, Patricia A. Carpenter, and Marcel Adam Just b. Year: 2003 c. Name of Journal: Brain and Language	Brain Imaging of Tongue-Twister Sentence Comprehension: Twisting the Tongueand the Brain	Linguistic Article

2	a. Author: XiuhongTong, Ming Ming Chiu, and Shelley Xiuli Tong Ph.D b. Year: 2023 c. Name of Journal: Contemporary Educational Psychology	Synergetic Effects of Phonological Awareness, Vocabulary, and Word Reading on Bilingual Children"s Reading Comprehension:A Three-Year Study	Science Article

1. ***Brain imaging of tongue-twister sentence comprehension: Twisting the tongue and the brain (linguistic article) by Timothy A. Keller, Patricia***

   A. Carpenter, and Marcel Adam Just

   1.1   This study used fMRI to investigate the neural basis of the tongue- twister effect in a sentence comprehension task.

   1.2   Participants silently read sentences equated for the syntactic structure and the lexical frequency of the constituent words,

   1.3   but differing in the proportion of words that shared similar initial phonemes.

   1.4   The manipulation affected not only the reading times and comprehension performance,

   1.5   but also the amount of activation seen in a number of language-related cortical areas.

   1.6   The effect was not restricted to cortical areas known to be involved in articulatory speech programming or rehearsal processes (the inferior frontal gyrus and anterior insula),

   1.7   but also extended to areas associated with other aspects of language

   processing (inferior parietal cortex) associated with phonological processing and storage.

2. ***Synergetic effects of phonological awareness, vocabulary, and word reading on bilingual children's reading comprehension: A three-year study (science) by Xiuhong Tong, Ming Ming Chiu, and Shelley Xiuli Tong Ph.D***

2.1 *Using comparable measures of first language (L1) Chinese and second language (L2) English, this three-year longitudinal study examined the synergetic effects of phonological awareness, vocabulary,*

2.2 *and word reading on reading comprehension development among 227Hong Kong Chinese-English bilinguals from Grades 2-4.*

2.3 *Structural equation growth modeling revealed that all three factors were significantly linked to one another*

2.4 *and to initial reading comprehension for each language. Across languages, L1 Chinese vocabulary was directly linked to initial L2 Englishreading comprehension,*

2.5 *while L1 Chinese phonological awareness was indirectly linked to initial L2 English reading comprehension via L2 English vocabulary and word reading.*

2.6 *These findings underscore the synergetic effects of early phonological*

2.7 *and lexical skills in determining early reading comprehension ability inboth L1 and L2.*

B. *Data Analysis*

From the analysis part of sentences in each articles, they could be classified into some explanation of the experiential metaphor.

1. The linguistic abstract

1.1 *This study used fMRI*
Process: material

to investigate the neural basis of the tongue-twister effect

Process: material

in a sentence comprehension task.

Circumstances: contingency

1.2 *Participants*
Participants: actor

silently read sentences equated for the syntactic structure

Process: material

and the lexical frequency of the constituent words,

Circumstances: contingency

1.3 *but differing*
process: mental

in the proportion of words

participants: phenomenon

1.4 *that shared*
process: material

similar initial phonemes.

Participants: goal

1.5 *The manipulation affected*

Process: material

not only the reading times and comprehension performance

participants: goal

1.6 *but also the amount of activation*

participants: goal

seen in a number of language-related cortical areas.

Circumstances: contingency

1.7 *The effect was not restricted*

Process: relational

to cortical areas known to be involved in articulatory speech programming or rehearsal processes (the inferior frontal gyrus and anterior insula),

participants: token

1.8 *but also extended*
process: material

to areas associated

process: material

with other aspects of language processing(inferior parietal cortex) associated with phonological processing and storage.

Circumstances: accompaniment

2.   The science abstract

2.1 *Using comparable measures*
Process: material

of first language (L1) Chinese and second language (L2) English,

circumstances: contingency

this three-year longitudinal study

circumstances: extent

examined the synergetic effects

process: material

of phonological awareness, vocabulary,

circumstance: contingency

2.2 *and word reading on reading comprehension*
process: material

development among 227 Hong Kong Chinese-English bilinguals from

Grades 2-4.

Circumstances: goal

2.3 *Structural equation growth modeling revealed*
Process: material

that all three factors were significantly linked to one another and to

initial reading comprehension for each language.

participants: goal

2.4 *Across languages, L1 Chinese vocabulary was directly linked to initial*

L2 English reading comprehension

Process: relational

2.5 *While*
Circumstances: extent

L1 Chinese phonological awareness was indirectly linked to initial L2

English reading comprehension via L2 English vocabulary and word

reading.

Process: relational

2.6 *These findings*

Process: existential

underscore the synergetic effects of early phonological

process: material

 2.7 *and lexical skills*
participants: senser

in determining early reading comprehension ability in both L1 and L2.

Circumstances: contingency

DISCUSSION

The types of experiential function in grammatical metaphor found inthe linguistic and

science abstract were categorized in the table below:

Table.1Table of types of process found in linguistic abstract

No	Types of Process	Number	Percentage
1	Material	7	77.8%
2	Mental	1	11.1%
3	Relational	1	11.1%
4	Behavioral	0	0
5	Verbal	0	0
6	Existential	0	0
Total		9	100

Table 2 .Table of participants found in linguistic abstract

No	Participant I	Participant II	Number	%
1	Actor	Goal	4	80%
2	Senser	Phenomenon	0	0
3	Token	Value	1	20%
4	Carrier	Attribute	0	0
5	Possessor	Possessed	0	0
6	Behaver	-	0	0
7	Sayer	Verbiage	0	0
8	-	Existent	0	0
Total			5	100

Table 3. Table of circumstances found in linguistic abstract

No	Types of circumstances	Number	Percentage
1	Extent	0	0
2	Location	0	0
3	Manner	0	0
4	Cause	0	0
5	Contingency	2	66.7%
6	Role	0	0
7	Matter	0	0
8	Accompaniment	1	33.3%
9	Angle	0	0
	Total	3	100

Table 4. Table of types of process found in science abstract

No	Types of process	Number	Percentage
1	Material	5	62.5%
2	Mental	0	0
3	Relational	2	25%
4	Behavioral	0	0
5	Verbal	0	0
6	Existential	1	12.5%
	Total	8	100

Table 5 Table of participant that found in science abstract

No	Participant I	Participant II	Number	%
1	Actor	Goal	2	66.7%
2	Senser	Phenomenon	1	33.3%
3	Token	Value	0	0
4	Carrier	Attribute	0	0
5	Possessor	Possessed	0	0
6	Behaver	-	0	0

7	Sayer	Verbiage	0	0
8	-	existent	0	0
Total			3	100

Table 6. Table of circumstances found in science abstract

No	Types of circumstances	Number	Percentage
1	Extent	2	40%
2	Location	0	0
3	Manner	0	0
4	Cause	0	0
5	Contingency	3	60%
6	Role	0	0
7	Matter	0	0
8	Accompaniment	0	0
9	Angle	0	0
Total		5	100

From the table above, it can be observed that the linguistic abstract was dominated by the types of process specially in material process. The total was 77.8% in 7 categories. Meanwhile in the science abstract was dominated by the types of process specially in material process too. The total was 62.5% in 5 categories of the sentences.

4. CONCLUSION

This study came to the following conclusions based on the results of the data analysis in Linguistic and Science abstract in chapter four:

1. Based on Halliday, M.A.K (2014), there were three types of experiential function in grammatical metaphor found in the linguistic abstract and the science abstract. They were types of process that consists of material process, mental process, relational process, behavioral process, verbal process, and existential process, types of participant that consists of participant I (actor, senser, token, carrier, possessor, behaver, and sayer), and participant II (goal, phenomenon, value, attribute, possessed, verbiage,and existent). The last is types of circumstances that consists of extent, location, manner, cause, contingency, role, matter, accompaniment and angle.

2. The material processes in those types were most frequently applying on the linguistic and science abstract. It was showed that there were 12 categories out of 35 categories of the sentences from both abstract selected. The use of from material process was dominating the abstract oflinguistic and science, and it had been as the characteristics of the abstractin the experiential function specially in material process.

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