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A contrastive systemic functional analysis of causality in Japanese and English academic articles

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A CONTRASTIVE SYSTEMIC FUNCTIONAL ANALYSIS

OF CAUSALITY IN JAPANESE AND ENGLISH ACADEMIC ARTICLES

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ABSTRACT

A Contrastive Systemic Functional Analysis

of Causality in Japanese and English Academic Articles

by Masaki Shibata

Typological differences between languages have been a much debated topic in linguistic studies. Despite their usefulness in understanding syntactic features of various languages, such contrastive analyses have yet to thoroughly explore semantic variation among languages; furthermore, the results obtained have not been practically utilized in other areas of applied linguistics. This situation may come from the fact that a large number of contrastive studies have eclectically examined isolated areas of language variation either from syntactic, morphological, or from pragmatic perspectives. Viewing this issue from another angle, Systemic Functional Linguistics (SFL) focuses on language from a multi-dimensional perspective, where language is a realization of both interpersonal, textual, and social contextual factors. In recent years, SFL has demonstrated its applicability to neglected areas in applied linguistics such as translation studies and foreign language pedagogy. On par with current SFL research into the language of various text types or genres, the purpose of this study is to investigate the ways in which the concept of causality is realized in syntactically distinct patterns and how such syntactic variations serve different discourse functions in Japanese and English academic articles. From the various realizations of causality, this thesis focuses on explicit logical and ideational causality and its lexicogrammatical realizational patterns and functions as used in published journal articles on second language acquisition. This study indicates that contrary to the current claim about the function of causality-oriented grammatical metaphors (Halliday and Matthiessen, 1999), causality and its realizational patterns are language-specific phenomenon.

1. INTRODUCTION

1.1 FORMAL AND FUNCTIONAL LINGUISTICS

In the last half of the 20th century, linguistics has traditionally referred to formal or

Chomskyan linguistics. This particular branch of linguistics theorizes language from a cognitive

perspective which conceptualizes language learning in terms of "Language Acquisition Device"

(LAD) and "Universal Grammar" (UG). LAD, as hypothesized in formal linguistics, allows

humans to select their L1 parameters in an innate fashion, which implies that children are born

with the innate ability to acquire their first language (Chomsky, 1965). This device is also

hypothesized to be linked to UG, the total set of all possible grammatical structures found in

human languages (Klein 1986). In this model of language studies, language is further

conceptualized as two distinct phenomena of competence and performance (Chomsky, 1965).

The former refers to the kind of language that is worthy of linguistic research, and the latter is a

matter of actual output generated by parameters in language (Chomsky, 1965). In other words,

competence is tied to cognitive processes, and performance is related to actual language

production.

Contrary to this formal perspective, Systemic Functional Linguistics (SFL) focuses on

linguistic meanings and on the experience of various social contexts. This then leads to the idea

that children's language ability may be related to different degrees of contextual exposure to

language and contexts. For example, a number of researchers have looked into the relationship

between contextual exposure to various types of discourse and students' academic success. They

concluded that children exposed to the types of language used in academia through interacting

with educated parents are more likely to succeed in school subject areas, whereas those exposed

to non-academic styles of language used at home are much less likely to succeed at school (Bernstein, 1997).

In summary then, SFL examines actual language production in various social contexts, while formal linguistics focuses more on abstract forms of language.

1.2 HISTORY OF SYSTEMIC FUNCTIONAL LINGUISTICS

Modern linguistics started with the Swiss linguist, Ferdinand de Saussure, who provided an important argument for modern linguistics: that the analysis of contemporary language should be separated from historical concerns and that synchronic (at a particular point in time) analysis should play a more important role in researching language. His idea was adopted later by modern linguistic research including Chomskyan and Hallidayan linguistics (Bloor & Bloor, 2004, pp. 236-237). Following Saussure' study, Whorf made a remarkable contribution to linguistic research from the late 1980s to middle 1990s (p. 241). His emphasis on the role of language in culture is that the human perception of society is determined by language used in the society (p.241); in other words, if people experience fundamentally different types of language, they must live in a different society. Compared to previous linguistic theories, Whorf's idea was much closer to the basic concepts of SFL; language cannot be separated from social contexts. In the 1920s interest in finding functional explanations for grammatical structure was raised by Prague School linguists established by a group of Czech and Russian linguists. They attempted to account for functional aspects of language rather than structures (Davidse, 1987, p.39). They are also radically influenced by German psychologist Bühler, who proposed the model of three functions of language: expressive, conative and referential (Bloor & Bloor, 2004, p.244). Later,

this theory was developed by Halliday into SFL's three metafunctions: interpersonal, ideational and textual (p.244).

More immediately, however, two researchers, Bronislaw Malinowski and J.R. Firth influenced the development of functional theory. Malinowski was an anthropologist studying the culture of people on the isolated island, Papua New Guinea. He collected a number of texts local people produced and translated them into English. Later he realized that regardless of the translation skills, without an understanding of their culture and social contexts in which the speakers engaged, the translation he made cannot be construed. This theory led to his introduction of the term "context of situation" and "context of culture" (Martin, 2001, p.151). Firth as well as his followers took a great interest in Malinowski's work and contributed to further study in the relationship between language and social context (Bloor & Bloor, 2004; Martin, 2001). Firth also theorized the grammar of a language as "polysystemic," a system of systems (as cited in Bloor & Bloor, 2004, p.245), which is further explained by Halliday, who asserted that language systematic networks represent paradigmatic sets of choices available to users of the language (1972). Based upon ideas from these immediate successors, Halliday extended the idea of Systemic Functional Grammar (SFG), which is also expanded to other areas of language pedagogy (Bloor & Bloor, 2004, p.250).

1.3 OVERVIEW OF SYSTEMIC FUNCTIONAL LINGUISTICS

In *Introduction to Functional Grammar* (IFG), Halliday (2004) views language as a set of system networks or resources, and text as a product of an ongoing selection of such resources available in any given language. Systemic theory treats the grammar of a language as a representation in the form of system networks, not as an inventory of structures. In SFG, structure is treated as a syntagmatic realization of paradigmatic choices, and should be "the outward form taken from systemic choice" (p.23). SFL allows researchers to explicitly model and explain how language works as "a semiotic tool and it interacts with social contexts in making meanings" (Schleppegrell, 2004, p.18).

Similar to the traditional grammar, language in SFG is "stratified" into different levels or "strata" (Halliday, 2004, p.23) and applies the same concept to linguistic analysis. However, "stratification" differs from the traditional linguistic conceptualization of language in the interpretation of the boundaries among language categories. According to Schleppegrell (2004):

> Rather than analyzing linguistic structures in isolation or as abstract entities, a functional approach identifies the configuration of grammatical structures which is typical of or expected in different kinds of socially relevant tasks and links those linguistic choices with the social purpose and situations that the "texts" (spoken and written) participate in (p. 45).

In other words, functional linguists do not focus on individual elements of language, but rather they take a holistic view. SFL categorizes language into two distinguishable strata: content and expression. Content is a realization of the semantic aspects of language, and expression is the

surface phenomenon of language. These two strata are expanded following the inclination of

subjects' ages and language complexity due to social expectation. Situational and social contexts

allow humans to communicate with other people and make sense of their experience through

structural organization. In order to interact with social contexts, content area is further stratified

into lexicogrammar and semantics (Halliday, 2004; Martin, 2005). Lexicogrammar construes

meanings into wording: syntax, clause and word in terms of ideational, textual and interpersonal

meaning (Halliday, 2004; Martin, 2005) as shown in Figure 1. Semantics is interpreted as "an

emergently complex pattern of lexicogrammatical patterns" (Martin, 2010, p.5).
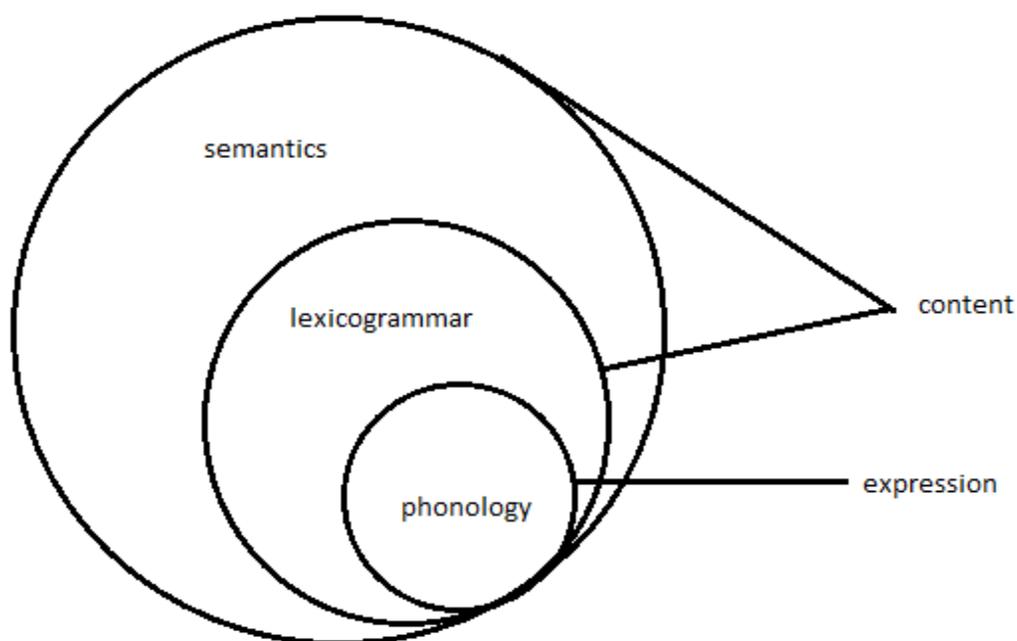
Figure 1. Stratification (Martin, 2005, p.4)

1.4 RESISTER AND THREE METAFUNCTIONS

SFL treats the context of situation as synonymous to register. Malinowski's discovery of the relationship between context of situation and culture and language led others to invent the term "register" in order to account for context (Martin, 2005, p.63). According to Halliday (as cited in Schleppegrell, 2004, p.46), register is "a set of meanings that is appropriate to a particular function of language, together with the words and structures which express these meanings." For example, science texts are distinguished from informal interactional language since they belong to the science register, not to the register of informal conversation. The implication of the example above is that language is a realization of the register leading to meanings in social contexts. Register does not simply represent the different lexical choices, as Halliday further explains that "Register…also involves new styles of meaning, ways of developing an argument, and of combining existing elements into new combinations" (as cited in Schleppegrell, 2004, p.46).

Language requires speakers to reconstrue experience with coherent structure, regarding the relationship between speaker/writer and listener/reader. Considering the three facets of human language, SFL perceives register with three different interrelated aspects- *field*, *tenor*, and *mode* (Martin, 1993; Schleppegrell, 2004). *Field* is what is talked about, *tenor* is the relationship between speaker/writer and hearer/reader, and *mode* is expectations for how particular text types should be organized (Schleppegrell, 2004). In summary, *field* realizes ideas presented, *tenor* represents personal stance, and *mode* is a way of textual organization. These metafunctions, *field*, *tenor* and *mode*, are construed in lexicogrammar as *ideational*, *interpersonal* and *textural* (Schleppegrell, 2004; Martin & Rose, 2008; Martin, 2005,) as shown in *Figure 2*.
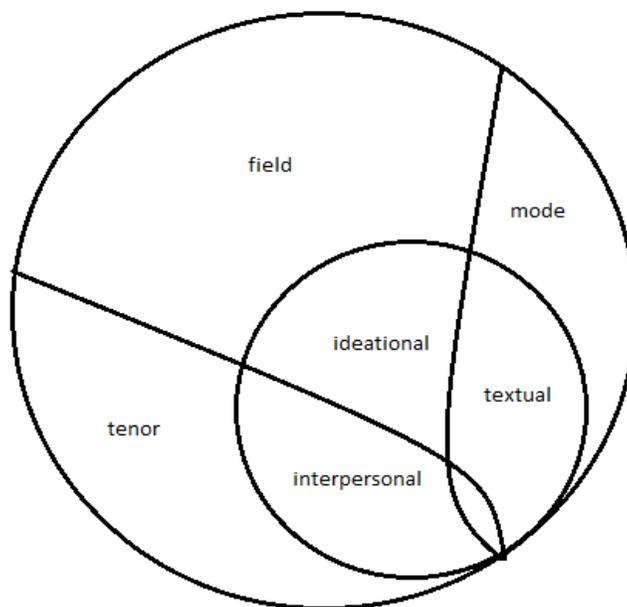
Figure 2. Field, *Tenor* and *Mode* in Relation to Metafunction (Martin & Rose, 2008, p.12)

These three different perspectives reveal what a text means, how it creates meaning, and how it can be interpreted under a specific situation and culture. This three perspective framework made SFL a successful tool to analyze meaning of language, which is not only English but also multi-linguistics research, Chinese (Sum, 2006), Japanese (Naganuma, 2008), Spanish (Lavid et al., 2010); hence the Systemic Functional framework takes account for this contrastive research between Japanese and English.

1.5 RATIONALE

Causal relation is one of the most central concepts to the human mind. Critically thinking about how an action influences other events as well as participants is a necessity in daily life. The nature of a causally linked world has led to various studies on causality in numerous fields, including linguistics (Diesel & Hetterle, 2011; Inui, Inui & Matsumoto, 2005). The world tied with causality is also reflected in human writing. Teruya (2007) argued that causality is defined as one of the most frequent logical semantic relations (p.386), and cause-effect relations are frequently used in academic writing (Flowerdew, 2003, p.489). Linguistically, cause and effect relations are conventionally realized through the syntagmatic element of conjunction realized lexically using words such as *because*. This syntagmatic realization of causation is utilized not only in English, but also in other languages, including Japanese.

However, there is doubt that causation can be expressed through similar syntagmatic elements while maintaining similar meanings in different languages. Ford and Mori (1993) conducted cross linguistic research between Japanese and English, analyzing syntagmatic use of causal conjunctions, showing how cause and effect relationships are placed differently in a sentence within an interactional setting. Ford and Mori's research strictly focuses on syntagmatic realization of causation and does not consider semantic realizations of causal relations.

In addition to syntagmatic realization, Inui and Okumura (2005) proposed that causal relations are realized both explicitly and implicitly, and with or without causal markers. Their research shows that implicit causal relations are manifested without any causal makers, and implicit causation dominates 70 percent of total causation whereas only 30 percent of causation is expressed using explicit causal markers. In contrast to previous research, their study also

focuses on causation expressed through other lexical categories such as nouns and postpositions. Their research, however, did not elaborate on implicit causation and ignored the mystery of what comprises "implicit causation." Considering their findings of implicit causation, Schleppegrell (2004) argues that academic writing contains experiential and logical grammatical metaphor which allows an expanded series of lexical items, such as group, clause and sentences, to be packed into a more concrete and smaller scale of language such as nouns.

The reason this process occurs in academic writing is that nominalization allows a wider variety of lexicon to take the role of subject, the "topic" of the sentence, and the former is able to embed more information in the texts. The examples below show models of logical grammatical metaphor.

Careful experimentation led to our results
We reached our conclusion through experimentation.

(Martin & Rose, 2008, p.43)

The first example shows the verbalized causation where the causal conjunction is realized as a verb. The verb *led to* plays a role in creating a causal relationship between *careful experimentation* and *our results*. In other words, the results were made because the researcher experimented carefully. The second example shows circumstantial causation, where the preposition *through* expresses conjunctive meaning by creating a causal connection between *conclusion* and *experimentation*. Neither text uses explicit causal makers such as conjunctions, instead using other lexical items, verb or circumstance, to create cause and effect relations.

Although Inui's research found that nouns and postpositions are also causal makers, the research did not find any causation expressed by means of verb or circumstance, as introduced

by Martin and Rose (2008). Previous research ignores the semantic realization of causation and neglects the construction of implicit causation. This thesis, therefore, analyzes Japanese texts in terms of nominalized, verbalized, circumstantial and conjunctive causality and compares them with English texts to identify how linguistic tools are manipulated to express a causal relation in academic texts.

1.6 RESEARCH QUESTION AND THESIS OVERVIEW

The major question of this contrastive research is:

What comprises implicit causation in Japanese academic writing and how are the linguistic aspects of Japanese different from English in terms of construing causal-effect relations? To examine these differences, the following questions are asked:

1. What is the ratio of causation used per clause in Japanese and academic texts?

2. What are the major lexicogrammatical devices to construct cause-effect relations in Japanese and English academic texts?

3. What types of causation are frequently used in both languages?

4. What is/are the main language-specific textual mechanism(s) in the way that causality is manifested?

The first step is to explain the meaning of causality in SFL and the major field of SFL contributing to the analysis of language use in terms of causality. The considerable distinctive Japanese features are also explained in the review of relevant literature. After explaining all the relevant fields, the study section provides the explanation of the research methodology and shows the data. The final stage of this article provides a discussion of the data and introduces pedagogical implications.

2. REVIEW OF RELEVANT LITERATURE

2.1 THE SYSTEMIC FUNCTIONAL GRAMMAR FRAMEWORK

Systemic Functional Grammar explains the construction of language associated with three metafunctions. The Ideational metafunction is the field that investigates the speaker's expression of experience. One of the most noteworthy areas of the ideational field is logical and experiential grammatical metaphors, which takes responsibility for speakers' linguistic manipulation to express meaning in academia. This study focuses on the speakers' language use to illustrate the causation in the academic articles, and, thus, the study is conducted within the ideational field.

Academic writing and grammatical metaphor

The difference between spoken and written language has been discussed for decades. It is commonly proposed that written language is more complex than spoken language, but the meaning of complexity is rather arguable and inapplicable to language pedagogy. Halliday (2002) proposed that the feature of written language is "dense, structured, crystalline, and oriented towards things (entities, objectified processes), product like, tight with meanings related as components" (p. 350). Halliday further explains those features of written language under the discovery of covert semantic categories manifesting themselves at the level of lexicogrammar. Unlike traditional or formal syntax, which is largely based on understanding language from an overt set of categories, SFL argues that the relationship between covert syntactic features and covert semantic categories plays a key role in the way that language—including such semantic categories as texts—can be understood. For example, discussing how elements at the level of

lexicogrammar are metaredundant with those at the level of semantics, Halliday argues that language works congruently or incongruently through lexicogrammar, which simply implies that lexicogrammar leads to semantics, whether directly or indirectly (as cited in Martin & Rose, 2008, p.38).

Grammatical metaphors, congruent and incongruent uses of language, have also been applied to the interpersonal and ideational fields. Interpersonally realized social relations have to do with negotiating social status and solidarity among speakers and listeners, while the ideational field, as a register variable contributing to the realization of text types, is related to how physical or mental experiences are realized at the level of lexicogrammar. Thus, interpersonal grammatical metaphor is more frequently used in spoken language whereas ideational grammatical metaphor is manifested in written language. In considering the Ideational field, incongruent realizations of ideational elements are also termed as "experiential grammatical metaphor". Halliday proposed that experiential grammatical metaphor can be understood as a process where processes, qualities, and binding elements all drift experientially toward the most concrete elements of nominal meanings. Types of grammatical metaphors introduced by Halliday and Matthiessen (1999) are shown in Table 3. According to Schleppegrell (2004), the reason for manifesting grammatical metaphor in academic writing is its ability to comprise more of formers' ideas into the texts. This informative feature of academic writing requires grammatical metaphor to pack adequate amounts of information, which also lead to Halliday's proposal of the primary academic writing feature, "dense" (2002). By nominalizing a series of lexical items such as clauses and sentences, grammatical metaphor enables them to be a theme, or subject, which implies that these nominalized items can be realized as the topic of a sentence

or a whole text (Schleppegrell 2004). Halliday proposed that grammatical metaphor is "one of the factors that contributes most to the overall effectiveness of a text."

Table 1
Types of Grammatical Metaphor (Halliday & Matthiessen, 1999)

TYPE:		Grammatical shift		Example	Semantic element	
		(1) grammatical class	(2) grammatical functions		congruent →	metaphorical
1		adjective → noun	Epithet/Attribute → Thing	*unstable→ instability; quick(ly)→ speed*	Quality	thing
2		verb → noun:			process:	
	i		Event → Thing	*transform → transformation*	Event	
	ii		Auxiliary → Thing	*will/going go → prospect; can/ could → possibility, potential*	tense; modality	
	iii		Catenative → Thing	*try to → attempt; want to → desire*	phase; contingency	
3		preposition(al phrase) → noun			Circumstance	
	i	Preposition	Minor Process → Thing	*with → accompaniment; to → destination*	minor process	
	ii	prepositional phrase	Location, Extent &c → Classifier	*[dust is] on the surface → surface dust*	minor process + thing	
4		conjunction → noun	Conjunctive → Thing	*so → cause, proof; if → condition*	Relator	
5		verb → adjective			process:	quality
	i		Event → Epithet/Classifier	*[poverty] increases → increasing [poverty]*	Event	
	ii		Auxiliary → Epithet/Classifier	*was/used to → previous; must/will → constant*	tense; modality	
	iii		Catenative → Epithet/Classifier	*begin (to) → initial*	phase; contingency	
6		preposition(al phrase) →			circumstance:	

		adjective				
	i	Preposition	Minor Process → Epithet/Classifier	*with → accompanying*	minor process	
	ii	prepositional phrase	Location, Extent &c → Epithet/Classifier	*[marks are] on the surface → superficial [marks]*	minor process + thing	
7		conjunction → adjective	Conjunctive → Epithet/Classifier	*before → previous; so → resultant*	Relator	
8		preposition(al phrase) → verb			Circumstance	process
	i	Preposition	Minor Process → Process	*(be) about → concern; (be) instead of → replace; (go) across → traverse*	minor process	
	ii	prepositional phrase	Location, Extent &c → Process	*(put) in a box/ in house → box/ house*	minor process + thing	
9		conjunction → verb	Conjunctive → Process	*then → follow; so → cause; and → complement*	Relator	
10		conjunction → preposition(al phrase)			Relator	circumstance :
	i	→ preposition	Conjunctive → Minor Process	*when → in times of; because → because of*		minor process
	ii	→ prepositional phrase	Conjunctive → Location, Extent &c	*so → as a result, in consequence; if [it snows] → under/ in [snow(y) conditions]*		minor process + thing
11		+ noun	+ Thing	*[x] → the fact/ phenomenon of [x]*	(none)	thing
12		+ verb	+ Process			process
	i	+ verb		*[x] → [x] occurs/ exists; [x] → have, do [x] (e.g.,*	(none)	

				impact → have an impact		
	ii	+ (causative &c) verb		*make [x:y] → impose [y on x]; thing [x=y] → credit [x with y]*	(agency &c)	
	iii	+ (phasal &c) verb		*started/ wanted [to survey] → started/ wanted [a survey]*	(phase &c)	
13	i	noun → (various)	Thing →	*the government [decided] →*	Thing	expansion of thing:
			(a) Qualifier	*[decision] of/ by the government*		(qualifying)
			(b) Possessive Deictic	*the government's [decision]*		(possessive)
			(c) Classifier	*government(al) [decision]*		(classifying)
	ii	adverb → adjective	Manner → Epithet	*[decided] hastily → hasty [decision]*	Circumstance	expansion of thing: (descriptive)
		prepositional phrase → adjective	Location, Extent &c → Epithet	*[argued] for a long time → lengthy [argument]*		
		adverb → (various)	Location, Extent &c → Possessive Deictic	*[announced] yesterday → yesterday's [announcement]*		
		prepositional phrase → (various)	Location, Extent &c → Qualifier	*[departed] for the airport → [departure] for the airport*		

The examples below illustrate congruent and incongruent realization of the language.

The example (2) shows the nominalization of a whole clause (1).

(1)   Congruent expression
        The telephone was invented
        (clause)

(2)   Incongruent expression
        The invention of the telephone led to…
        (nominal phrase)

                                                    (Schleppegrell, 2004, p.72)

The word *invent* in the example (1) is the process, and the whole meaning is realized as a single

clause; however, the process, *was invented*, is transformed into a noun, *invention* in the example

(2), which consequently is transformed into a nominal group. This process also applies to the

field of conjunctions; an experiential grammatical metaphor accounts for facilitating the

conjunctive semantics as a logical grammatical metaphor. The logical grammatical metaphor

simply means metaphoric use of language by alternating conjunctions to expand the segments in

serial chains. In this field, the conjunctive relation is construed through not only nominal groups,

but also verbal groups and circumstances.   Although Martin and Rose (2008) explained the

distinctive features of experiential and logical grammatical metaphor by proposing that "logical

resource expands segments in serial chains, and experiential resources arrange segments in

orbital configurations" (p.42), the logical grammatical metaphor also contains the experiential

grammatical metaphor in order to create the conjunctive semantics into smaller chunks of

meaning. The examples (3) and (4) below demonstrate the incongruent and congruent

realization of conjunctions. The importance of this type of logical semantic grammatical

metaphor can be distinctly seen when logical semantics are compared across various texts.

Conjunctive meanings in (4) are all realized congruently, presenting the sequence of events as

they happened, while (3) packs all the experiences as arguable phenomena. Nominal groups

account for all conjunctive semantics in (3) rather than structural conjunction and they further

demonstrate the density of academic arguments.

(3)   **The aim** of our experiment was to find out which part of the magnet is the strongest.
        The steps involved spreading our pins out on the table, putting our magnet over our pins,
        seeing what happened, repeating trying the sides with pings and seeing which side was
        the strongest by comparing. **The result** was that the pings all went to the poles. **Our
        conclusion** is that the poles are the strongest part of the magnet.

(4)   We did and experiment
        In order to find out which part of the magnet is strongest.
        First we spread the pings out on the table.
        Then we put our magnet over our pins.
        Then we saw what happened.
        Then we tried the sides with pins.
        Then we saw which side was strongest by comparing.
        Because we did this,
        we saw that the pings all went to the poles.
        So we found out that the poles were the strongest part of the magnet.

(Martin & Rose, 2008, p.41)

Conjunction: Causal-Conditional

Halliday's realization of causality is defined as causal-conditional relations comprised of

conditional relations in the causal component. Halliday (2004) also explains that the expression

of causal-conditional is realized either generally or specifically. The specificity of causal

relations is constructed in six different ways: cause, reason, purpose, concessive, conditional

positive, and conditional negative. The first three, result, reason, and purpose, are associated

with the causal relation, and the latter three, concessive, conditional positive, and conditional

negative, are interpreted as conditional. Teruya (2007) generalized these six causal relations and

categorized them into five different meanings: cause, reason, purpose and concessive and

conditional. The reason for the interpretation of causal and conditional semantics as sharing the same system network option is that the semantic realization of causal and conditional may result in parallelism and interchangeability, as examples (1) and (2) show below. (Teruya, 2007, p. 387).

(1)   If I had the money, I would have bought a new car."
(2)   Because I didn't have the money, I didn't buy a new car.

In these examples, the counterfactual type of the conditional relation realized as a conjunctive clause is reinterpreted potentially as the cause-effect relation. Although both texts are constructed by different types of logical semantics; causal (1) and conditional (2), both texts imply that a lack of money made purchasing a car is impossible. In other words, a lack of money is the cause of the failure to purchase a car. In such case, condition, itself, would be a cause of the action. The consideration of such an inseparable semantic realization between causal and conditional is the reason for categorizing causal and conditional semantic meanings as one particular kind of logical relations. Taking such semantic relations and matters of cohesion as the primary reasoning for the language classification, Halliday argues that causality should be categorized in Table 1. Japanese translation is also shown in Table 2.

Table 2
Cause-Conditional Semantics in English (Halliday, 2004; Teruya, 2007)

Causal-conditional	Causal	Cause	therefore, hence, because of that; for, in consequence, as a result
		Reason	on account of this, for that reason
		purpose	for that purpose, with this in view
	Conditional	conditional positive	then, in that case, in that event under the circumstance
		conditional negative	otherwise, if not
		concessive	yet, still, though, despite this, however, even so, all the same, nevertheless

Table 3.
Cause-Conditional Semantics in Japanese (Teruya, 2007)

Causal-conditional	Causal	Cause	*Kara* から "because", *node* ので "because" *tame* ため"because" *sitagatte* したがって "therefore",
		Reason	*sono reyuude* "その理由で""For that reason"
		purpose	*tameni(ha)* ために（は）"In order to" *youni* ように "In order to"
	Conditional	conditional positive	*sono Baai* その場合"In that case" *to* と "If, when", *naraba* ならば "If"
		conditional negative	*samonakereba* さもなければ"Otherwise"
		concessive	*ga* が "but, yet, although", *Keredomo* けれども "Even though" *nimo kakawarazu* にもかかわらず "Even if"

Clause complexes

Traditionally the concept of "clause" is the unit of structure containing syntactic elements such as subject and verb. However, because of its trinocular perspective on language, SFL treats the level of clauses and clause complexes differently from traditional grammar. In other words, the concept of clauses and clause complexes have more to do with semantic meanings than with syntactic structures, and clause boundaries are more a matter of semantic rather than syntactic issues.

The traditional term "sentence" is alternatively referred to as "clause complex" in SFL. Clause complex is simply defined as the chunk of clauses combined by both tactic and logical semantic relations. The degree of interdependency determines whether clause relations are that of parataxis or hypotaxis. Parataxis refers to the equal semantic status between clauses, whereas hypotaxis refers to an unequal semantic status between clauses. Clause complex types are also applicable to Japanese, but the way clause complexes are organized is more limited than in English (Teruya, 2007, p330).

Clause complexes in Japanese are organized by the sequence of secondary and primary clauses. In parataxis, initiating clauses are followed by continuing clauses, whereas independent clauses dominate the primary position in hypotaxis as shown in Table 4. This general order of clause complex is variable in English depending on textual considerations. In contrast to English, Japanese texts do not allow the variability of organizational syntactic order in clause complexes.

Table 4
The Organization of Taxis in Clause Complexes (Teruya, 2007, p.331)

	Secondary	Primary
Parataxis	1 (initiating)	2 (continuing)
Hypotaxis	β (dependent)	α (independent)

The interdependency relations are further categorized into specific properties: expansion and projection, interpreted as logical semantic types. The meaning of "expansion" is that a secondary clause expands the information provided in a primary clause, while the "projection" refers to projecting the ideas of the former either mentally or verbally. In terms of expansion Japanese grammars of tactic structural conjunctions are characterized in two ways; adnominalization and verbal conjugation. According to Teruya (2007) adnominalization is "an addition of a structural conjunction such as the conjunctive nominal *toki* 時 "when", the conjunctive postposition *made (ni)* まで (に) "*until*, (by)", or the conjunctive particle *noni* の に "despite" (p.334).   Verbal conjugation implies that conjunctive markers are embedded into verb form. The examples are introduced in Teruya (2007); 'conditionalization' as in *sur-e-ba* すれば "provided", *sur-u-to* すると "if, when(ever)", *sur-u-nara* するなら "if…" or 'infinitivization' such as the suspensive form as in *shite* して "and,-ing" (p.334). Table 5 shows examples of interdependency realized as adnominalization and verbal conjugation.

Table 5
Adnominalization and Verbal Conjugation (Teruya, 2007, p.332)

TAXIS	Secondary Clause	Primary Clause
Parataxis [1 ^ 2] (adnominalization)	雨がふるから [1:] Ame ga [Proc:] <u>huru kara</u> ame GA fell because "Because it will rain"	でかけるな [2:] dekakeru na "don't go out"
Hypotaxis [B ^a] Verbal-conjugation	雨がふったら [B:] Ame ga [Proc<u>:] hutta ra</u> ame GA fell-conditional If it rains	ぼくはでかけない [2:] boku wa dekakenai "I won't go out"

As briefly explained above, the major dominance of projection clauses are verbal and mental projections.   In English, a "that" and quotation marks are the major negotiatory makers for verbal or mental projection. Teruya (2007) further proposes that Japanese also possesses negotiatory makers, which differ from English depending on the mood: writing (*to* と) and speaking (either *to* と or *tte* って) as shown in Table 6 and 7.

Table 6
Negotiatory Marker of Verbal Process (Teruya 2007, p. 339)

Projection	Sayer	Verbal Process
「そうしてくれ」<u>と</u> "soo site kure" <u>to</u> So do-SUSP p-give-&receive IMP PROJ.Q	母が hahaga mother GA	たのんだ。 tanon da ask-past-inf
"Please do so", asked my mother. [Kokoro]		

Table 7
Negotiatory Marker of Mental Process (Teruya, 2007, p.339)

Senser	Projection		Mental Process
男も女も Otoko mo on'na mo Man also woman also	永遠の愛がある<u>と</u> eien no ai ga aru <u>to</u> eternal love NO love GA PROJ.R	Exitadno	信じていた shinjite ita believe-ASP-past-inf
"Both man and woman believed that eternal love existed." [Hutari]			

Such taxis relations-parataxis and hypotaxis-and logical semantics-expansion and projection-are responsible for the determination of a clause boundary. The system of clause complex is represented in *Figure 3.*
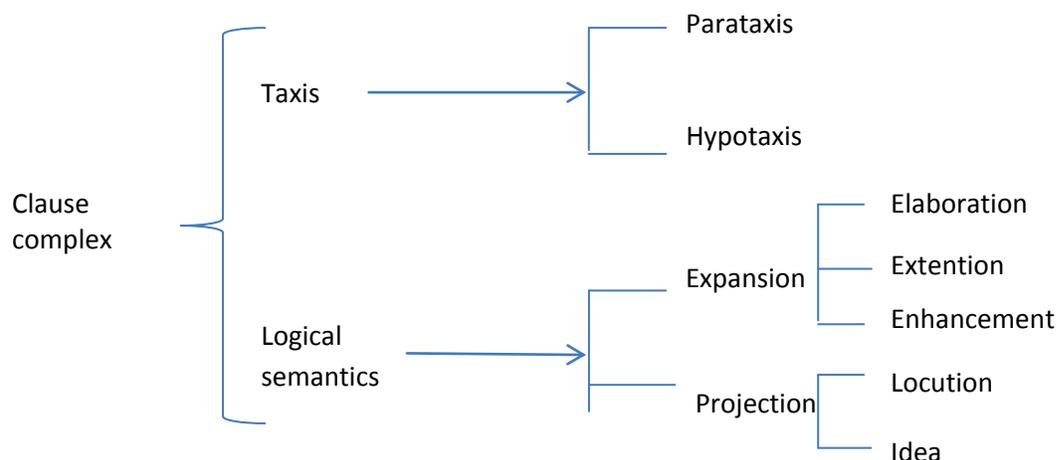
Figure 3.　　　System of Clause Complex (Eggins, 2004, p.259)

2.2 JAPANESE SYNTAX

Clause complex

One of the most distinctive features between Japanese and English has to do with how the two languages treat the category of clause subject. Unlike English, which is categorized as a subject marker or prominent language, Japanese is a topic or Theme prominent language; rather, in a number of interpersonally prominent contexts, clausal subjects can be omitted and can only be contextually retrieved. The identification of subject can be made in two ways: honorification and logical semantic relationship. Honorification is associated with interpersonal meanings that use either an honorific form or a humble form where morphological changes of verbs take place for showing respect or admiration to addressees, or adjusting to social expectations (Teruya, 2009, p.6).

Logical semantics is another contribution to identification of subjects. For example, a clause complex with temporal logical semantics such as suspensive form (generally called て te form) leads to the assumption of what or who the subject is in the latter clause, since the nature of temporal sequences implies a sequence of events which frequently have the same subject but a different action in two serial segments.

Another Japanese feature distinctive from English is identified in a number of clause simplexes retained into one clause complex. Compared to English, Japanese clause complexes can contain a number of clause simplexes as well as logico-semantics. The examples below show the number of clause simplexes contained in one clause complex in Japanese.

Example (1)

(1.1) 英語　　　　においては　母子会話や、　　　　　　生徒　と
English　　　in terms of　mother-child communication student with
教師　の　　会話等　　　の　　分析　　　　に　活用され（Cloran, 1999）、
teacher of　conversation etc.　analysis　　　for　to be used (Cloran, 1999）、
In English, (rhetoric unit analysis) is used for the analysis of mother-child
communication, the conversation between a student and a teacher or etc,

(1.2) 知識伝達　　　　　　　　の　　分析　　　に　　有用な　　　枠組み
Knowledge transmission　of　　analysis　for　practical　framework
(rhetoric unit analysis) is practical framework for the analysis of knowledge transmission

(1.3) と　　　　　　　　　　考えられている　　　　が、
(negotiatory marker)　　to be considered　　　but
It is considered that (1.2), but

(1.4) 日本語　　　に　　　　　適した　　研究は　　佐野(2010b)、佐野・
Japanese　　to　　　　　adjust　　research　Sano (2010b), Sano,
小磯(2011)　　　　　など　がある　　ものの
Koiso (2011)　　　etc.　to exist　but/however
there is the research adjusting (rhetoric unit analysis) to Japanese conducted by Sano
(2010b), Sano and Koiso (2011) etc, but

(1.5)　まだ　　　　少ない。
　　　　Still　　　　a few
　　　　there is still a few.

The interconnection between (1.1) and (1.2) is created by the verb conjugated as an extension

form, and the clause simplexes in (1.2) and (1.3) are under the projected-projecting relation.

(1.3) and (1.4) are simply related to each other by a structural conjunction, *ga* が "but," and the

last two clause simplexes, (1.4) and (1.5), are tied by another structural conjunction, *monono* も

のの "but/however." In this case, 5 clause simplexes are packed into one clause complex. As

shown here, a Japanese clause complex can contain more clause simplexes as well as structural

conjunctions compared to English, and this feature makes Japanese clause complexes larger in

their clause-embedding feature than English, even when the syntagmatic measurement of clause

simplexes in Japanese remains the same as in English[1], which leads to the comparable analysis

of causality use in total clause simplexes.

---

[1] It is worth noting that the syntagmatic measurement of clauses has caused a number of problems in typological research. Among them are serial verb constructions, which are a main feature in Japanese but not so in English (Comrie, 1989).

Japanese circumstanciation

Japanese circumstanciation is also a distinctive feature from English. Circumstanciation is concerned with the elements which provide specific circumstances of processes and participants. The major circumstanciations are typically shown in adverbial groups and prepositional phrases. Although Japanese adverbial phrases work in a similar manner to English adverbial phrases, prepositional phrases are realized in different syntactic structures. Unlike English, which locates the nominal group before prepositions, the Japanese circumstance marker is positioned after a nominal group, and is conversely called post-positional. An example of Japanese postpositional circumstance is shown in Table 8.

Table 8
Japanese Circumstanciation

わたしは Watashi ha I	くるま Kuruma Car	で De by	がっこう Gakkou school	に Ni To	いきます。 Ikimasu Go
Participant	Transportation	Postpositional :mannar	location	Postpositional :destiny	Material process
I go to school by car					

In the example, "car" is located before the circumstance marker, *de* で "by" and *ni* に "to" also follows the same structure. Contrary to English, a Japanese circumstance marker is positioned after nominal groups; it is therefore called postpositional. There is another distinguished feature of Japanese from English in reference to circumstanciation. In English, a preposition takes on a significant role for the semantics of the prepositional phrases; however, this system differs in Japanese and postpositional markers have much less responsibility for the semantics of the clause, whereas nominal groups associated with the postposition determine the meaning of

postposition. For example, if the head of a nominal group marked by a postposition *ni* に "ni" is

a time related nominal group, the meaning of the postposition *ni* に is construed as temporal

location, but if a nominal group is associated with a locative nominal group, semantics of the *ni*

に is space location (Teruya, 2007, p.318). The various meanings of one particular postposition

require a contextual understanding of nominal groups around the postpositional marker to

interpret the meaning of the postpositional phrase in the text. However, requiring understanding

of the texts surrounding the postposition is not required for all postpositions. The numbers of

potential semantics a postposition can retain are also remarkably different for each postposition.

For example, the most frequently used postpositions in terms of causation are *de* で and *ni yotte*

によって (Moriyama, 2004, p.2; Teruya, 2007, p.319). Comparing these two postpositions, *ni*

yotte によって retains only one particular semantics "by (agent)", but *de* で comprises five

different semantics: cause, means, special location, temporal location and condition (Moriyama,

2004, p.2). For the postposition *ni yotte* によって, its textual understanding is less important

than the postposition *de* で, since it has only one particular meaning. On the other hand,

analyzing a semantically adaptable postposition such as *de* で, micro and macro views on the

texts are needed in order to understand the semantics of postpositions. All of the postpositional

markers realized in this research are listed in Table 9.

Table 9

Japanese Postposition Types of Causal Semantics Used in this Research

Postposition	Purpose	のために no tame ni For the sake of
	Causal	で de By
		によって/により ni yotte / ni yori by
		つうじて tsujite through
		めぐり meguri through

3. STUDY

The methodological approach of this study lies within the Systemic Functional Linguistics

analysis of English and Japanese academic linguistics journals. The area of this study contains

the following aspects of SFL: clause complex, logical semantics, logical and experiential

grammatical metaphor.

3.1 DATA COLLECTION

This research involves introductory parts of English and Japanese academic linguistics

journals. The reason for selecting academic journals of one particular area is that this research

focuses on the causality use only in academic registers. It was hypothesized that the specificity

of this particular register between Japanese and English will bring out the semantic differences of

contrastive analysis as academic language is the primary area in which causality is used in a

number of lexicogrammatically distinct ways (Martin and Rose, 2007), so the academic journals

related to one particular area, *linguistics*, are selected. All of the English and Japanese resources

are published journals written by native speakers of each language. The length of the

introduction sections are divergent for each article, where lexical items range from 279 words to

1008 words in the English journals, and from 472 to 2342 words in the Japanese journals.

Comparable numbers of causality uses are the priority for the purpose of this contrastive research

as it is construed in academic journals. By analyzing 14 articles of Japanese and 9 articles of

English, the comparable number of causality use (Japanese: 122 and English: 126) are collected.

The data sources are listed in the primary source section of the references.

3.2 METHOD OF ANALYSIS

Causal-Conditional Analysis

For the causal-conditional analysis, the causality markers are highlighted and categorized

into 4 sections: nominal groups, verbal groups, circumstance groups, and conjunctions. For the

purpose of analyzing causality type, all of the causality-related lexical items are categorized into

the 5 principles of causality: cause, purpose, result, conditional (positive and negative) and

concessive (Halliday, 2004).

Ratio of causality used in the texts

As a method for determining causality ratio, the total number of causality out of the total number of clause simplexes are used as a basis for calculation. The total numbers of causalities and clause simplexes are listed in Table 10. The formula is shown in the following.

Table 10
The Total Numbers of Causalities and Clause Simplexes

	Total causality	Total clause simplexes
English	126	241
Japanese	122	421

Formula for causality ratio:

$$\text{Ratio of causality used in the texts} = \frac{\text{Total number of causality markers}}{\text{Total number of clause simplexes}} \times 100$$

Ratio of Lexicogrammatical Devices

First, each lexicogrammatical device is calculated as shown in Table 10. The percentage of each device is calculated based on the two different aspects: the total number of clause simplexes and the total number of causations. The percentage is then calculated based on the total number of clause simplexes, implying the frequency of use for each type of lexicogrammatical item used per clause. Additionally, the ratio calculated based on the total number of causation shows how often each lexicogrammatical item occurs from the total of causality-related expressions. The four lexicogrammatical items are listed in Table 11. The formulas of each ratio are shown in the following.

Table 11

Number of Four Causality Realizations

	English	Japanese
Nominal Group	20	24
Verbal Group	42	16
Circumstance Group	22	18
Conjunctive Group	42	64
Total	126	122

Formula for lexicogrammatical item per clause:

The percentage of the type expressing causation $= \dfrac{\text{Total number of each type}}{\text{Total number of clause simplexes}}$ X100

Formula for lexicogrammatical item from total causality:

The percentage of the type expressing causation $= \dfrac{\text{Total number of each type}}{\text{Total number of causation}}$ X100

Ratio of Causation Types

The final analysis of this research is to investigate the ratio of causality in various types of conjunctive elements. The causal types are categorized into five types: cause, reason, purpose, concessive and condition. (Halliday, 2004). Those five types are largely categorized into two groups: causal and conditional. The first three types belong to causal semantics, whereas the latter two are classified as conditional semantics. The number of each category is counted (see in Table 12) and the ratio is calculated by the formula in the following.

Table 12

Number of Five Causation Types Realized in Conjunctive Elements

	English	Japanese
Cause	15	32
Reason	1	0
Purpose	20	7
Concessive	5	14
Condition	1	11
Total	42	64

Formula for ratio of five causal types:

The percentage of each causation types= $\dfrac{\text{Total number of each type}}{\text{Total number of conjunctive elements}}$ X100

4. ANALYSIS AND RESULTS

4.1 CAUSALITY RATIO

The ratio of causal use in Japanese and English articles shows a difference in terms of its frequency of occurrence. In the Japanese articles, causal semantics is used at the rate of 28%, whereas the rate of causal use in the English texts is almost 50 %. That is, the Japanese texts use 122 cases of causality in 421 single clauses and the English texts use 126 cases in 241 single clauses. This number implies that the Japanese texts have much less frequency of causality use, which is nearly half of the English texts. *Figure 4* describes the difference in the ratio of causal use between the Japanese and English articles.

Table 13

Causality Ratio between Japanese and English Texts

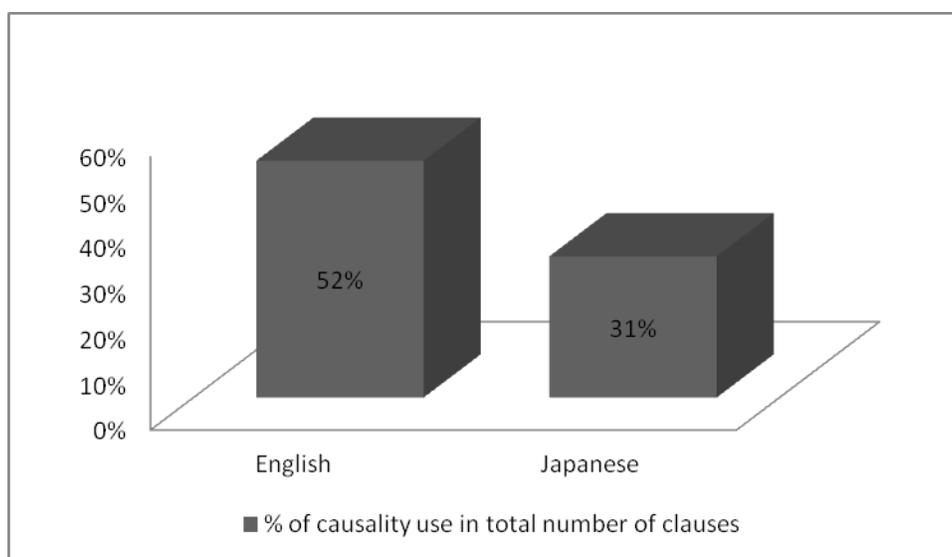|	Total causality	Total clause simplexes	Ratio of causality per clause
English	126	241	52%
Japanese	122	421	31%

Figure 4. Causality Ratio between Japanese and English Texts

4.2 NOMINAL GROUP

      Nominalization of causal logical semantics is part of logical and experiential grammatical

metaphor. The nominalization is the final stage of incongruent realization of conjunctions, as

logical semantic relations are compressed into the smallest experiential element in language.

This process usually packs a cause-effect relation into one nominal group. For example, the

implication of the word *result* is as an effect of some action. *Result* itself does not exist without

any participant who produces a result. In other words, *result* itself includes all of the participants

who produce (or cause) the result and this assumption is attached to a nominal group showing

causation. Examples of causal-related nominal groups in both Japanese and English are

introduced from the data

(1)   英語ブログ集合を　収集・　　　分類した　　　　　結果　　　　の
       English blog assembly　　To collect　to categorize　　<u>result</u>　　　　of
     分析を　　　　　　行う.
       analysis　　implement
     (We) analyze the <u>result</u> of collecting and categorizing English blog assembly.

(2)   Problems with reader-oriented features such as providing supporting evidence and
     appropriate style and tone have been identified as <u>major contributors</u> to the failure of
     novice writers to persuade academic audiences.

Example (1) shows the nominal group implicitly composed of a cause-effect relation. This is the

case as explained above, the nominal group itself contains the causal relation. The lexicon *the*

result retains the meaning that the result was produced by collecting and categorizing *the English*

blog assembly. Example (2) shows the clear logical semantics creating the connection between a

cause and effect. The nominal group *major contributors* implies the causal logical semantics

because. The unpacked version of the sentence interprets this as novice writers fail to persuade academic audiences, because they have problems of providing supporting ideas, and appropriate style and tone. Conjunction *because* was packed into *major contributors,* which led to the process of packing a clause complex into a clause simplex.

Ratio of causation realized in nominal group

The data show the similarity in the ratio of the nominal realization of causal conjunctions between Japanese and English. As in whole clauses, English uses the nominalization of the conjunction slightly more than Japanese, exceeding by about 2 %. That is, the Japanese texts contain approximately 20 % of total causation, but the English texts uses only about 16 %. The data indicate that there are no large differences in the nominal realization of causal conjunctions between Japanese and English.
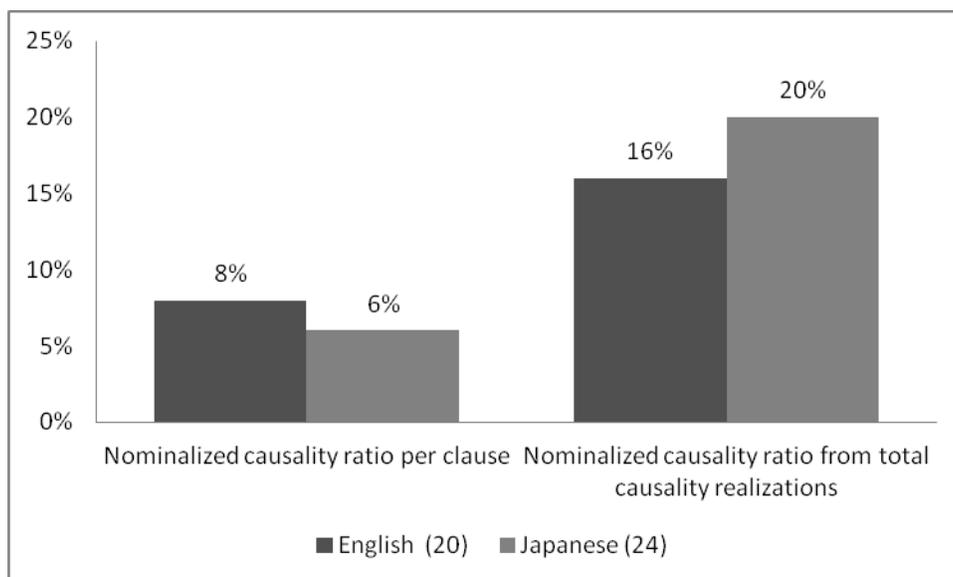

Figure 5. Ratio of Nominalized Causation

4.3 VERBAL GROUP

Implication of verbal realization of causal relations plays a role in bridging the relation between cause and effect. Because the verb is in charge of creating a cause and effect relation, noun groups surrounding the verb such as a subject and complement are likely to be a part of causation.

(1)   この　　ような　　　活動は、　　説明表現　　　　　　　　　　の　　　熟達
         This   like   activity   explanation expression   of   growth
         に　　つながる。
         to　　<u>connect</u>
         An activity like this <u>connects</u> to the growth of explanation expression.

(2)   Achieving bilingual competence <u>requires</u> the individual to gain control of the linguistic rules of both languages.

In the Japanese example (1), the verb *connects to* implies a cause and effect relation displayed as subject and complement. The implication of this clause is that the explanation expression may "grow because of the activity like this". The complex causal conjunctive *because of* is packed into the verbal process, where a prepositional phrase is packed into the verb *connect*. It also locates the other elements associated with causation into subject and complement positions. Thus, *the growth of explanation expression* is the effect of the cause, *an activity like this*. The interpretation of causality in example (2) refers to the purpose. According to Halliday (2004), the purpose is considered part of causality, because an action is performed because of a particular purpose (p. 43). In this case, the purpose is realized in the subject *achieving bilingual competence* and *gain control of the linguistic rules of both (the) languages* is the action to attain the purpose. This clause can be interpreted as individuals having to gain control of the linguistic rules of both languages for the purpose of achieving bilingual competence.

The verbalization of causal logical semantics illustrates a significant difference between the Japanese and English texts. The Japanese texts have an extremely low frequency of verbalized causal meanings, which is shown in *Figure 6*. In the Japanese texts, the verbalized causations comprise 13 percent of the total causation, while they make up only four percent of the total clause simplexes. The English texts, on the other hand, contain a high number of verbalized causation at the rate of 33 % in the total causation, which is the highest of all four areas.
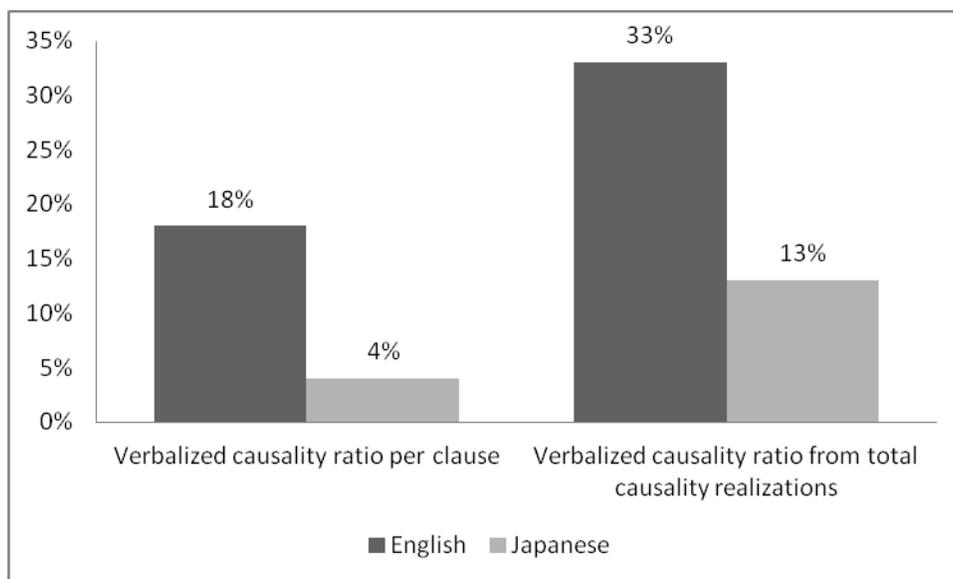

Figure 6. Ratio of Verbalized Causation

4.4 CIRCUMSTANCE GROUP

Circumstance refers to adverbial phrases and pre/post positional phrases, which modify

participants and processes. Among circumstantial expressions, pre/post positional groups form a

major grammatical category that shows causal conjunctive meanings in both Japanese and

English texts. The examples below describe the causal realization of circumstantial meanings in

Japanese and English.

(1)　　特に、　　　　いわゆる　　　「ゆとり教育」カリキュラム
　　　　<u>Especially</u>　　so called　　　"Yutori Kyouiku (pressure free eduation)" curriculum
　　　　によって　　　1990 年代　　　　には　　　　　大学生　　　　　　の
　　　　by　　　　　1990s　　　　　　　in　　　　　college students　　　of
　　　　学力が　　　　　　　総合的に　　低下し た。
　　　　academic ability　　　in general　　　　　decline
　　　　The academic ability of college students has generally declined especially by so called
　　　　Yutori kyouiku (pressure free education) in 1990s.

(2)　　Children may in fact acquire new languages more efficiently <u>due to</u> their engagement in
　　　　play and other physical activities.

In example (1), the cause-effect relation is constructed through a postposition *ni yotte* によって

"by." The nominal group positioned before the postposition, *Yutori Kyouiku* "pressure free

education" is recognized as the cause of the decline of college students' academic ability and the

postposition bridges the relation between the cause and its effect. In example (2), the preposition

due to indicates reasons such as play and physical activities for children's efficient language

acquisition because *due to* itself implies cause or reason. Such pre/postpositions are contributors

to the construction of the causal relation into a group, a phrase, and a clause.

In terms of the realization of causation by circumstantial elements, the result shows a similarity between the Japanese and English texts, which has only a 2 % difference between them. Both the Japanese and English texts use circumstantial causality less than 10 % of the total clause simplexes and less than 20 % of the total causations. The result may imply that circumstantial causality does not play an important role in expressing causal logical semantic meanings. The result of the circumstantial causality expression is shown in *Figure 7*.
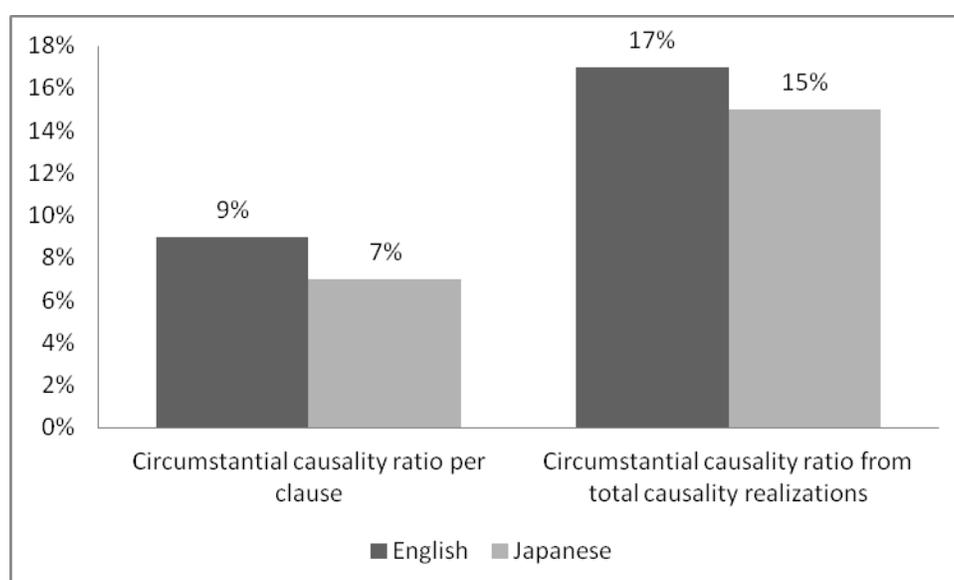

Figure 7. Ratio of Circumstantial Causation

4.5 CONJUNCTIVE GROUP

Unlike the other lexicogrammatical aspects discussed above, conjunctives are the

congruent realization of logical semantic meanings; the semantics of syntax is construed as such.

In this research, conjunctions are the only area of meaning where the logical and experiential

grammatical metaphors do not apply. It is only cohesive structural conjunctions that are the

major element within the logical semantic system. However, conjunction in SFL does not rely

on the formal criteria for conjunctions, but rather on the realizations of conjunctive meanings.

For example, *By* used in (4) performs connecting the two segments, rather than modifying the

participants and the process. Although "by" is termed as a preposition, not as a conjunction in

the formal linguistics, it can be a conjunctive element in SFL depending on the function of "by"

performed in the context. For the purpose of categorizing types of causal realizations, this

analysis considers language meanings and functions as important to this semantic area.

In reference to Japanese conjunctive meaning expressions, Teruya (2007) introduced two

ways of constructing structural conjunctions. One is adnominalization, where the conjunction

itself is a nominal group. Similarly to the postposition, adnominalization is also restrictedly

positioned after the subordinate clause. The other is verbal conjugation where structural

conjunction is conjugated into a verb. Example (1) shows a case of adnominalization used in the

data and example (2) describes the verbal conjugational conjunctive meaning.

(1)   特に,   文脈   の   前後   の   流れを

              particularly   context   of   before and after   of   flow

              考慮し   ない   と,

              to consider   not   <u>if</u>

              文   の   意味を   全く 別の 意味と

              sentence   of   meaning   at all different   meaning

              して 捉えて   しまう   こと   がある.

              as   to understand   possibly   the case   there is.

If (the computer) does not consider particularly the flow, previous and latter of sentences, there is the case that (computer) comprehends the meaning of the sentence as a totally different meaning.

(2) すなわち、　　　　外国語　　　　　の　　音声　　　　や　　文字を
in other words　　　foreign language　　of　　voice sounds　and　letters
使って　　　実際に　　　コミュニケーションを　　図ることが　　　　できる
to use　　　actually　　　communication　　　　　　to do　　　　　can
In other words, (we) can communicate in real, using voice sounds and letters of foreign language.

(3) <u>in order to</u> investigate linguistic differences in the way the students realize the expository genre in general and the theme of clauses in particular,

(3.1) theme is an element of the textual metafunction, an important conceptualization for SFL, the framework for this study.

(4) <u>By</u> making explicit what is to be learnt, providing a coherent framework for studying both language and contexts, ensuring that course objectives are derived from students' needs, and creating the resources for students to understand and challenge valued discourses.

(4.1) genre approaches provide an effective writing pedagogy.

The use of conjunctions is divergent in the Japanese and English academic articles (seen F*igure 8*). 15 % of conjunctive elements are used in the Japanese texts, but over half of causality are realized as conjunctive elements. This number indicates that conjunctive elements are highly responsible for constructing the causal logical semantics, and may explain why the same meaning is realized much less in the other grammatical forms. In contrast, the English texts contain 33 % of conjunctive elements in the total causations, the highest number of all the other causal forms examined. But it was much lower than in the Japanese texts in terms of the ratio in the total causation.
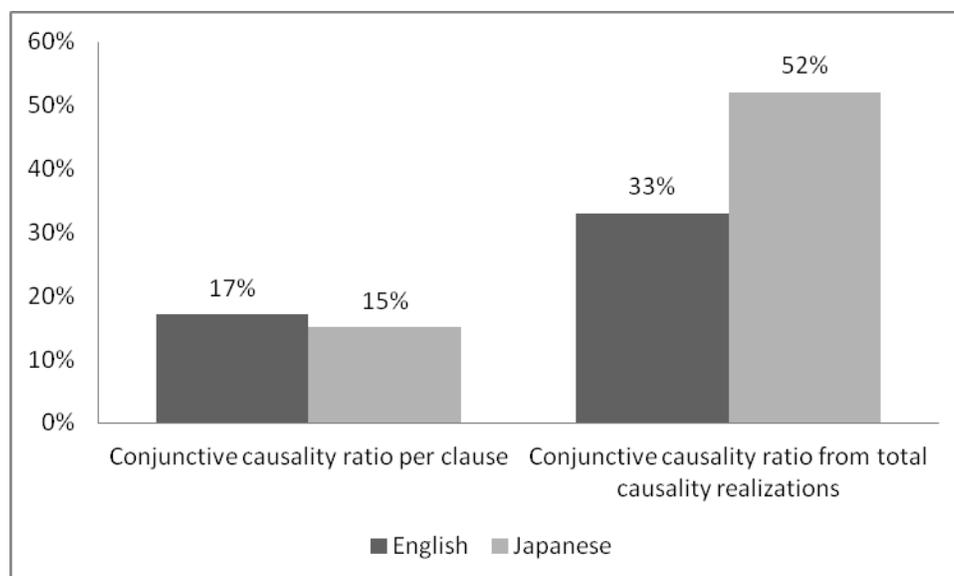
Figure 8. Ratio of Conjunctive Causation

Further analysis of the conjunctive elements in terms of the type of causation shows that there is another difference between the Japanese and English texts. According to Halliday (2004), causality is classified into two categories: causal and conditional. Causal and conditional semantics are further classified into sub-categories: cause, reason, purpose concessive and conditional. The first three are referred to as causal, whereas the latter two are associated with conditional meanings. Each conjunctive element in this analysis was analyzed according to the five types of causal logico-semantics, and it revealed a significant difference in the types of causality used in the Japanese and English texts.

The Japanese texts have cause-related causality at the highest rate at the rate of 50 %, as shown in *Figure 9*, whereas the English texts show that purpose-related causality dominates the conjunctive meaning. *Purpose* is conversely one of the lowest frequent meanings in the Japanese texts, occurring only 11 % of the conjunctive meanings. English, on the other hand, shows a remarkably lower rate of conditional conjunctive elements. Particularly, the conditional

meaning in the English data shows up at a significantly low frequency compared to the Japanese

texts. *Figure 10* shows the ratio of the lager category of causality: causal and conditional. Both

texts have the causal-related causality exceeding the conditional-related causality, but there is a

large gap between causal and conditional elements observed in the English texts, as causal-

related causality occurs 70 % more often than conditional-related causality. This result leads to

the interpretation that English texts do not have much to do with conditional-causality in

academic writing, but the causal-related causality takes more responsibility for the academic
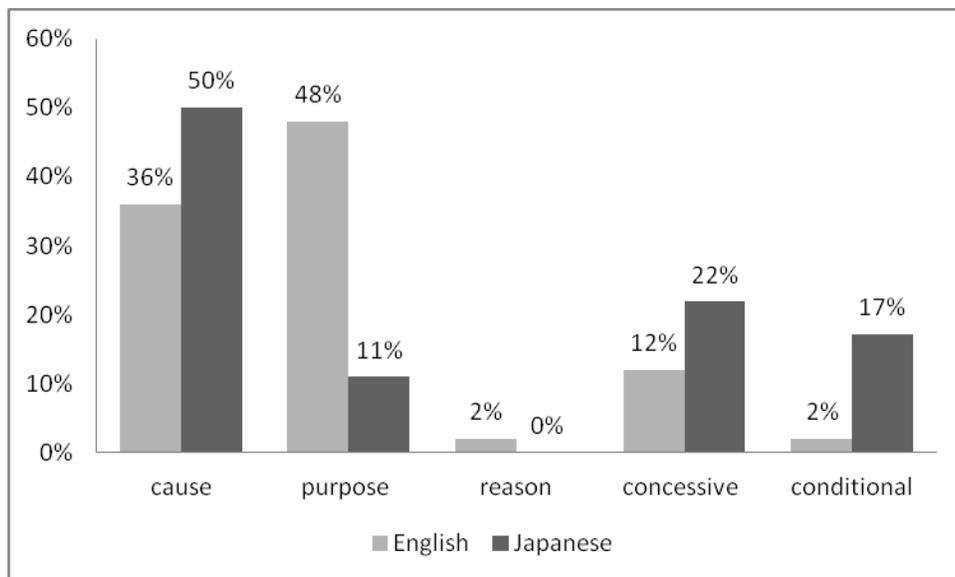
journals.

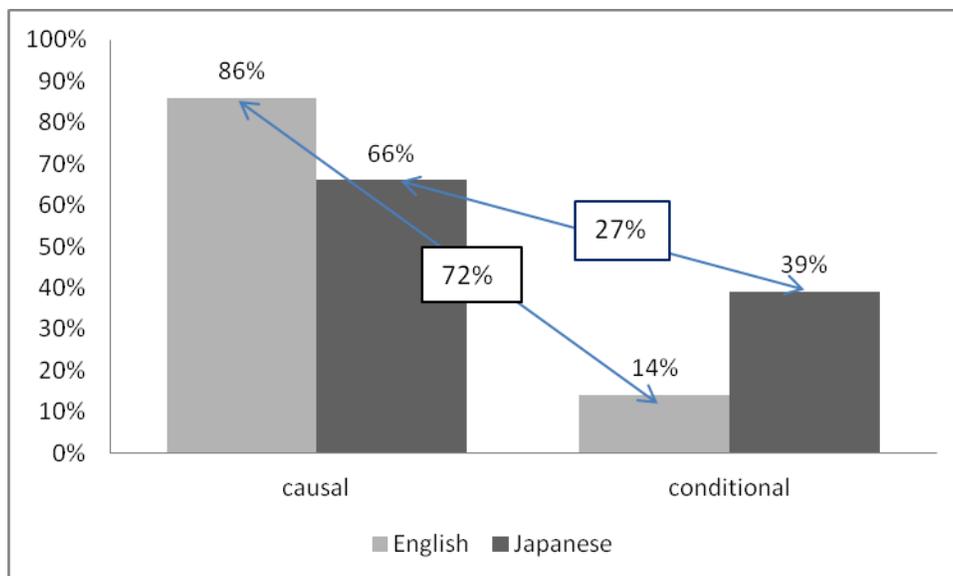*Figure 9.* Ratio of Causation Types in Conjunctive Elements

Figure 10. Ratio of Causal and Conditional Conjunctive Elements

5. CONCLUSION AND DISCUSSION

This research has described the ways in which English and Japanese academic articles use different lexicogrammatical devices to express the concept of causality. Despite the similar text type or genre to which the data belong, the analysis has shown that the two languages differ not only typologically but also in terms of the lexicogrammatical patterns realizing cause and effect relations. Schleppegrell (1995) argued that the conjunctive linkage in written English tends to be expressed through prepositional phrases or other syntactic condensation, rather than through structural conjunctions. This semantic and syntactic mismatch between the two languages may be partially responsible for Schleppergrell's finding that ESL students use twice the number of *because* in their writing compared to native speakers (1995). On this basis of this, Schleppegrell proposes that ESL students have a lack of knowledge about how the English language expresses logical semantics and emphasizes the importance of explicit pedagogical support for ESL students. This research has revealed that Japanese texts have much more structural conjunctions than English texts, whereas English texts have implicit causal semantics using logical and experiential grammatical metaphor whose causality meaning may not always be transparent.

The most conclusive result is that the lexicogrammatical features used to introduce and describe practically the same common are quite distinct depending on the languages used to do so. All lexicogrammatical areas where logical and experiential grammatical metaphors are employed indicate that the Japanese texts make much less use of the language transformed by the grammatical metaphor, but more of congruent expressions in terms of causality in comparison to the English texts. Nominal groups, circumstantial elements, and verbal groups in the Japanese

texts did not make much use of the gap that exists between the levels of semantics and lexicogrammar. This finding may further explain why the Japanese texts relied more on conjunctions to convey logical semantic meanings; and that is, in the Japanese texts, conjunctions were a major contributor that bridges the relation between causes and effects. This aspect is shown in the analysis that showed nearly 50 percent of causal relations are construed through conjunctions. The English texts, on the other hand, do not use conjunctions much, but rely more heavily on logical and experiential grammatical metaphors to convey the same causality meaning. This result also implies that the English texts use more incongruent expressions in academic registers, as shown in Schleppegrell (2004) that experiential grammatical metaphors increase the academic realm by packing as much information as the speaker intends to provide (p. 72).

One implication that results from this analysis is that the argument that an increase in the frequency of experiential grammatical metaphors is closely associated with an increase in terms of the level of complexity and technicality of the area may be restricted to English, and may not be applicable through various languages. The Japanese causality analysis shows fewer logical and experiential grammatical metaphors in the data academic texts, and experiential grammatical metaphors were not used much. This result may lead to the interpretation that the creation of academic realm is not associated with changing logical semantic meanings at the level of lexicogrammar in the Japanese texts, and a congruent realization of conjunctions does not have negative impact on academic registers in Japanese. The English texts, however, showed the effect of an increase in experiential grammatical metaphors in the academic area.

The types of causality used also vary in the Japanese and English academic journals. In terms of conjunctive elements, Japanese causations are generally composed of both causal and

conditional elements. English conversely has a significantly lower rate of conditional-causation while causality related causations are frequently used. The assumption is that the features of conjunction used in the Japanese and English texts are associated with the syntax of conjunctive elements. Causal related causations: reason, purpose, and cause, frequently use prepositions to connect elements between one segment and another, but the conditional seems to be expressed more through structural conjunctions such as *but, although, if*. These obvious textual conjunctions are the primary resource used in the Japanese academic journals, but not in the English data as they have other lexicosemantic resources to show similar concepts. We then may argue that the analysis conducted here provides suggestive evidence that what is called "semantic conjunction" that has been argued to be a crucial lexicogrammatical feature for languages to evolve into a more complex and technical form may be restricted only to the changes that have happened in English, and that it may not be generalizable to other languages.

 And finally, as the findings discussed in my thesis are limited to analyzing academic linguistics journals, they may not be generalizable to all text types and registers of the two languages. Despite this limitation of this thesis, the results and contrastive differences in the lexicogrammatical construction of causality in Japanese and English are still worth noting.
In the future, research on causality should analyze a wider variety of text types, which will reveal a true comparison between the two languages. Currently, that type of analysis requires analytic methods based on corpus linguistic models, which exclusively rely on computer programs and statistical analyses. The scope of this paper does not include these methods of analysis; nevertheless, this research is a step toward a more complete contrastive analysis between Japanese and English from a systemic functional perspective.

REFERENCES

Primary sources

(Japanese)

Abe, S. (2002). Nihongo ni okeru N-Rheme: Shokitekisuto ni okeru gugen to kinou ni tsuite. *Gendai shakai bunka kenkyu,* (25), 267-283.

Goto, T. (2010). Eibun writing ni okeru genre bunseki houhouron no hikakukenkyu. *Kumamoto University shakai bungaku kenkyu*, *8,* 179-187.

Hayakawa, K. (2011). Nigengo heiyou washa ni yoru goi ninchi shori kenkyu no gaikan: chugokugo wo bogo to suru nihongo gakushusha ni yoru ganjigo no oninshori ni shouten wo atete. *Nagoya University gengo bunka kenkyukai, 24,* 41-60.

Maki, K., Yokomoto, D., Suzuki, H., Utsuro, T., Kawada, Y., & Fukuhara, T. (2011). Wikipedia wo tagengo chisikigen tosuru blog shugo no wadai bunseki. *IEICE technical report. Natural language understanding and models of communication, 111* (119), 95-100.

Miyake, K. (2003). Bilingual ni okeru gainen no kasseika to bunkateki youin. *Nagoya University gengo bunka kenkyukai, 16,* 67-86.

Moriyama, S. (2005). JSL ni okeru kakujoshi DE no shutoku katei ni kansuru ninchi gengogaku teki kokusatsu. *Ochanomizu University Press*, 464-473.

Naganuma, M. (2006). Honyaku ni okeru meishika to iu bunpouteki hiyu. *Interpretation studies*, (6), 15-28.

Okami, Y., & Iwashita, S. (2012). Taiwa no joukyou wo kouryosita goisentaku shuhou: keigo henkan ni okeru kentou. *The association for Natural Language Processing,* 213-214.

Otomo, K. (2010). Meta gengoteki approach ni yoru gengo shido no kouka: goigakushu kosouki kadaino tekiyou ni kansuru yobiteki kentou. *Tokyo Gakugei University kyouiku jissen kenkyu shien center*, *6,* 97-102.

Takahashi, Y., Kobayashi, I., & Kanno, M. (2005). Context ni izon suru text seisei no jitsugen. *The 19th Annual Conference of the Japanese Society for Artificial Intelligence,* 1-4.

Tanaka, Y. (2011). Yahoo chiebukuro ni okeru shitsumon no shuuji yunito bunseki: myakubunka-bunmyakuka no teido ni yoru bunnrui. *IEICE technical report. National language understanding and models of communication, 110* (400), 13-18.

Tomiya, R. (2009). New comer tono kyouseito nihongo kyouiku: Gengo keikaku kara no bunseki. *Kanagawa University gengo kenkyu*, *31,* 29-48.

Uchibori, A., & Chujo, K. (2010). Corpus wo mochiita bumpou goishido: kihontekina meishiku kouzou ni kansuru anjiteki oyobi meijiteki sidou no kumiawase. *Nihon University seisan kougakubu kenkyu houkoku, 43,* 1-11.

Yashima, T. (2003). Daini gengo communication to jyoui youin: gengo shiyou fuan to sekkyokutekini communication wo hakaroutosuru taido ni tsuiteno kousatsu. *Gaikokugo kyouiku kenkyu*, *5*, 81-93.

(English)

Coffin, C. (2004). Arguing about how the world is or how the world should be: The role of argument in IELTS tests. *Journal of English for Academic Purposes, 3*(3), 229-246.

Forey, G. (2004). Workplace texts: do they mean the same for teachers and business people? *English for Specific Purposes, 23*(4), 447-469.

Haworth, P., Cullen, J., Simmons, H., Schimanski, L., McGarva, P., & Woodhead, E. (2006). The role of acquisition and learning in young children's bilingual development: A sociocultural interpretation. *International Journal of Bilingual Education and Bilingualism, 9*(3), 295-309.

Herke, M., Matthiessen, C., McGregor, J., Manidis, M., Scheeres, H., Slade, D., Parbury, J. S., & Iedema, R. (2008). *Patient Safety: a tri-stratal interpretation of communicative risk in the Emergency Departments of public hospitals.* Proceedings of ISFC 35: Voices Around the World, 143.

Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of second language writing, 16* (3), 148-164.

Lee, S. K. (2010). Attribution in high-and low-graded persuasive essays by tertiary students. *Functions of language, 17*(2), 181-206.

Moore, S. H. (2008). *Representing Crime in Contemporary Cambodia: The Phnom Penh Post's Police Blotter.* Proceedings of ISFC 35: Voices Around the World, 112.

Scott, C. (2008). *Reporting Armistice: Grammatical evidence and semantic implications of diachronic context shifts.* In C. Wu, C. MIM. Matthiessen & M. Herke (Eds.), Proceedings of ISFC 35: Voices Around the World, 125.

Yang, Q., Ramírez, A., Harman, R. (2007). EFL Chinese Students and High Stakes Expository Writing: A Theme Analysis. *Colombian Applied Linguistics Journal,* (9), 99-125.

Secondary sources

Bernstein, B. (1997). Foreword. In P.R. Hawkins (Ed.), *Social class, the nominal group and verbal strategies* (pp. ix-xii). London: Routledge & Kegan Paul.

Bloor, T., & Bloor, M. (2004). *The functional analysis of English* (2nd ed.). London: Arnold.

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge: MIT Press.

Comrie, B. (1989). *Language Universals and Linguistic Typology*: *Syntax and Morphology*. Chicago: The University of Chicago Press.

Davidse, K. (1987). M.A.K.Halliday's functional grammar and the Prague school. In R. Dirven & V. Fried (Eds.), *Functionalism in linguistics* (pp. 39-80). Amsterdam: John Benjamins.

Diessel, H., & Hetterle, K. (2011). Causal clauses: A cross-linguistic investigation of their structure, meaning, and use. In P. Siemund (Ed.), *Linguistic universals and language variation,* (pp.23-54), Berlin: Walter de Gruyter.

Eggins, S. (2004). *An introduction to systemic functional linguistics* (2nd ed.). New York: Continuum.

Flowerdew, L. (2003). A combined corpus and systemic functional analysis of the problem-solution pattern in a student and professional corpus of technical writing. *TESOL Quarterly, 37*(3), 488-511.

Ford, C. E., & Mori, J. (1993). Causal markers in Japanese and English conversations: a cross linguistics study of interactional grammar. *International Pragmatics Association, 4*(1), 31-61.

Halliday, M. A. K. (1978). *Language as social semiotic*: *The social interpretation of language and meaning*. Maryland, MA: University Park Press.

Halliday, M. A. K. (2002). Spoken and written modes of meaning. In J. J. Webster (Ed.), *On grammar,* (pp. 323–351). London: Continuum.

Halliday, M. A. K. (2004). *An introduction to functional grammar* (3rd ed.). London: Arnold.

Halliday, M. A. K., and Matthiessen, C. (1999). *Construing experience through meaning*: *A language based approach to cognition*. London: Cassell.

Inui, T., & Okumura, M. (2005). Investigating the characteristics of causal relations in Japanese text. In *Proc. ACL 2005 Workshop on Frontiers in Corpus Annotation II: Pie in the Sky*.

Inui, T., Inui, K., & Matsumoto, Y. (2005). Acquiring causal knowledge from text using the connective marker tame. *ACM Transactions on Asian Language Information Processing, 4*(4), 435–474.

Klein, W. (1986). *Second language acquisition*. Cambridge: Cambridge University Press.

Lavid, J., Arús, J., & Rafael, J. (2010). *Systemic functional grammar of Spanish: A contrastive study with English*. New York, NY: Continuum.

Martin, J.R. (1992). Genre and literacy-modeling context in educational linguistics. *Annual Review of Applied Linguistics, 13*, 141-172. doi:10.1017/S0267190500002440.

Martin, J.R. (2001). Language, resister and genre. In A. Burns, & C. Coffin (Eds.), *Analysing English in a global contexts: A reader* (pp.149-166). London: Routledge

Martin, J.R. (2005). *Shidonii gakuha no SFL: Haridei gengo riron no tenkai*. Tokyo: Liber Press.

Martin, J.R., & Rose, D. (2008). *Genre relations:mapping culture*. London: Equinox.

Moriyama, S. (2004). Acquisition process of Japanese case particle DE as a second language: Cognitive Linguistics Perspective. *Ochanomizu University Press*, 464-473.

Naganuma, M. (2008). A systemic functional approach to translation pedagogy in Japan. *Systemic Functional Linguistics in Use: Odense Working Papers in Language and Communication, 29*, 589-600.

Teruya, K. (2007). *A systemic functional grammar of Japanese*. London: Continuum.

Teruya, K. (2009). Grammar as a gateway into discourse. A systemic functional approach to Subject, Theme and logic. *Linguistics and Education, 20*, 69-78.

Schleppegrell, M. (2004). *The Language of schooling*: *A functional linguistics perspective*. Mahwah, NJ: Erlbaum.

Schleppegrell, M. (1996). Conjunction in spoken English and ESL writing. *Applied Linguistics, 17*(3), 271-285.

Sum, E. (2007). *A systemic functional grammar of Chinese*. New York, NY: Continuum.

APPENDIX

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March 7, 2013

Masaki Shibata
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