

**A COGNITIVE SEMANTIC STUDY OF VERB MEANING AND
ARGUMENT STRUCTURE USED BY THE STUDENTS OF ENGLISH OF
SA'ADATU RIMI COLLEGE OF EDUCATION, KANO**

BY

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SPS/09/PEN/00001

**A PhD THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE
STUDIES, BAYERO UNIVERSITY, KANO IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DOCTOR OF
PHILOSOPHY IN ENGLISH (LANGUAGE)**

MAY 2015

DECLARATION

I hereby declare that this research work was conducted by me, undertaken under the supervision of Professor Aliyu Kamal and to the best of my knowledge has not been presented elsewhere for the award of any degree or certificate. All citations are properly acknowledged and errors and misrepresentations contained herein are mine.

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CERTIFICATION

This is to certify that this research work by Abdulkadir Danjuma Abubakar (SPS/09/PEN/00001) was carried out under my/our supervision.

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ACKNOWLEDGEMENTS

It is not easy for one to conduct and conclude research of this type without support from many people. These people contributed to the success of this work. I wish to express my profound gratitude to my supervisor, Professor Aliyu Kamal, who directed me all through the various stages of this thesis. I appreciate his prompt and careful comments, as well as his positive and valuable contributions. Beside his competence in Applied Linguistics, I must confess that his competence and skills in writing, and ensuring that errors are minimized to the minimum level are special qualities that are endowed to few.

I owe an enormous debt of gratitude to Professor Mustapha Ahmad Isa for inspiring me to undergo this PhD programme. As the internal examiner, I sincerely thank him for his critical comments and suggestions. In the same vein, a special thanks to Dr. Rabi Abdulsalam Ibrahim, who read this thesis and gave me valuable feedback. I am equally indebted to my lecturers in the Department of English and Literary Studies, Bayero University, Kano. I appreciate both the training and motivation that I got from all of them. In particular, I wish to acknowledge the following: Professors Abubakar Rasheed *nni* (the immediate past Vice-Chancellor), Saidu B. Ahmad *nni*, Ibrahim Bello Kano, Saleh Abdu, Bashir Sambo, Mustapha Muhammad and Muhammad O. Badmus. Thanks to the former Head of the English Department, Prof. Sadiya Sani Daura and the current Head of the Department, Dr. Amina Adamu for their academic and administrative supports.

Thanks to Malam Gambo Ado, and Dr. Sule Musa of Sa'adatu Rimi College of Education Kumbotso, Kano, who assisted me financially, to pay the yearly registration fees. I

must also appreciate the financial support provided to me by the Tertiary Education Trust Fund (TETFUND). I am grateful to all those students that participated in the background knowledge test and written sentence constructions task that took place after viewing the football match – video. I also appreciate the efforts of Shehu Kamilu for the recording of the football match and providing the facilities for viewing the match.

I thank Malam Sani Uba Yantandu for providing me with the Wordsmith (WS) tool that I used in analysing my data. To Malam Mu’azu Ahmad, I sincerely appreciate his efforts and concern for providing me with accommodation (both office and home) in Zaria, as I stayed out of my “comfort zone”. I thank M. Sulaiman M. Zubair for the journal articles, he downloaded for me and the friendly relationship we had in Zaria. I appreciate the prayers and supports of my brothers, sister, and colleagues: Bala Manja, Tijjani, Bala Karami, Nura, Kande, Hajia Zainab Ibrahim Braji, Fatima Aliyu Modibbo and Bature Umar, while I was engaged in this research work. Thanks to Ibrahim Umar Usman (Babi) and Mu’azzam Abdulhameed Bala for assisting me to type this research-thesis.

Finally, and more importantly, I thank my mother, Hajiya Rakiya Abubakar for her guidance, supports and prayers, throughout my life. My deepest appreciation goes to my loving wife, Amina Adamu, my children: Rukayya, Khadijah, AbdulRahman, AbdulAziz, Muhammad and little Aisha (Ayush) for their love, supports, forbearance and understanding, during the time I was away from them to complete this work. Finally, I say *Alhamdulillah*. (Praise be to Allah).

DEDICATION

To my father and mother.

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ABSTRACT

This thesis investigates verb meaning and argument structure used by the students of English of Sa'adatu Rimi College of Education, Kano. Transitive and Intransitive constructions are examined, using the cognitive semantics approach. The lexical conceptual structure theory, which considers syntactic transparency as semantic composition is used as the framework for the study. A corpus based approach is adopted and, in some cases, the British National Corpus (BNC) is used for comparison. On the basis of a corpus of 4,000 written sentence constructions, this thesis shows a large pool of verbs that exist in English, their classes and types, frequency, tense-aspect, semantic roles, collocations and senses, and importantly, the role of verb in a construction and the meaning of a construction itself. A sample of 200 selected students is used to represent the users of English. A test and a video are used as the research instruments and the wordsmith (WS) tool version 5 by Scott (1996) is used to determine the frequency of each verb and its collocations. A total of 177 lexical verbs were found to be used in the sentence constructions by our subjects. 36 of these verbs appear to be used most frequently. These verbs are: celebrate; give; annoy; enjoy; complain; get; kick; pass; push; shoot; shake; throw; shout; blow; play; catch; run; hit; make; fall; win; clap; go; lose; save; raise; start; miss; bounce; walk; send; score; card; anger; attempt; and dance. The findings show that these verbs are either actual or zero-derived verbs related to nouns or related to verbs. For their semantic classes, verbs of psychological state (psych-verbs) receive greater usage and verbs of motion, possession, communication and stative follow in descending order. The contrasts between transitive and intransitive forms of verbs prove to be highly relevant to constructions, which result in the greater incidence of transitive usages in the written sentence constructions. The nature of tense-aspect (TA) constructions also contributes to the argument structure of the sentences constructed by the subjects, with the past tense having a preponderance over present and present continuous tenses. The analysis of the use of the lexico- semantic features shows that "theme" and "agent" roles are most visible. The collocational patterning associated to the lexical verbs in question reveals co-occurrence with human, personified and concrete object referents. It is concluded that the subjects' linguistic knowledge on the English verb is significantly very good and there are errors in their sentence constructions, though a large proportion of these constructions are deemed to have meaning and interpretable, with a small proportion viewed as un-interpretable and not meaningful.

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LIST OF ABBREVIATIONS

AAE	=	African American English
Agt	=	Agent
ARP	=	Argument Realization Principle
ASC	=	Argument Structure Constructions
BGK	=	Background Knowledge
BNC	=	British National Corpus
ₛBNC	=	Spoken Sub-Corpus of the BNC
wBNC	=	Written Sub-Corpus of the BNC
BP	=	Behavioral Profile
CCG	=	Cognitive Construction Grammar
CHILDES	=	Child-Directed Speech
CG	=	Construction Grammar
CLAN	=	Computerized Language Analysis
CS	=	Cognitive Semantic
DM	=	Double Major

GB	=	Government and Binding
ICE-GB	=	British Component of International Corpus of English
Instr	=	Instrument
LCS	=	Lexical Conceptual Structure
LFG	=	Lexical Functional Grammar
MDS	=	Multidimensional Scaling
MICASE	=	Michigan Corpus of Academic Spoken English
Vi	=	Intransitive verb
Vt	=	Transitive verb
WS	=	Wordsmith tool
X	=	Mean

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

This thesis investigates verb meaning and argument structure from the cognitive semantic perspective as used by the students of English of Sa'adatu Rimi College of Education (SRCOE) Kumbotso, Kano. The study of verb meaning and argument structure originated from much research on the syntax–lexical semantics interface in the 80's. It was built on the hypothesis that many aspects of the syntactic structure of a sentence are projected from the lexical properties of verbs and other predicators in it (Wasow 1985). Another study that made this hypothesis explicit was the projection principle of the Government and Binding (GB) theory (Chomsky 1981, 1986). On the one hand, this approach proposes that the lexical property of a verb in relation to its meaning in a sentence or expression is considered to be the determinant of its syntactic behaviour (e.g. Levin 1995; Levin and Rappaport Hovav 1995; Pinker 1989). On the other hand, the idea that the verb meaning in a sentence is a minimal or underspecified representation indicates that the exact meaning is being determined by the syntactic environment that the verb occurs in. This basic distinction between those who emphasize that the verb is projected from the rich semantic representation of the predicates in the syntactic structure of sentences and those who believe that the verb semantics should be underspecified, presents a debate between the projectionist theorists, such as Levin & Rappaport Hovav (1995), Van Valin & LaPolla (1997), and the Constructionist theorists, such as Goldberg (1995), Pustejovsky (1995) and Jackendoff (1997). Since then, much effort has been devoted to lexico-semantic principles that would determine the realization of arguments in syntax.

1.2 Background to the Study

Ever since the realization that there is much to be investigated in the conceptual structure of linguistic representation: a key concern in the cognitive linguistics in general and cognitive semantics in particular, much work has been devoted to lexical representation and argument structure. For example, early studies using the analytical tools of cognitive semantics investigated the degree to which metaphor could be used to account for meaning extension, the linguistic organisation of polysemy and near-synonymy and other expressive forms of language. Recently, from the perspectives of the projectionists and the constructionists there exist studies on the lexical representation of verbs, and argument structure meaning. Although the studies of verb meaning and argument structure have been perceived from semantics to syntax and from syntax to semantic directions of linking and have become an area of interest within and across languages, it is only in recent years that there began semantic analysis using corpus-based. In this research, verb meaning and argument structure are studied within second language context, using a corpus based (empirical) approach.

Following the example of Dowty's (2001) that studied L[ocation] Subject Sentences, using 'dynamic texture' analysis, I assume that studying sentence constructions, verb meaning and argument structure and how they integrate with a particular event (e.g., a football game) by English as a second language (ESL) learners, can provide a better understanding of linguistic ability, creativity and perception both from a linguistic and a cognitive perspectives. Hence, this case study tends to show an integration network of event and form and function in constructions and grammatical blend. Thus, 'integration network' between sentence constructions and an event is the centrepiece of this thesis which attempts to present constructions that are cognitively salient. It also attempts to describe English users' mental grammar and which is hoped will help linguists gain access to more knowledge on verb semantics and argument structure, as

demonstrated by the users of English outside the native language environment (i.e. English as a first language environment).

Sentences are language-specific to a considerable extent. This is so because apart from the differences that exist among people, many of the scenarios which human beings are concerned with and also talk about are the same or at least very similar in the way they are reported through words, clauses and sentences. Often, speakers or users of a language understand and structure these scenarios differently. The structures they give to these scenarios are as a result of their experience and conceptual/perceptual abilities. The differences in terms of conceptualization and perception give the individual a considerable choice to frame a sentence on a particular scene according to his/her understanding. This means that from the frequent use of an expression, we can infer an individual's or group's ways of conceptualization, as well as how that individual or group makes use of the senses of the verbs in their sentence constructions. A study of this nature on verb and its argument structure, as used in sentences from the perspective of ESL learners' usage, would broaden the data-base on lexical semantics and syntax-semantic interface.

The uses of a football event images to elicit sentences that can be analyzed from the point of view of verb meaning and argument structure in this study will help in revealing the ability of our subjects to construe a conceived situation in alternate ways. Therefore, a verb can be used to express one and the same scene or situation from different perspectives, indicating that we can "see" or understand the same content or situation in alternate ways. These possibilities of different conceptualizations of how we view a scene and how we represent them in linguistic form foreground the choice of a football event video to analyze the sentences constructed by our subjects in terms of verb meaning and argument structure. In the domain of verb learning and usage, Pinker (1987:54) suggests that a language user can match the event with known and unknown verbs since,

Verbs' definitions are organized around a surprisingly small number of elements: "The Main Event", that is, a state or motion; the path, direction, or location of an object, either literal spatial location or some analogue of it in a nonspatial semantic field; causation; manner; a restricted set of the properties of a theme or actor; temporal distribution (aspect

and phase); purpose; coreferentiality of participants in event; truth value (polarity and factivity); and a handful of others.

All these elements of verb properties can be found in a football event, and they can generate various sentence constructions with the verb playing a major role in the interpretation of both sentence, as well as the elements in the construction. The verb has often been conceptualized as the ‘centre’ of a sentence and has therefore always induced a special study by linguists. The present research collects verbs used by English as Second Language (ESL) learners and interprets them through two classical topics namely: verb meaning and argument structure. Using the recent focus of cognitive linguistics that moves towards the quantitative treatment of lexical constructional semantics as a model, this thesis uses the sentences constructed by ESL learners to investigate verb types for their classes and meaning, their frequency, tense and aspect, semantic roles and argument structure.

In recent times, human language is viewed to have in its grammar the tendency of encoding events and their participants in a clause. The analysis of this aspect of grammar is often referred to by some scholars as grammatical relations, sub- categorization frames, case roles, thematic roles, argument structure, argument structure constructions, argument linking and argument realization, among others. Although the role of meaning in argument realization has been an area of interest, the most important trend now is a general convergence on the idea that event structure is the primary semantic determinant of argument realization. A close examination of studies on argument expression reveals that a scene can be described in parallel fashion using different verbs or the same verb can be used to describe a scene and it would generate different meanings. This phenomenon is often referred to as argument realization: the study of the possible syntactic expression of the arguments of a verb. Some illustration can justify this assertion.

(1) a. Terry swept.

b. Terry swept the floor.

- c. Terry swept the leaves into the corner.
- d. Terry swept the leaves off the sidewalk.
- e. Terry swept the floor clean.
- f. Terry swept the leaves into a pile (Rappaport Hovav & Levin 1998:97-8, (1)).

The variations above involve not only the number and syntactic type of complements that a verb can take, but also the allowable combinations of these complements. Therefore, verbs lexicalize properties of happenings in the world and can be described as events. In this case, verbs are viewed as the predicates of events. If verbs are considered as “event description” in a particular happening in the world, and each happening has many properties associated with it, then different verbs, which lexicalize different subjects of these properties, are likely to be applicable to the same happening. The result of this is that in a particular situation or happening, such as scenes in a football competition, scenes of a political rally, market scenes or scenes of any festivity; different verbs can be used to describe such happenings and such verbs will have distinct conditions. Therefore, when language users are exposed to an event that is characterized with different and numerous scenes and are required to construct sentences that reflect their knowledge and all the facets of their language ability, the result would provide a linguistic insight capable of generating exciting insight and further research (Boas 2010). Essentially, a verb in a sentence and other predicates forms the element and argument(s) of that clause. In such a case, when the verb is simple, it describes an argument that is straight-forward. But when verbs are a bit complex, that is they occur in different clause types, even when describing different scenes, they are described as having diverse arguments and require an investigation.

It is in line with the notion above that many researches related to verb semantics and argument structure are conducted not until the emergence of Goldberg’s (1995) Construction

Grammar (CG). Ever since the publication of that Seminal book and her recent book *Construction at work (Cognitive Construction Grammar) (CCG)* (2006) that more research related to this study continue to emerge. There is hardly any work related to construction in which Goldberg's insights are not reflected. In addition, many of her insights have influenced research in second language acquisition. The concept of Construction Grammar evolved out of Fillmore's (1968, 1977) Case Grammar and Frame Semantics (1982, 1985). Further, works by Fillmore & Kay (1995) and Lakoff's (1987) Existential Construction served as the foundation of Construction Grammar. By definition, Constructions are learned by pairing of forms and meaning (Boas 2010). Goldberg's (2006:5) puts it that:

Any linguistic pattern is recognized as a construction as long as some aspects of its form or function is not strictly predictable from its component parts or from other constructions recognised to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency.

Obviously, the above quote indicates that within the construction principles, all levels of grammatical analysis involve construction, and the speaker's knowledge about the language he/she uses to communicate is paramount thus, the construction is the pillar of the language. That is why in a construction there is a verb, which contributes fundamentally to the construction, as well as to the meaning of the utterances. In particular, a verb is part of a construction as it exhibits more than one literal meaning and thus exposes the argument of the construction, and gives a number of semantic interpretations. In view of the variability of use which the verb shows, and the fact that it can generate different meanings even when describing a particular scene, many studies showed that some patterns are identified as part of constructions and provide different meanings worthy of interpretation. However, what is interesting is that one could ask, do constructions on their own even though stored in the cognitive domain of human beings

present themselves without a cause? Or to say it in another way, what do we know about constructions and their meanings when they are not triggered by an event or a cause outside the environment of the construction? Do human beings speak or construct sentences without a cause or an event that triggers such expressions? Actually, one of the goals of this thesis is to establish that constructions never occur in a vacuum and the component parts that make-up the constructions are the result of an experience that determines the meaning of the verb and argument of such constructions. That is why this research exploits the football event to elicit different sentence constructions that have substantial linguistic insights that describe verb semantics and their arguments.

Goldberg's (2006) Cognitive Construction Grammar proposes that in constructional analysis argument structures are independent syntactic entities in their own right. This implies that argument structure constructions have their own meaning without syntactic rules specifying grammatical functions. For example, in *ditransitive Construction*, one finds an independent syntactic structure that has the characteristics of "the meaning of transfer possession" (Croft 2012:362). But Levin and Rappaport Hovav (2005) point out that argument structure does not exist per se. What exist are general syntactic rules specifying grammatical functions, such as Subject, Object, and Oblique phrases and their permissible combinations. For example, we can have the possibility of two obliques in the Ditransitive Construction. Briefly, all information about the semantics of an event expressed in sentences, including how many participants they have, is mainly attributed to the verb. Thus, each sense of the 'verb' is compatible within the argument structure construction in which it occurs. But this is different with Goldberg's construction hunch.

The issue here is that within a given language such as English, the knowledge of verb usage is attributed to either the verb which is derived independently of the argument structure construction or not as well as whether the construction itself exists in isolation, as opposed to the verb, which forms part of the lexical items in the argument structure construction. This thesis does not address the questions of different perspective but attempts to generalize the mapping of syntactic–semantic analysis using Goldberg’s (1995) Cognitive Construction Grammar as the theory that establishes the need to study the sentence constructions of ESL learners and to analyse the verbs and their argument from the perspective of cognitive semantics.

Moreover, in the traditional view of argument structure, the main verb is viewed to directly suggest the overall form and meaning of the sentences. This view reflects the impression that the verb projects the argument structure of the construction in which it occurs. But the position of Goldberg provides the opportunity for an in depth research on verb meaning and argument structure. This position postulates that there are some sentences and other utterances that the verb does not naturally attribute to the overall form and meaning because (a) verbs generally do appear in multiple argument structure, (b) some words that are not verbs can be used in the position of the verb (e.g. eyebrow’d and overnight) and yet provide the meaning of the construction, and (c) there are regularities between the form and meaning themselves. Owing to this, construction then becomes the pairing of form and function, such that both are not predictable from the component parts that make-up that clause. Therefore, we can assume that, in general, constructions are by products of the knowledge of language revealed through knowledge of interrelated constructions (Fillmore and Kay 1995; Goldberg 1995; & Langacker 1991). A careful look of these various perspectives places a research like this type in a better

position to unveil the rich linguistic data that can be found in ESL learners' sentence constructions.

Both children and adults use verbs and nouns when constructing sentences. This implies that we understand an argument structure from the types of verb meaning that are used in the sentence. That is why native speakers of English can consciously use two different verbs that appear in a sentence with one describing two arguments which show a causative event, for instance, ("He pushed her") and not ("He pushed") and the other verb describing a non-causative event, as in ("He came") and not necessarily ("He came yesterday"). In effect, it shows that most verbs come with arguments. Some of these arguments are obligatory as in "He pushed her" and others optional as in "He came yesterday".

Since verbs are the predicates of events, that is to say we understand their meaning and argument structure when couched within a theory of event-conceptualization; this research investigates these verbs within different happenings of an event. "Event" as a term in this thesis is used from two perspectives: as a linguistic term that refers to an important performance, sport competition and party (Longman, 2007) or happenings in the world (Levin and Rappaport Hovav 2005) and as a superordinate term for all lexical aspectual categories (Croft, 2012). This implies that the predicate of events (verbs) is studied in a particular important sport event (i.e. a football competition). The idea is that since within a language there are conventional descriptions of entities, events, condition or states and that alternate constructions are possible because they involve different grammatically relevant aspects of meaning, the result of studying such constructions would produce divergent constructions and different argument realization options. Thus, this research studies such conventional descriptions and their alternate construal by the users of English as a second language in one important event of the human world (i.e. a football

competition). This research is, therefore, a study of the syntax and semantic interface within the lexical semantics and construction frameworks.

A careful examination on the above contrast between the traditionalists view of argument structure and the constructionists, as well as new findings and academic contributions by different scholars around the world, reveals that Goldberg's framework is continuing to generate further research that accounts for verb meaning and argument structure, as well as a rich impressive result, using corpus-based approaches to lexical semantics. This forms the foundation upon which this research problem is found.

1.3 Statement of the problem

Naturally, human beings communicate among themselves through a language. In using that language, they express the happening of events by the use of words, clauses and sentences. One thing that is common about languages all over the world is that each language has its own lexicon and grammar. In learning these, difficulties arise in the way they are used, especially when dealing with a second language. As such, one difficulty of language, For instance, English, is that many of its users both native and non-native use different ways to express the same events that have the same meaning Hence, an idea or event can be expressed by different people in different ways but expressing the same meaning with modification and sometime additional information within similar constructions. Therefore, it is very common to have within sentences that describe an event a similar or the same verbs used in the expressions and yet provide some differences in terms of meaning. Consequently, with continuous research on English, many theories have emerged that many aspects of the syntactic structure of a sentence are derived from the verb (a lexicon), among others, that forms part of the predicate of the sentence (e.g. Chomsky 1981, 1986). While others regard the verb as part of the lexicon and the construction in which it appears with the construction itself having its own distinct form and paring meaning (e.g. Goldberg 1995, Jackendoff 1997). However, even though some of the theorists have

captured the semantic information of the English language, many of them are yet to adequately capture how ESL learners use the same lexicon and grammar to express similar or same semantic information of the verb or the syntactic information of the same construction.

Also, the problem for verb meaning is to select from among the options of verb knowledge or from the verbs' pool of the learner to make use of a single verb that may lead to an interpretation and argument of the verb in the sentence that it occurs in. In this case, the relationship between verbs and argument structures and tense – aspect constructions varies from verb to verb and from argument structure to argument structure. On the basis of this exposure, it is expected that the users of English may exhibit different representations of verbs, indicating different tense–aspects and transitive/intransitive construction in the context of communicating some happenings that are characterized with many events descriptions. Thus, the problem is, do users of English in Nigeria, especially English as Second Language (ESL) learners at the College of Education level, intuitively distinguish between verb meaning and argument structure in their expressions or constructions?

In cognitive inspired approaches to language, grammar and lexicon are not separated and the meaning conveyed by both the lexicon (e.g. the verb) and the grammar within the same construction is viewed as conceptual. It seems reasonable to assume that these meanings must interact together when it comes to expressing a particular event or happening in the world. Hence, all verbs that are compatible with a given construction share the meaning component. It becomes apparent, therefore, that when language users describe an event in sentence form, differences may exist, and such differences in networks of constructions in terms of the different groups of verbs to be used can likely reveal systematic meaning differences between the verbs that are used and the constructional characteristics of the sentences (Atkins and Levin 1995). Thus, there exist many problems of semantic processing of the verbs or sentences that still remain unsolved. Moreover, when verbs or sentences are semantically processed, the result may reveal problems related to polysemy or the association of multiple meanings with one form when describing a situation, and a synonymy problem, which has to do with the association of one

meaning with multiple forms. In the domain of polysemy, cognitive semanticists need to address how two usage events are similar to be regarded as one type of construction with a single sense. In the domain of near synonymy, we need to uncover what syntactic and semantic differences exist between near synonymy and what semantic relations exist between them. Due to these differences in terms of linguistic meanings of such verbs and usages between different language users, especially in English, the use of verb meaning and argument structure can cause problems to ESL learners when constructing sentences that express the same event.

Within usage-based approach, it is expected that cognitive processing of events and grammatical knowledge of language may not be the same and this can turn out to produce different application of common rules of a language. By extension, when ESL learners use language, the linguistic structure that may emerge from that language use may lead to a dynamic model of grammar. As such, understanding the argument of a verb and sentence constructions in English by users of English as a second language, especially in Sa'adatu Rimi College of Education (SRCOE) Kumbotso, Kano is not only an area of concern, but analyzing such argument from semantic representations is a key issue that requires investigation.

1.4 Aim and Objectives of the Study

The aim of this research is to provide an overview and synthesis on verb meaning and argument structure that are found in the expressions made by the students of English in Sa'adatu Rimi College of Education, Kano.

The objectives of this research are:

1. to identify the types of verbs found in the English expressions of some final year English students of SRCOE, Kumbotso and their frequency as they occur in their sentence constructions.
2. to find out the tense-aspect used by the final year English students of SRCOE, Kumbotso and their possible divergence from expressing an event in English.
3. to present accounts of the possible relationships between verbs, constructions and context used by the final year English students of SRCOE, Kumbotso and how they conform to the theoretical claims by projectionists and constructionists.
4. to examine and analyze the verbs and their argument structure using semantic representation as used by the final year English students of SRCOE, Kumbotso in their sentence constructions.

1.5 Significance of the Study

Although this research focuses on the relationship between verb meaning and argument structure, it is important to acknowledge that some studies exist, especially in the western world (for example, Borer 1994, Levin and Rappaport Hovav 1995; Goldberg 1995; Jackendoff 1997, and many more). In contrast, works available to the researcher from across Nigeria show that studies relating to syntax often ignore the semantic component. This research fills in the gap by elucidating the relationship between syntax and semantics. Moreover, this study attempts to fill in the gap in the literature of lexical semantics and constructions largely driven from empirical approach. In addition, it presents a cognitively-linguistic relevant results that are relevant in lexical semantics in general, and cognitive semantics, in particular.

This study investigates the linguistic relevance of the frequency of verbs in relation to lexicon organization, in particular verb classes or types used by the users of English as a second language. As

such, this thesis provides another important perspective of verbs and their frequency in a particular happening of the human world by the users of English in Nigeria which serves as a stronger data and consequently brings to the limelight the construal of events in the English constructions of ESL learners rather than the events themselves.

This study uses corpus-based data to analyze the link between a richly linguistic theory (verb meaning) and the distribution properties of language that can be found in argumentative structure (syntax). Thus, it would serve as another reference material that reveals the usefulness of quantitative and corpus-based methods in language processing and importance of semantic structure in syntactic constructions. Therefore, elucidating the convergence of similar and different structures within a construction.

Many of the studies on verb meaning and argument structure are based on detailed analyses of English as expressed by the native speakers of English, even though there are some cross linguistic evidence in other studies and places. Considering this important point that what is available to us are only English data, or the data of major European languages, this thesis proves a useful source of analyzing the meaning of verb, tense-aspect construction and argument structure constructions by the users of English in Nigeria. It would also serve as a framework for the study of verb meaning and argument structure in the three-major languages of Nigeria (Hausa, Igbo and Yoruba) or any of the indigenous languages.

1.6 Scope and Delimitation

The universe of this study is restricted to some final year English students of Sa'adatu Rimi College of Education Kumbotso, Kano and the line of enquiry falls within the scope of linguistic semantics. As such, the focus is limited to the verbs used as the construal of events rather than the event themselves. In this case, the linguistic analysis focuses on the verbs that are used in the transitive and

intransitive constructions that describe different scenes in a football match. In other words, the event structures in the sentences and the transitive and intransitive constructions provided by the users of English in a college of education are the concern of this research and not the football event. Therefore, the types of verbs used and the tense-aspect and argument structure, as well as argument structure constructions are examined and analyzed, using linguistic semantic representation.

The choice of constructions that describe different scenes in a football competition is motivated by the relationship between conceptualization/construal that is relevant to language and experience. Croft (2012:4) opines that “human beings have a rich and detailed understanding of particular situation types in their experience and that each situation type has ‘Affordances’ (Gibson 1979) or potential for the alternative construal that are found in the word and constructions that are used for the scenes”. This implies that the constructions used to verbalize a particular scene can provide certain details and we can exploit such details to infer the conceptual semantic difference between them. Secondly, human beings, especially the younger generation, are engaged in one way or the other in sport activities and often recount their experiences after watching any football or sport competition. These experiences when recounted in English are capable of providing distinct meanings. Thus, this research selects to use the construal of events in a football event.

1.7 Research Questions

Four research questions are used in this research.

1. Which lexical verbs and verb semantic classes are found in the SRCOE final year English students’ sentence constructions and which verbs occur frequently in these constructions?

2. What types of verbs and tense-aspect constructions and argument structure are realized in the SRCOE Kumbotso final year English students sentence constructions?
3. Which types of lexical semantic features are encoded in the arguments of verbs used by the SRCOE Kumbotso final year students in their English sentence constructions? E.g., semantic roles, argument structure, concordance, collocation and senses.
4. Do English constructions by the SRCOE Kumbotso final year English students have meaning and what are the linguistic constraints associated to the constructions used?

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter reviews the related literature on verb meaning and argument structure. Pursuant to the interest of this research, a comprehensive view and review of the literature on the concepts of the Verb, Argument, Argument Structure and Meaning are first proffered and thereafter Goldberg's (1995) Construction Grammar Theory is introduced and its relevant contributions on the phenomenon, verb meaning and argument structure are critically presented. The challenges for the theories of argument realization are presented. Therein, Empirical Studies akin to this study are presented and critically examined. Therefore, this chapter examines the valuable and relevant literature associated to the current theories on verb, semantic roles, lexical semantic representation and argument structure constructions. In the concluding part, the theoretical framework used in this study is provided.

2.2 The Concept of the Verb

Matthews (2002) describes a verb as one of a class of lexical units whose characteristic syntactic role is a predicate. It can also be regarded as a predicator specifically related to a word denoting actions or process. For example, *run*, *make*, *break*, etc. denote an action or process. Verbs, therefore, can be said to be classified as parts of speech without which a complete sentence cannot be formed. This view has been widely accepted on the basis that the main verb directly affects the overall form and meaning of the sentence. However, there are other cases where the form and meaning are not naturally attributable to the main verb. For example, the verb "rumbled" is one of sound emotion as in "We heard the thunder rumbled in the distance" but it can also entail motion as in "The truck rumbled down the street" (Goldberg 1998:198).

Finch (2000) also views the verb as a term that is used in grammatical form to imply a class of words that are distinct to denote a process or a state of being. By convention, verbs are defined as ‘action’ or ‘doing’ words but not in all classes. There are some verbs that do not indicate an ‘act’, e.g. *seem, be, etc.* He observes that a verb can change its behavioral characteristics (morphologically) to indicate contrasts of tense, aspect, person and number and their syntactic functions. He also believes that from the syntactic perspective, verbs generally predicate. In other words, they ‘make a claim’ about someone or something (e.g. *The girl cooked*: the verb ‘cooked’ affirms something about the subject, *girl*). But still, the verb “cook” appears in an intransitive construction and can also take the transitive argument structure. For instance, “The girl cooked the egg” is a transitive construction. So, this suggests that several verbs can take multiple arguments and, therefore, indicate some gaps that verbs should not only be typically described from the syntactic perspective.

Finch (2000) further divides verbs into two main groups: *lexical* and *auxiliary*. Lexical verbs are considered as those that act as the main verb in a verb phrase and have the tendency to change into tense, aspect, person and number. Auxiliary verbs, on the other hand, are known as ‘helping verbs’ and ‘tense indicators’. They are often restricted both in form and in distribution. For instance, many of them have only two forms to indicate present and past (e.g. *can/could; shall/should*) and they can never stand alone (as the main verb) but always appear with a lexical verb. Thus, their main function, where they appear is to indicate a tense in a given sentence. Similarly, Timothy (2005) supports these two major types of verbs in English. To him, lexical verbs have inherent meaning and can stand on their own in a sentence but the auxiliary verbs do not have such characteristics, i.e. they do not have inherent meaning. For example, verbs like *eat, dance, sing, etc.* can be regarded as lexical verbs. While auxiliaries like *is, have, may, etc.* can be said to have no inherent meaning when treated in isolation, even though the verbs *be, do, and have* may act as auxiliary or lexical verbs, depending on the verbal context they are used. Such cases as examples are *They are nice* (‘are’ in this context functions as a lexical verb) and *They are working* (‘are’ in this respect acts as an auxiliary verb).

For Finch (2000) auxiliary verbs are divided into two: primary auxiliaries and modal auxiliaries and lexical verbs can be grouped into regular and irregular. As for the primary auxiliaries, they have the characteristics of acting both as auxiliaries and as lexical verbs. The category of these types is *be*, *have* and *do*. At the same time, they can stand on their own as in *I am a student*, *I have a car*, *I did the washing up*. In these kinds of sentences, they are capable of generating into the progressive and perfect aspect and the passive voice. The modal auxiliaries, on the other hand, are responsible for the particular mood of the verb phrase and can never appear as main verbs. The moods they express among others are permission (*can/could*), intention (*will/would*) and compulsion (*must*). The major weakness in this study is that the analysis concentrates on only the lexical property of the verb, neglecting the lexical aspectual notions that are inherent in the verbs. For example, *came*, *will come* and *should have come* indicate the lexical aspectual potential of English verb classes describing past, future and present perfect constructions, respectively. More so, these predicates indicate accomplishment and two transitory states: ‘event that may occur and ‘event not occurred’. Thus, this gap forms the foundation for subsequent research into the semantic analyses of lexical aspects. But Kamal (2010) regards *can/could* and *will/would* as special finites that demand special attention. He posits that the verb *can* has neither infinitive, past participle, -ing nor imperative forms. It only has *could* as its past tense. Both *can* and *could* are used to express ability, power, and capacity and can also be used to make informal requests.

In the lexical capacity, which is categorized into the regular and the irregular, the regular verbs form their past tense by adding ‘ed’ and ‘d’ to the stem (e.g. *show-showed*, *like-liked*) while the irregular verbs have an unpredictable past tense. They do not take the ‘ed’ or ‘d’ addition (e.g. *catch—caught*, and *take—took*). Many irregulars have a separate past tense and past participle forms (e.g. *take—took---taken*). Whereas in regular verbs, the ‘ed’ form serves as both past tense and past participle. To use the notation of five forms categories, which a lexical verb can fit into, Finch (2000: 131), concludes that “regular verbs have four forms (e.g. *show-shows-showing-showed*) whereas irregular ones may be capable

of the full five (e.g. *take-takes-taking-took-taken*). The most irregular verb in English, however, the verb *to be* has as many as eight forms” (e.g. *is-am-was-be-being-been-are-were*).

Riemer (2010) offers an explanation of verbs from a wider-context of parts of speech by explaining in detail the relationship between a noun, a verb and an adjective. But for the purpose of this study, we shall only concentrate on the verbs by showing the different definitions and their arguments. But before then, Huddleston (1984) points out that a verb is a word which denotes action or a state of being. This is a semantic definition which also implies that a verb can indicate a sort of action, process or state. If that is the case, Riemer (2010) argues that this definition may not work because there are *nouns* that denote action or state of being or indicate what sort of action or process we are talking about (e.g. Action/Process: *riot, ceremony, election, etc*; state of being: *ability, ignorance, sickness, etc*). He explains further that the definition which considers verbs as ‘predicators’ and the role of the verb in the clause as ‘predicating’ has problems because the predicate in a sentence does attribute not only verbal but also adjectival properties (e.g. *Stephen accepted the glass empty*). There is additional property being attributed to another referent in this sentence apart from the verb ‘accepted’, which refers to the subject ‘Stephen’. He, therefore, concludes that verbs should not be defined as a class of predicators, but if defined as such, one only finds the appearance of a definition.

Timothy (2005: 135) uses Halliday’s (1994) Systemic Grammar approach to explain the verb. This approach proposes that a single word can “function as a group provided such word belongs to the structural class of the group which it stands for”. Therefore, a single verb in a sentence can be described as a verbal group. If it appears in such form, it is referred to as a simple verbal group (VG) and where the VG consists of more than one verbal element, it is referred to as a complex verbal group. For example, *we came last week* (simple VG); *They will come tomorrow* (complex VG) and *They should have come by now* (complex VG).

Timothy (2005) further divides lexical verbs into the following sub-types: Transitive and Intransitive verbs; Finite and Non-finite verbs; Dynamic and Stative verbs and Catenative verbs. The transitive verbs, on one hand, are those that must take objects and are divided into three major types: monotransitive, ditransitive and complex transitive. A monotransitive verb takes one object and ditransitive verbs two (Direct and Indirect objects) while complex transitive verbs also have two but one of the objects compliments the direct object. The following are some examples: The girl *slapped her boyfriend*. (monotransitive); Umar *told them a story* (ditransitive) and The students *elected a medical student their president* (complex transitive). On the other hand, the intransitive verbs do not require any object. In this case, it implies that the action or state of the verb in intransitive sentences does not extend to a goal different from the actor that occupies the subject position. In other words, the action of the verb is restricted to the subject of the sentence alone. However, the syntax of English ditransitive construction, as argued by Croft (2012), is usually described as [SBJ VERB OBJ OBJ2] just as the case with the sentence above, ‘Umar told them a story’. This sentence illustrates that there are three participants: agent, the possessum and possessor. But Goldberg (1995:32) argues that the Ditransitive construction contributes the meaning that “the agent..... acts to cause transfer of an object to a recipient”. Thus, she concludes that a ditransitive construction can be polysemous. That is, the construction has more than one meaning and the meanings are semantically related. In view of this, the construction above has two related constructional meanings: the actual transfer of information and the intended transfer of information.

On the auxiliary verbs, Timothy posits that they are used to assist the main verb in the sentence. They are divided into two. The non-modal auxiliaries are also known as primary auxiliaries and modal auxiliaries. The modal auxiliaries depict meaning associated to *permission, intention, probability, willingness, ability, obligation, necessity*, etc., but the non-modal auxiliaries do not. However, the non-modal auxiliaries (BE, HAVE and DO) have their own variants. For example, the non-modal BE has eight variants, non-modal HAVE four and the non-modal DO. He concludes that there exist some

morphological differences between lexical verbs and auxiliary verbs in English. The consideration of non-modal auxiliaries (BE, HAVE and DO) as not important verbs but also having morphological differences between lexical verbs and auxiliary verbs in English indicate that they can be used as explicit representations of verb meaning in a unified theory of linking. This inclusive nature of non-modal and modal auxiliaries in sentence construction is not only relevant to understanding the nature of verbs, but understanding their semantic decomposition can help in the use of verb meaning and argument structure.

2.3 The Concept of Tense and Aspect

Tense and aspect are important concepts that further ensure the meaning of verb forms in a construction. Crystal (1991:348) posit that the tense is “a category used in the grammatical description of verbs along with aspect and mood, referring primarily to the way the grammar marks the time at which the action denoted by the verb took place”. By this definition, it implies that both tense and aspect are property of the verb and their role expresses time related information, though, understanding the distinction between the two terms is often viewed as fluid and sometime very difficult.

Comrie (1976) is of the opinion that tense on the one hand, refers to the time of the situation referred to some other time, usually to the moment of speaking. In other words, tense relates to time and time gives an account of human language through tense. Tense is thus to Matthews (2002:374) an “inflectional category whose basic role is to indicate the time of an event, etc in relation to the moment of speaking. He further divides the time into three; present past and future. The present indicates “at the moment of speaking; past depicts earlier than the moment of speaking and future shows later than the moment of speaking. For example, in English the verb *love* is in the present, *loved* shows past and *will love* is often viewed as future. So, English constructions that have in their syntactic structure these characteristics would translate the time of the event written in these forms as either the present, past or future. Khumalo (2007) states that tense generally are broadly categorized into three: the past, the present

and the future. But the other categories: present continuous, future continuous, past continuous are all part of the aspectual.

Lindfors (2003) postulates that tense refers to systematic coding of the relationship between two points along the reference point (RP) time and the event time (ET) axis. With these two axis, there exist time of speech which Comries (1985:2) argues that the time can be represented, using a straight line with the past at the extreme left of the line and the future at the extreme right of the line. The present moment according to him should be marked by a point labeled O on the centre of the line. This description portrays that the tense makes reference to time and time reflects the past, future or at the moment of speaking. For example, *I am eating* - present; *I ate* -past and *I will eat* – future. So, tense can be viewed as a combination of the past, future and the moment of speaking or an event (i.e.) present. Thus, Lindfors (2003) concludes that there are three major tense divisions in English: the past in which the event time precedes the speech time, the present in which the event time concurrently occur with the speech time and the future in which the event comes after the speech time.

Aspect on the other hand is viewed to be distinct from tense. Comrie (1976) insists that tense and aspect are in opposition to one another because aspect deals with perfective and imperfective situations through some different ways of viewing the internal consistency of a situation. For Khumalo (2007) aspect is the internal temporal organization of the situation describe by an event. For example, *Amina was eating when her husband entered*. In this sentence, the first verb “eating” provides the background to some event and the second verb “entered” introduced the event itself. Thus, the second verb presents the general situation without reference to the internal temporal constituency which the first verb projects. So in the example above, the verbal forms of the meaning provide both the perfective meaning and imperfective meaning and so, present a sentence that consists of tense and aspect.

Matthews (2002) observes that aspect is a general term that indicates verbal categories that differentiate the position or status of events in relation to specific periods of time as against the notion of

simple present, past or future tense. For example, *I am reading a newspaper* shows that the reading is in progress over a period that includes the moment of speaking: *am reading* is therefore, in present, indicating tense but progressive or continuous in aspect. He concludes that aspectual categories vary because both tense and aspect are defined by reference to time. More so, it is sometime very difficult to separate aspect marked by inflection or auxiliaries from the inherent lexical properties of verbs.

Croft (2012) describes aspect as a notorious category that is vexing for semantic analysis. He concurs with Comrie's (1976) definition but quickly observes that Comrie's view is too broad and when specific manifestations of aspect are taken into account, the concept of aspect becomes complicated. To him aspect is a manifestation of grammar and lexical category. Grammatically, it modifies the internal temporal constituency of a situation through the differences that exist between continuous and present simple in English and the distinction between perfective in Russian. Thus, these variations he concludes are attributable to the differences in the lexical aspect sometimes called Aktionsart of different classes of predicates.

For Sasse (2002) aspect can be grouped into two broad approaches; unidimensional and bidimensional. The unidimensional approach views the semantics of grammatical aspect and lexical aspect as the same. Both interact with each other when explaining the result of the aspect. But in the bidimensional approach he argues that the grammatical aspect is semantically distinct from lexical aspect. There semantic structure is different and thus, reports different viewpoint.

Comrie (1976) further argues that the distinction between tense and aspect is partly fluid, because both tense and aspect are concerned with time but in different ways. While tense falls in the deictic category, i.e. you understand the situation of event with reference to present moment and other reference to other situations, aspect is not connected to the time of the situation that the event occur but rather with the internal temporal group of the situation. Thus, tense states the situation–external time and aspect indicates situation–internal time. By implication, tense properties are noticed from the external time

reference but the properties of aspect are noticed when internal–time situations are analyzed. For example, in a sentence like *Amina was eating when her husband entered* describes the external time reference of this sentence as past but the continuous form reveals in the *eating* suggests that the internal–property of the whole construction has an element of aspect.

From the foregoing, we can conclude that both tense and aspect play a major role in determining the meaning of a lexical verb, as well as the argument of such verb in a given construction. Though, the lexical properties of verb do play another major role in its argument, other components like the tense and aspect cannot be neglected.

2.4 The Concept of Argument

Matthews (2002) defines argument as any syntactic element observed as mandatory by a verb. It is a term borrowed from mathematical logic, as in the expression $P(x, y)$. This means that the variables x and y are the arguments of a two place predicate (abbreviated as P). For instance, the verb ‘love’ takes two arguments in ‘*She loves me*’. The arguments are ‘she’ and ‘me’. It can also take another argument on the general elements required by words of other categories, e.g. noun, adjective, etc. In other words, nouns and adjectives can also be arguments. Thus, in ‘*She is happy*’; the verb is “is” and has two arguments: ‘she’ and the adjective ‘happy’. Thus, the argument structure of a verb or any other lexical unit is best understood through the various arguments that it takes. He concludes that ‘argument’ as a linguistic concept is otherwise called ‘valency’ or ‘valence’. As such, the term ‘argument structure’ is synonymous with valence.

From the linguistic perspective, an argument is considered to be an expression that helps complete the meaning of a predicate. The predicate is believed to take one, two or three arguments. Therefore, the predicate and its argument form what is referred to as “predicate argument structure” or “predicate categorical status” (Aarts, 2001). Closely related to arguments are the adjuncts. This is so because arguments are required to give a predicate a complete meaning while adjuncts that do appear with

a predicate are optional. In other words, a predicate requires its arguments to give a complete meaning while adjuncts that appear with a predicate are not necessary in order to give a complete meaning.

In syntax and semantic analysis, the clause predicate, which is the content verb, demands some arguments in order to complete the meaning of the verb. These arguments are the ‘subject phrase’ and the ‘object phrase’. For example:

2. **Jill likes Jack.**
3. **Sam fried the meat.**
4. **The old man helped the young man.**

(Kroeger, 2004).

Each of the above sentences contains two arguments (in bold), i.e. the subject argument and object argument. Sentences (2), (3) and (4) have Jill, Sam and the Old man as the subject argument and *Jack, the meat and the young man* respectively as the object argument. While verbs (like, fry, help) as used above can be regarded as transitive because the verbal predicates all demand object arguments. Thus, Kroeger (2004) maintains that verbal predicates that demand for only subject argument (e.g. sleep, work, relax) are considered as intransitive verbs, while verbal predicates that demand an object argument such as. like, fry, help can be regarded as transitive verbs, and verbal predicates that require two object argument (e.g. give, loan, send) are considered as ditransitive verbs.

But when additional information is added to a predicate verb like in example (2) above, the added phrases (in bold) below are considered as adjuncts. The information provided is not necessary to complete the meaning of the predicate likes. For instance:

5. Jill **really** likes Jack.
6. Jill likes Jack **most of the time**.

Therefore, Kroeger (2004) concludes that subject and object arguments can be suppressed, added or exchanged in different ways, using voice operations like passivisation, antipassivization, application,

incorporation, etc. When this occurs, the subject and object arguments are known as ‘core arguments’; but where they do not undergo the same process of operation like prepositional argument, they are known as ‘oblique argument’. As such, we can conclude that some verbal predicates can be subcategorized as ‘core’ or ‘oblique’ because of the nature of the argument they depict.

The distinction of the term ‘argument’ can also be acknowledged both from syntactic and semantic arguments. From the syntactic, content verbs express the number and type of syntactic arguments. They can also impose specific syntactic functions (e.g. subject, object, oblique, specific preposition, processor, etc) onto their arguments and can also vary as the form of predicate varies (e.g. active verb, passive participle, gerund, nominal, etc). In other languages where morphological case also appears as arguments, the verbs also appear with the correct case markings (e.g. nominative, accusative, dative, genitive, etc). But, on the other hand, the semantic arguments of the predicate remain consistent. For instance,

7. Jack is liked by Jill
8. Jill’s liking Jack
9. Jack’s being liked by Jill
10. Jill’s like for Jack. (Kroeger, 2004:26).

In sentences (7), (8), (9) and (10), the verb ‘like’ appears in various forms and all the syntactic functions are associated with Jack and Jill even though with variations. For example, the object in sentence (2) becomes the subject in sentence (7) as a result of passivization. Despite this variation in syntactic functions, the semantic arguments still remain consistent. That is, Jill in sentences (7 – 10) is the experiencer (i.e. the one doing the liking) and Jack is the one being experienced (i.e. the one being liked). In other words, even though the syntactic arguments vary as a result of the syntactic functions, the thematic roles of the arguments (semantic) still remain consistent as the form of the verb (predicate) changes.

Finch (2000: 85) claims that argument is “a term used by linguists to describe the role played by particular entities in the semantic structure of sentences”. In particular, he believes that all verbs have arguments and it is the number and nature of their arguments that distinguish them grammatically. He opines that verbs are typically intransitive (i.e. requiring only one argument); mono-transitive (i.e. requiring two arguments) and di-transitive (referring to three arguments). For example,

11. The man fell (intransitive)

12. The boy killed **the ball** (mono-transitive)

13. I gave her **some flowers** (Di-transitive).

Each of the sentences (11), (12) and (13) contains an argument. The verb ‘fall’ in (11) above has one argument on the subject ‘the man’ and the verb ‘kill’ in (12) above has two arguments on the subject: ‘The boy’ and the object: ‘the ball’. But the verb ‘gave’ that has the entry ‘give’ in the dictionary has three arguments on the subject ‘I’, object ‘her’ and the indirect object ‘some flowers’. Finch (2000) further argues that expressions that do not function as argument can be added. If that occurs, it can be described as ‘non-arguments’. Therefore, *yesterday* can be added onto the last sentence *I gave her some flowers yesterday*. Thus, *yesterday* is considered as an optional element that has nothing to do with the sentence’s argument structure. He concludes that the term ‘argument’ itself comes from philosophy and in particular from predicate calculus, and thus, the argument structure of verbs is essentially in Theta Theory, which is concerned with the thematic role arguments observed in different sentences.

Lobner (2002) infers that an argument is a concept and an entity. As a concept, it refers to the meaning of the predicting words, which is concerned with one or more entities. The entities of the predicates in a given sentence are regarded as arguments. Thus, predicates are applied to their arguments and can take one argument, which is referred to as one-place predicates, two arguments often called two-place predicates and so on. But it should be noted that there is always a separate term for each argument. If the argument of the predicate term is at the same time its referent, it is referred to as referential

argument but if all the argument terms are used to form a syntactic constituent, it is often called ‘compliment’.

Lobner (2002), however, concludes that verbs in a given sentence are combined with other arguments and regarded as a separate argument divided with three major types. These are: intransitive verbs whose only argument is indicated within a Noun Phrase, which, in English, is always the subject of the sentence. For example, (14) The cat is **sleeping** (15) The door **opened**; transitive verbs whose arguments are specified in the subject and the direct object of the sentence as in (16) The cat is **eating** the dog’s food (17) The dog cannot **open the door** and Ditransitive (or bi-transitive) verbs that have three arguments (on the subject, Direct object and indirect object) as in these cases (18) I **showed** them the photograph and (19) He’ll **give** my sister the key. (Lobner 2002: 103, 104).

Riemer (2010: 423) explores the term “argument” from the perspective of logic and syntax. In logic, it is considered as “the thing of which a predicate is predicted”. Thus, a one-place predicate takes one argument, a two-place predicate two arguments, and so on. In syntax, “a verb’s arguments are the noun phrases referring to the participants in the event or state the verb describes, coded as subject, object, etc of the verb”. From the point of view of logic, Riemer identifies three basic terms within the realm of predicate logic or what is referred to quantificational logic or what is also known as first order logic. These are ‘terms referring to individuals’ terms referring to quantities’ and ‘general terms’. Terms referring to individuals are named as singular terms or individual constants while those referring to quantities are called quantifiers. But in the case of the general term, the predicate (in logic) refers all terms which represent ‘properties or relations’. Thus, he concludes that a general noun, an adjective or a verb could be regarded as predicate logic. The following examples illustrate the above.

(20) i. All primates are hairy.

ii. Koko is a primate

Therefore,

iii. Koko is hairy.

(Riemer, 2010: 189)

This argument is correct. If we also assign a different letter variable to each position as ‘a, b, therefore c’ as a logical form, the argument still remains valid.

As in:

(21) i. All primates are hairy. a

ii. Koko is a primate. b

Therefore,

iii. Koko is hairy. c

The logical form a, b, therefore c in the above case is valid because of the notion ‘all’. If not we cannot in any way show that propositions have a link with the elements *Koko*, *primate* and *hairy*. Thus, *Koko* is a term that refers to ‘individual’, all refers to ‘quantity’ while *primate* and *hairy* are ‘general’ terms. As such the expressions ‘is a primate’ and ‘is hairy’ are logical predicates indicating the properties of ‘primateness’ and ‘hairiness’. Thus, “the individual a predicate applies to is called it’s argument” (Riemer, 2010: 191).

Furthermore, Riemer (2010) also explains that arguments like in logical predicates do take conceptual constituents indicating the actual meaning or semantic content, which the sentence expresses. He assigns an ontological category to these constituents and called them ‘conceptual category’ just as Jackendoff (1991) called them ‘conceptual part of speech’. These categories are: Thing, Event, State, Action, Place, Path, Property and Amount. This implies that just as part of speech, e.g. Noun, Verb and Adjective, form a restricted set of categories to which words can be assigned on the basis of distributed criteria, so does the ontological category on the basis of what they mean. In addition, he concludes that

each major syntactic category agrees with a conceptual constituent or its ontological category. For example:

(22) a. [s[NP Bill] [VP[v went] [[PP[P into [NP the house]]]]]

b. [EVENT GO([THING BILL], [PATH TO([PLACE IN ([THING HOUSE]))])]]

(Riemer, 2010: 263).

2.5 The Concept of Argument Structure

Argument structure refers to the lexical head that brings about argument positions in syntactic *structure* and, therefore, the argument structure of a verb is the lexical information that induces the arguments of a verbal predicate and their semantic/syntactic properties. As Aarts (2001:288) deduces, argument structure is a “schematic representation which shows a predicate together with its arguments and their categorical status”.

Bresnan (2001: 304) argues that argument structure is an interface between the semantics and syntax of predicators (which may take to be verbs in the general case). He further stresses that “argument structure encodes lexical information about the number of arguments, their syntactic type, and their hierarchical organization necessary for the mapping to syntactic structure”. For example, in the underneath sentences, the head “open” has an argument structure that gets one obligatory argument position (Theme) and optionally two other arguments (Agents and Instrument).

23. i. John opened Bill’s door (with his key)

John’s key opened Bill’s door

Bill’s door opened

Bill’s door was opened (by John)

ii a: Open (John door key)
 Agent Theme Instrument

b: Open {Ag, Th, Instr} (Bresnan, 2001: 304).

The above shows that the lexical head “open”, which is a verb, has an obligatory role on the “door”, which is the theme, and can also have other arguments: John (Agent) and Key (Instrument).

Riemer (2010) describes argument structure from the way in which meaning affects the clause-level relation between a verb and its participants. In this case, he explains that the problem of understanding the relation between a verb and its arguments is often related to the syntax-semantic argument interface. Thus, he argues that this problem is often referred in the generative tradition as the linking problem, the mapping, argument selection or argument **realization** problem or the theta-role problem. He, therefore, concludes that in a given argument structure, there is the tendency that the arguments of the verbs could be classified into a small number of classes called thematic roles (Dowty 1991, Jackendoff 1990, Riemer 2010), participant roles (Allan 1986), semantic roles (Givon 1990). He adopted Carnie’s 2007 set of roles as the possible roles to be identified in argument structure. These roles are presented as theta-grids as follows: Agent; Experiencer; Theme/Patient; Goal; Recipient; Source; Location; Instrument and Beneficiary.

Apart from the identification of verbs, which explain part of the linking problem, Riemer (2010) reiterates that these participant roles are linked to the subject and verb. He argues that subjects are not always agents and objects are not always themes. This implies that there is no set linking rules associating a particular thematic role or (set of thematic roles) with the subject or object position. But what we can do is to rank the different roles in an order, which appears closer to the subject position. In that case, he proposes this possible thematic hierarchy for English with ‘>’ indicating ‘out ranks for subject’. Agent. Beneficiary/Experiencer>Instrument>Theme>Patient>Goal/Source/Location. By this ranking, it shows that an Agent in a given clause will automatically be regarded as the Subject and in the absence of an

Agent, any Beneficiary or Experiencer would be coded as subject and so on. In a given clause that is considered as transitive, the other participant will be coded as *object* and other participant as *adjuncts* (obliques). The following examples by Riemer (2010: 340 – 341) explain further:

- (24) a. Agent > Beneficiary
Bismarck helped the King.
- b. Agent > Experiencer
Bismarck informed the King.
- c. Agent > Instrument
Bismarck used a fake telegram.
- d. Agent > Theme
Bismarck hoarded bullion
- c. Agent > Goal/Source/Location
Bismarck entered/left/occupied the palace.

If there is no Agent, the Beneficiary is the next highest – ranked participant:

- (25) a. Beneficiary > Theme
a. Bismarck received the King's support.
- b. *Bismarck inherited an estate.*

If there is an Experiencer and a Theme, the experiencer is ranked higher:

- (26) Experiencer > Theme
Bismarck heard the news.

If there is an instrument and a theme, instrument is ranked higher:

(27) Instrument > Theme
The hammer shattered the rock

If the arguments are a Theme and a location, theme outranks Location:

(28) Theme > Location
The gas was filling the room

Looking at the above portrayals and the thematic roles exemplified, Saeed (2003) argues that at sentence-level semantics, speakers are exposed to semantic choice in describing a situation that requires a portrayal of roles where many entities are involved. Thus, he proposes the following as the description of the thematic roles.

AGENT: the initiator of some action, capable of acting with volition, e.g.

(29) *David* cooked the rashers.

PATIENT: the entity undergoing the effect of some action, often undergoing some change in state, e.g.

(30) *Enda* cut back **these bushes**.

THEME: the entity which is moved by an action, or whose location is described, e.g.

(31) *Roberto* passed **the ball** wide.

EXPERIENCER: the entity which is aware of the location or state described by the predicated but which is not in control of the action e.g.

(32) *Kevin* felt ill.

BENEFICIARY: the entity for whose benefit the action was performed, e.g.

(33) *Robert filled in the form for **his grandmother**.*

INSTRUMENT: the means by which an action is performed or something comes about, e.g.

(34) *She cleaned the wound with **an antiseptic wipe**.*

LOCATION: the place in which something is situated or takes place, e.g.

(35) *The Monster was hiding **under the bed**.*

GOAL: the entity towards which something moves, either literally or metaphorically as in:

(36) *a. Sheila handed her license **to the Policeman**.*

*b. Pat told the joke **to his friends**.*

SOURCE: the entity from which something moves either literally or metaphorically as in:

(37) *a. The plane came back **from Kinshasa**.*

*b. We got the idea **from a French Magazine**.*

(Saeed, 2003: 149 – 150).

In fact, there exist different thematic roles and names given to each of the roles. This may be related to the complexity of thematic – role – grammatical role or multiple semantic features (Croft, 2012) or what Jackendoff (1990) refers to as semantic values in different tiers. Croft (2012) further distributes major thematic roles across grammatical roles in the following order: Agent; Natural Force; Instrument; Patient; Experiencer, Stimulus, Benefactive and Figurative/Theme. Beyond the usual verbal semantic classes, he proposes new common roles that do not appear in the one that appear in the grammatical role. These are: Negative Quality; Function; Reference; price; Extent; Judicantis; Purpose; Substitution and

Representation Source. However, this study has noted the fact that there exists a progressively set of thematic roles and thematic role hierarchy and greater difficulty in ranking the roles in the hierarchy. Croft also presents argument structure as a question of argument realization. That is to say, how are the participants in events expressed as the grammatical arguments of a predicate? Herein, he examines various theories of argument realization and reveals that levels of semantic or syntactic representation, such as thematic roles, a thematic role hierarchy, macro-roles and others do not account for alternations. Rather, he suggests that a force-dynamic (causal) theory and the aspectual representations of event structure can best explain the question of argument realization. However, this is a general requirement to verbs and argument structure constructions. In some approaches (e.g. projectionist), argument realization in construction does exist per se. What is noticed are grammatical functions such as subject, verb, and oblique and they can be explained by information about the semantic of the event expressed in such sentences.

Lobner (2002) also argues that general thematic roles are useful in accounting for the meaning relations found in argument structure. He further explains that thematic roles allow a proper description of phenomena like the passive, which changes the argument structure of a verb in a specific way. But Dowty (1991), however, argues that theta-roles should be defined in terms of the entailments of the predicate and, therefore, to be seen as a cluster of entailments about an argument position, which are shared by some verbs. Thus, their roles become not as discrete and bounded categories but instead as proto-roles. He called them that because of the problems associated to thematic roles. He believes that assigning roles to each category is fuzzy because an argument is not classified as Agent or Instrument but is regarded as more or less Agent-like or Instrument-like, and so he proposes that only two-role-types are needed to account for linking. These role-types are Proto-Agent and Proto-Patient. He believes that each of the Proto-Agent and Proto-Patient would contain a characteristic list of entailments as in:

Properties of the Agent Proto-Role (Dowty 1991:572):

- a. Volitional involvement in the event or state
- b. Sentience (and/or perception)
- c. Causing an event or change of state in another participant
- d. Movement (relative to the position of another participant)

Properties of the Patient Proto-Role (Dowty 1991: 572):

- a. Undergoes change of state
- b. Incremental theme
- c. Causally affected by another participant
- d. Stationary relative to movement of another participant.

On the other hand, Jackendoff (1987, 2002) offers an explanation that the explicit representation of verb meaning is a pre-requisite to a more unified theory of linking. To account for this explanation, he argues that the semantic decomposition of verb is what determines argument structure. Therefore, if a word's behavior is linked to both its syntactic and semantic argument structure, it requires more than theta-roles or proto-roles but a **thematic and conceptual structure**. This indicates that Jackendoff's system is a new way of thinking about the characteristics and nature of theta-roles. In the conceptual structure approach, Agent, Theme and other roles are eliminated because it is the conceptual elements that do the explanation and not the theta-roles themselves. For example,

(38) a. *The door was open.*

b. *The door opened.*

c. *John opened the door.* (Riemer 2010: 349)

Conceptually, sentence 38a consists of the state function BE with two semantic arguments: the door (which is a Thing) and property (which refers to openness). Therefore, to say that thing and property are 'semantic arguments', you must relate them with complements of 'BE', which is a concept that must be bound with its meaning. Therefore, Jackendoff (1987:378) sees thematic role from the point of view of

'Theme' as "the first argument of the functions GO, STAY, BE and ORIENT". So the first argument in 38a DOOR is realized from the lexeme *door* and is considered as Theme. While 38b has the same conceptual structure with (38a) except that it has an additional function called "INCHOative" function, i.e. it denotes the coming into being of an event. This addition does not change the thematic role of "theme" in the structure. However, (38c) has the 'CAUSative' function. It shows that the CAUSE has two argument functions: the first argument is on the Thing (i.e. John) and the second on the Event (i.e. the door becoming open). These sentences are very relevant to this study because ESL learners are likely to use or express such constructions without understanding the underlying analysis.

The second argument of Jackendoff's theory is that apart from the types of semantic distinction expressed by the different theta-roles or the conceptual configurations, i.e. expressing the semantic connection between the verb and its argument, verbs in themselves do have selection restrictions on their arguments. For example, the object of *eat* must be solid, that *drink* a liquid, that of *read* something visible and that of *pay* (in one of its uses) an amount of money. Therefore, expressions like *Amina drank*, *Nura paid* and *Musa ate* entail information on something liquid, amount of money and solid, respectively. As such, he concludes that the selection restrictions on the objects of *drink*, *pay* and *eat* are "essentially explicit information that the verb supplies about its arguments" (1987: 385). Therefore, selection restriction is an important element in verb meaning and must be part of the verb argument structure. This conclusion is very significant to this research because of its relation to some of the issues that are investigated, such as the verbs above and others that are used by ESL learners which have restriction characteristics.

Hale & Keyser (1997) illustrate the notion of argument structure from the point of syntax and asserts that it is a syntactic configuration projected by a lexical item. It is the system of structural relations holding between heads (nuclei) and then arguments within the syntactic structures projected by nuclear items. Thus, argument structure is understood to be the lexical items that appear in the syntactic configuration as having complement and specifier relationships, but considering the fact that the behavior

of the lexical items is due to structural relations as against the interaction of structure that can be regarded as the “question of interface”. For example,

39. *The pot broke.*

40. *The Engine coughed.*

41. *I broke the pot.*

42. *I coughed the engine.*

The above sentences (39) and (40) are structurally distinct because of the behavior of the two lexical items (*broke* and *coughed*). The characteristics that distinguish these two verbs are the following. The verb ‘*broke*’ as described in (39) and (41) above has the following structural elements, a root (r) ‘*break*’ and a verbal host (v). The verbal component has the behavior of a complement realized in the root and also contains the semantic feature associated with the dictionary entry “*break*”. Therefore, the root (R) component requires a specifier (R, break) before accounting for the central syntactic feature of the verb (*broke*). The verb (*coughed*) also consists of two parts, a root and a verbal nucleus. However, unlike the root component of ‘*break*’, the root component ‘*cough*’ does not require a specifier and its complement in the case, i.e. the root element does not project a specifier and, therefore, accounts for the ill-formedness of the sentence “**I coughed the engine**”

2.6 The Concept of Meaning

Mathews (2002) asserts that traditionally meaning is said to be something ‘expressed by’ a sentence. It expresses thought, judgment or position. This assertion implies that any form that expresses something can be said to have meaning and any form that does not express a ‘meaning’ can be viewed as meaningless. In this case, words, constructions, etc. that constitute a sentence have meaning when they express something, but when they do not, they are regarded as meaningless. For example, *I hate garlic*. This expresses someone’s thought, judgment or proposition. As such, it can be regarded as meaningful.

However, using modern theories like the generative and the cognitive linguistic to elaborate on what meaning refers to; Matthews identifies four different opinions that exist within the linguistics realm. These are: (1) there is a difference between the meaning of a sentence independent of any context and the meaning it will convey as an utterance on a particular instance; (ii) sentence meanings are regarded as part of the language system and form part of semantic representation independent of other levels; (iii) semantic representations are derived from the level of syntax, indicating a lexicon that identifies the meaning of words and a set of semantic rules related to the constructions and (iv) the meanings of utterances can also be found in Pragmatics, indicating a separate principles different from formal semantics. He also observes that there are theories that also view meaning from “context” (i.e. both within an utterance and in terms of a context of situation) and thus concludes that neither words nor sentences can be assigned meaning outside a situation in which they are produced. This is an issue and a case in point which this thesis intends to explore.

Lobner (2002) agrees that meaning is part of linguistic semantics. It is a notion with a broad number of applications, some of which are associated to semantics and others beyond the field of semantics. He views meaning to constantly mean something and, as such, words have meanings, phrases have meanings, sentences have meanings and also deeds may have meanings, too. Thus, in general terms meaning can imply all sorts of phenomena that one makes sense of and continuously asks what is the meaning of it all? But from the semantic perspective, he observes that meanings deal with linguistic entities, such as words, phrases, grammatical forms and sentences. It is also concerned with verbal actions, which are contained in phrases, sentences, dialogues and texts. He further identifies three levels of meaning at which to interpret words and sentences if meaning is to be restricted to the study of words and sentences. These levels are: expression meaning, utterance meaning and communicative meaning. Lobner (2002:11) defines expression meaning as “the meaning of a simple or complex expression taken in isolation and utterance meaning as “the meaning of an expression when used in a given context of utterance, fixed reference and truth value (for declarative sentences)” while communicative meaning is

regarded as “the meaning of utterance as a communicative act in a given social setting”. In the final analysis, he sums up by saying:

Semantics is the study of meanings of linguistic expressions, either simple or complex, taken in isolation. It further accounts for the way utterance meaning, i.e. the meaning of an expression used in a concrete context of utterance, is related to expression meaning (Lobner 2002: 10).

Adewale (2005), in his analysis on the perspective and interpretation of meaning in English, identifies four major areas where meaning can be interpreted. These are linguistic, ideational (cognitive), interpersonal (social), lexical and contextual meaning. In the first stage, he views meaning as an indispensable notion associated to semantics that can be used for the purpose of language in situation context and different instances of language use. The second perspective accounts for meaning from within the linguistic structure and not from the outside world of experience. He cites Chomsky’s (1965) ‘generative grammar’ (syntax), which describes semantics as the only assigning interpretation to the structural description generated by syntax at the deep structure to support the above claim. In the third perspective, semantics is viewed from all the levels of language description, i.e. the formal and the non-formal. At the formal level, meanings are derived from phonological, graphical, syntactic or grammatical and lexical meanings. While in the non-formal, meanings are associated to situational and contextual meanings. Contextual meaning links both the linguistic meanings of formal items and the situational component of language use. In the fourth perspective, meanings are derived from the ‘semiotic’ dimension of the language. In semiotic description, meanings derived from syntactic, semantic and pragmatic relations are subsumed. Since syntax refers to rules and signs to one another, semantics refers signs to real objects and pragmatics relates signs to user language. He concludes that semiotics is the study of sign systems and can also be associated to the analysis of an utterance in context. As such, despite the various definitions above, the nature of meaning in language can be associated and interpreted from some required perspectives.

2.7 Goldberg's Construction Grammar Theory

To fill in the gap that exist in the lexical approach that insists that the verb is the sole predictor or the lexical item that determines the meaning of the syntactic structure of a sentence, Adele E. Goldberg (1995) in her seminal book *Construction*, proposes Construction Grammar (CG) as a major constructional approach to the study of wide range of grammatical constructions. This theory is later to be known as Cognitive Construction Grammar. Even though, the explanations below are not exhaustive, it is important to report that they are only a few representations of Goldberg's (1995) theory.

Goldberg's (1995) theory has it's root from Fillmore's earlier work on case grammar (1968) and frame semantics (1976). In the 1980s, Fillmore and Kay coined the term 'Construction Grammar'. Lakoff's (1987) account of existential constructions also contributed to the foundation of different perspectives of Construction Grammar that exist today. Thus, Goldberg's (2006) Cognitive Construction Grammar evolves from her (1995) CG and Fillmore and Kay' and Lakoff's' ideas.

The central concern of Goldberg's (1995) Construction Grammar is that Constructions play a major role in the basic sentence patterns of a language. In other words, we cannot ignore the role of construction in determining the meaning of a simple sentence, since there is strong relation between form and meaning in simple sentences. In essence, the general overall form and meaning of a sentence is not only determined by the main verb alone but the construction itself carries meaning on its own i.e. independent of the words in a sentence. Thus, Goldberg's theory provides a detail account of the relation between verbs and words in the construction and the construction itself, furnishing ways to relate verb and constructional meaning and showing the relations among constructions.

To elaborate on the central concern of Goldberg's (1995) theory provided above, the knowledge of construction is very crucial. In her theory, constructions are viewed as "stored pairing of form and function, including partially or fully filled words, idioms and general linguistic patterns. She argues that even basic sentence patterns of a language can be understood to involve phrasal construction (Goldberg

1995). Therefore, it is unbelievable to assume that *whoosh* is viewed as a verb and also as a main verb in this sentence: *something has whooshed into my life*. This implies that the main verb in this sentence underdetermines the overall argument structure of the sentence. As such, when nouns are used as verbs in a sentence like the one above, it is the constructional meaning that influences the interpretation of the sentence. In this view, it means all levels of grammatical analysis are found in a construction. These may include: semantic or discourse function, including morphemes, words, and idioms, partially filled and complete lexical patterns.

Goldberg's Cognitive Construction Grammar, further addresses the issue of argument structure constructions as one of its major organizing principles. This implies that the argument structure constructions exist independently of the lexical argument in a sentence. She proposes for such argument structure constructions to include: transitive, intransitive, ditransitive, resultive and Caused-motion or *Way-construction*. The idea is that any of these constructions is capable of providing a verb's meaning with additional argument outside the surface form. For example, *Pat cooked Chris some dinner* (ditransitive). This sentence, which Goldberg refers to as a ditransitive construction portrays that "someone intending to cause someone to receive something". The central argument in this meaningful construction is that the construction is capable of supplying this latter's meaning without the claim that the clause is projected exclusively from the main verb.

With its focus on prototypes and frame semantics, CCG condones the fusion of a verb that can integrate with meaning of the argument structure construction, especially in the Causal-motion Construction. For example, in the sentence: *Frank Sneeze the tissue off the table*, the lexical entry of the verb *Sneeze* contains participant roles, representing the frame semantic information (i.e.) *sneeze* fuses with the caused-motion Construction. The verb also contributes to the *sneeze* role, whereas the construction contributes both a theme and a goal role to the verb's meaning. In brief, verbs can be fused in a given construction and yet provide the chance to interpret its verbal semantics (participant roles) and constructional semantics (constructional role).

Outside the “normal” insights on argument structure construction, Goldberg’s constructions also allow constructions that incorporate discourse relevant information. This type of construction permits cases in which an argument that is normally attributed with the verb is unexpressed because of its low discourse prominence and less increased emphasis on the action. This is sometimes referred to as “Deprofiled Object Construction” (Goldberg 2000). The Deprofiled Object Construction represents a communicative function through which the patient argument is deemphasized because of its less discourse prominence. For example, in sentence such as *Tiger only Kill at night*, the argument of the transitive verb *Kill* can be dropped to read: *Tigers only kill* not because the transitive construction has no meaning but because in discourse-information, the argument of the transitivity (i.e.) *at night* is not prominent and therefore needs to be expressed.

Cognitive Construction Grammar also licenses interaction of multiple constructions (Boas 2010). This means that Goldberg’s theory allows combined constructions to form actual expression as long as they are not in conflict. In other words, we are free to combine a number of constructions in our effort to actually express a scene or an event. For example, *What did Michael send Miriam?* involves many different constructions. Boas (2010:10) analyses this sentence as follows: “First each of the five words are constructions; then there are the VP Construction, the NP Construction, a Subject-Auxiliary Inversion Constructions, the WH construction and the Ditransitive Construction”. What is important here is that when combining different Constructions, we should note that each construction should perform different tasks in the sentence. The idea is therefore to combine different constructions to form one sentence at one level, and make sure there is no conflict between these freely constructions and the constructed sentence(s).

As mentioned earlier, the explanation on Goldberg’s (1995) theory and subsequently Cognitive Construction Grammar (2006) above is just a summary. It is also pertinent to mention that generally, it emphasizes on the central role construction and believe that the architecture of language is non-modular

and non-derivational. This theory also propagates the usage-based approach that allows for both instances and generalizations of different language-out-put articulated through language usage.

2.8 The Criticisms and Variations of Goldberg’s Theory

The issue for argument structure has been viewed from different perspectives. Either as a verb that determines the projection of its argument or as the syntactic expression of the argument that determines the major facets of meaning. This latter perspective which Goldberg’s work on argument structure constructions has revealed is attracting a great deal of attention, especially because of the claim that “Phrasal patterns are not determined by verbs alone” (Boas 2010). It is pertinent to mention that as at the time when Goldberg’s theory emerged, the only theory of argument structure construction that exists was the lexical rule approaches by Rappaport & Levin (1988) and Pinker (1989). These approaches are said to fall within the generative framework. Later, some of these scholars introduced some devices that are also “constructional” but differ slightly with Goldberg’s. For example, Jackendoff (1990) introduces ‘Adjunct rules’ and Rappaport Hovav and Levin (1998) introduce the ‘lexical templates’ approach. However, the emergence of Goldberg’s theory has prompted various researches and thus led to some criticisms and variations.

In Goldberg’s (1995) theory of Cognitive Construction Grammar (CCG), construction (argument structure constructions) exist as an independent entity outside the lexical argument – taking predicates. In other words, she argues for the existence of ‘argument structure constructions’: pairings of meanings with syntactic frames as against the claim that the syntax and semantics of the clause is determined by the main verb as a lexical entry. This view posits that it is not in all cases that implausible verb senses are attributable to the main verb as it occurs in unusual environment. The following examples substantiate the position above.

43 a. They laughed the poor guy out of the room.

b. Frank sneezed the tissue off the table.

c. Mary urged Bill into the house.

(Goldberg 1995: 152)

The sentences above, as Boas (2010) claims, cannot be explained compositionally because verbs like *laugh*, *sneeze*, or *urge* do not independently encode caused – motion semantics. Moreover, a verb is treated as comparable to what Levin and Rappaport Hovav (2005) call ‘root.’ That is to say, the verb always comes with its own minimal meaning and associated argument. This indicates that the minimal meaning is fused in the overall meaning of the argument structure construction. Thus, when verbs are compatible with more than one construction, the result is argument alternations and dative alternation, which can all be treated in the instance of the Ditransitive construction. However, Rappaport Hovav and Levin (1998) and Erteschik shir and Rapoport (2004) argue that not every verb can be distributed across syntactic contexts. Therefore, Goldberg’s view of treating the verb as not projecting the argument structure vividly affects the ‘resultive construction’, as illustrated by Boas (2000, 2003).

In Cognitive Constructional Grammar, Goldberg proposes that verbs are associated to semantic frames. Frame semantic provides information about the various meanings of a lexical verb in a construction such as references to world and cultural knowledge, experiences, and beliefs (Petrucci 1996 and Fillmore and Baker 2010). But this position by Goldberg contradicts theories that emphasize the semantics of utterances from objective truth condition (Fillmore 1975). The distinction between Goldberg’s position and others respectively is that the whole utterance or construction is semantically emphasized by the latter, and the former only attributes the semantic frame to the verb alone. Thus, in CCG, the lexical entry of the verb *sneeze*, as in example (43b), is the only one that receives a participant role indicating the frame semantic information. Therefore, when the verb *sneeze* is isolated from the caused motion construction, the *sneezers* role is clearly identified and the rest of the construction displays a theme and a goal to the verb semantics. This line of thinking suggests that it is only the verb that contains semantic information and not other lexical entries within the construction. Neglecting the

semantic information of other predicates within the construction contradicts Goldberg's view that construction itself has its meaning and the verb is independent.

Goldberg's theory further discloses the art of multiple constructions as one of its novel thesis. In CCG, constructions are not capable of combining freely when they are in conflict. In other words, constructions can be combined freely to form actual expressions as long as they are not in conflict (Boas 2010). This implies that unlike the generative grammar tradition that assume various levels of representation with emphasis on the verb's arguments to always heavily rely on the main verb, the constructionist rejects this notion on the basis that verbs generally appear in multiple argument structure. This phenomenon involving multiple arguments structure is called Argument Alternation (Levin and Rappaport Hovav 2005), Multiple Argument Realization (Levin 1993) and multiple constructions (Boas 2010). Goldberg's view on this phenomena is that verbs typically undermine the overall form and meaning of a clause because all constructions involve to form a sentence at one level and you can have a series, so long they do not conflict with each other. This view has the advantage of being able to classify such sentences as event composition as against polysemy analysis. For example, Goldberg (1995) calls sentences (43c) and (1d) as an instance of "cause motion construction" and sentence (1e) is viewed as that of resultive construction. But there is no acceptable name for sentence (1f) or some other alternations not represented in example one above. However, Levin (1993) proposes that a syntactic criterion that identifies semantic verb classes is capable of solving this problem because the verb classes can exhibit similar alternating behavior. These divergent views point out that data can be accounted from the sentence constructions of ESL learners capable of providing useful insight into verb meaning and argument structure.

To sum up the multiple argument constructions thesis in CCG, some instances of sentence constructions occur in alternate positions, so long these sentences or expressions are not in conflict but present divergent meanings in Ditransitive construction. In the words of Levin and Rappaport Hovav (2005: 189), there are some instances of multiple argument realization that can be construed as

'alternations', "involving an alternate realization of a single set of arguments; others involve event composition, with an added argument–talking predicate and possibly, additional arguments." But they quickly caution that there are certain types of multiple argument realization that do not fall under one label or the other. But yet they receive both classification and thus require in–depth analyses.

Boas (2010) also assesses CCG principles and points out that one of the major organizing principles in this theory is the general mechanism of fusing verbs with construction. He observes that the 'fusing of verbs' element is noticed in the 'Way–construction', 'Ditransitive Construction' and resultive construction', respectively in Goldberg's theory, as exemplified in the following sentences: 44. *They laughed their way into the meeting* (Way–construction); 45. *Joe baked Miriam a cake* (Ditransitive construction) and 46. *Kim painted the brush to pieces* (resultive–construction). The major concern that is identified with regards to the element above is that of unacceptable fusion of verbs of what Rappaport Hovav and Levin (1998) refer to as concern on the distribution of verbs across syntactic context. To address this concern, Goldberg proposes construction specific and general constraints as the way forward. In the construction – specific as in the caused motion construction, she suggests a number of semantic constraints to regulate the problems. For instance, she argues "that the causer argument can only be an agent or natural force, not an instrument" (Goldberg 1995:165). For the general constraints, she identifies both the semantic coherence principle and the correspondence principle to regulate the fusion of verbs with constructions. The semantic coherence principle implies that only roles that are semantically compatible should be fused and the correspondence principle designates each participant role that is lexically profiled and expressed must be fused with a profiled argument role of the construction (Goldberg 1995:50).

However, a number of studies have criticized Goldberg's CCG, especially the constraints on the fusing of verbs and the lexical profiled entries. For example, Nemota (1998), van der Leek (2000), Boas (2003) and Iwata (2008) argue that the types of abstract meaningful argument structure constructions are frequently too strong and have the capability of generating unattested sentences. To overcome this

problem, they propose to identify the verbs and individual senses of verbs from the constructions. This lexical construction view indicates that isolates individual verb senses is more or less a mini construction with its own frame semantic and syntactic categorizations because Goldberg's abstract meaningful constructions over generate. This means that while broad generalizations are available in Goldberg's abstract meaning constructions, limited generalizations are captured in the opinions of these scholars. From the explanation above, a number of verbs and their classes can be found in sentence constructions with some degree of fusion when analyzed especially in second language acquisition (Gries & Wuff 2005) and such possibilities are bound in this type of research.

While CCG focuses mainly on the role of semantic, pragmatic and syntactic areas, as in the case with other constructional theories, its influence on phonological factors is viewed as limited or virtually absent. The importance of phonological factors as claimed by Boas (2010) in explaining the distribution of construction profound, especially as it relates to second language acquisition. Even though this tendency of de-emphasizing phonological factors may perhaps be explained by the idea within the constructional research, there is no categorical distinction between the lexical and syntax, semantics and pragmatics, thus providing an alternative phrase structure analyses within the generative transformation paradigm. However, Lambrecht (1990) demonstrates that expression like *Him be a doctor?* can be explained from the prosodic contour related to the expression and not from the traditional argument structure constructions. In this case, emphasis is given more to the intentional contour and the morph-syntax of accusative subject and bore stem verb phrase are de-emphasized. Other studies that criticize Goldberg's theory of not licensing phonological factors include: Michaelis & Lambrecht (1996); Boas (2004) *Wanna-construction and* Fried & Ostman's (2004) patterns, such as *is a Sauna hot*. From this, Boas (2010) concludes that phonological information is very relevant in argument structure constructions and should be included in the formal representations of constructions.

Frequency and productivity is another important principle in Goldberg's theory. In this theory, frequency is a crucial factor for accounting for construction's productivity, i.e. the speaker's ability to

extend argument structure constructions to new verbs and to avoid overgeneralization. That is why Langacker (1987) and Barlow & Kemmer (2000) hold the view that any theory that is usage based and capable of allowing instances and generalizations in linguistic expressions should be considered as a fully articulated schematic network, and CCG is such a theory. Furthermore, Bybee & Hopper (2001) reveal that all possible patterns occurring with sufficient frequency are stored as constructions alongside more general linguistic generalizations even when they are fully compositional and predicable. The idea to use frequency to account for constructions is an indication that there exists construction's ability that is possible of generating novel items that can be directly correlated within Goldberg's construction theory. For, example, *the way* – construction and the *resultive* construction of Goldberg (1995:199 – 218) indicate that the former is more productive because it appears to have in its arguments structure constructions very extensive types of verbs than the latter that has in its own constructions considerable limited types of verbs in their occurrences. To sum up, all construction descriptions should include information about the type of verb slots and its frequency, as well as general semantic constraints. This proposal is inspiring to this research because it provides the opportunity to assess the full productivity of ESL learners sentence constructions and an analogy as “two sides of the same coin, not different in ontological status, only different in degree” (Barodal 2008:173) with Goldberg's CCG.

On his part, Croft (2012) identifies the semantic interaction of verbs and construction as a major principle in Goldberg's (1995) constructional analysis and posits that two linguistic elements relating to the meaning of constructions are noticed and the meanings of the two elements overlap in polysemy, derivation and vagueness. He acknowledges that the issue of argument structure is viewed from two perspectives: as one contrasting lexical rules and construction but quickly observed that the similarities between the constructional analysis and the lexical rule analysis are greater than one might expect (Croft 2003) and that the debate by these approaches lie in a contrast between polysemy, derivation and vagueness analyses. Thus, he cited two different examples of verbs in argument structure constructions to substantiate his claim on this debate:

- 47 a. Karen baked a cake.
 b. Karen baked Sam a cake.
 c. Karen baked a cake for Sam.
- 48 a. Jill sprayed water on the flowers.
 b. Jill sprayed the flowers with water (Croft 2012:358).

Croft (2012:358 – 9) illustrates that example (47b) is a DITRANSITIVE CONSTRUCTION with three participants: the agent, the possessum and the possessor. Both participants are expressed as objects, but the possessor (Sam) always comes before the possessum (*Cake*). It contrasts with (47a) in which the same verb (*bake*) is used in the Transitive construction with only two participants and without the possessor (*Sam*). It also contrasts with (47c) in which the possessor (*Sam*) is realized as an oblique. Examples (48a – b) exemplify the LOCATIVE ALTERNATION. The same participants are elaborated in (48a) and (48b) and are referred to as the agent, the figure and the ground. However, the two arguments realized in both sentences are distinct: in (48a) the figure is the object and in (48b) the ground. Thus, the two constructions are said to be in locative alternation with (48a) which is termed as the *into* locative and (48b) as the *with* construction

The analysis above represents the lexical rule analysis developed by Pinker (1989) and Rappaport Hovav and Levin (1988, 1998). They maintain that in all the sentences in (47a –c) and (48a – b), the verbs *bake* and *spray* have distinct senses and are compatible with the argument structure constructions in which they occur, e.g. the senses of *bake* include creation senses in (47a) and a transfer of possession sense (as well as creation) in (47b). The conclusion is that there exists no distinct argument structure construction, as proposed by Goldberg’s (1995) CCG. Instead, there is a general syntactic rule specifying grammatical functions, such as Subject, Object and Oblique phrases and all information about the semantics of event is solely attributed to the verb. This description resembles a polysemy analysis and derivational analysis: which suggests that in the meanings of the verb there is always one that is basic. Contrary to this view, Goldberg (1995:50) distinguishes the meaning of the verb and the meaning of the argument structure

construction. She argues that the verb *bake*, in the example above, is expressed to specify how it is used in the construction and has a meaning (R or ‘relation’) represented as the PRED. Its participants in the construction have verb-specific participants roles, e.g. ‘baker’ verb-specific but rather consists of more general roles because “a verb can be used in an argument structure construction if the participant roles can be construed as instances of the argument role of the construction” (her semantic coherence principle: Goldberg 1995:50 – 1, 2006:39-40). Thus, the baker of BAKE can be construed as an agent and the baked – good of BAKE can be viewed as an example of a patient. Moreover, the construction may describe the meaning of the verb + argument structure construction, but Croft (2012) evaluates this position as coercion analysis, which means the basic meaning of a verb can change the order to fit the semantic requirements of the construction in which it occurs. As such, a coercion analysis is otherwise called derivational analysis where it is coerced by the construction.

In the Locative alternation, Croft (2012) clarifies Goldberg’s (1995) position by representing an analysis that is more like vagueness analysis. Croft assumes that a verb has a unitary meaning and its occurrence in construction is a restricted one that must be compatible with other participant roles with a similar role within the construction. As such, a verb like *spray* in (48a – b) lends itself to verb specific participant roles as: SPRAY < sprayer, **target**, [**liquid**]>. The representation of this construction is captured in (3) (Goldbeg 2006:41) as:

Caused motion (**SBJ V OBJ PP**):

CAUSED – MOVE <**cause theme** path/location>

Spray appears in the construction because the liquid role of SPRAY is in conformity with the theme role of CAUSE – MOVE or the instrument role of CAUSE and the target role of SPRAY is compatible with path/location role of CAUSE – MOVE or the patient role of CAUSE. (Note that Goldberg uses boldface for syntactic purpose and uses the angle bracket notation to differentiate arguments from adjuncts (Croft 2012:363)).

The divergent views above by the lexical rule analysis (e.g. Pinker 1989; Rappaport Hovav and Levin 1988, 1998) and Goldberg's (1995) constructional analysis can be summarized as differences in semantic shifts in the type of construct that the verb projects the argument structure construction (lexical rule) and the construction is independent and all lexical items in the construction, including the verb, assume the meaning of the argument structure construction (constructionist analysis). That is why Croft (2012) concludes that, on the one hand, the application of the lexical rule analysis, i.e. if the existence of construction is denied, then the result is polysemy analysis. On the other hand, the existence of complex structures that is characterized by syntactic properties and semantic interpretations, which cannot be explained by lexical rule interpretation confirms the view that there are many strong arguments that construction exists (Fillmore, Kay and O'Connor 1988; Kay and Fillmore 1999; Goldberg 1995, 2006; Goldberg and Jackendoff 2004; Croft 2001; and Croft and Cruse 2004). Thus, a constructionist approach to the meaning of an utterance becomes very imperative. These different possibilities that arise in the English language form the basis and quest for which this research explores.

Dolling & Heyde Zybatow (2007) compare both the lexicalists' position and Goldberg's constructionist strategy and came up with a different position. Traditionally, argument structure is analyzed as part of the lexical entry of the verb. This implies that the syntactic structure is projected from the point of view of the verb and the argument it represents (e.g., transitive Vs intransitive). But this line of thinking is redundant because the projected syntactic structure must agree with the lexical properties of the listed items (e.g., Borer 1994, 2005, Ritter & Rosen 1998 and Ramchand 2006). Dolling & Heyde-Zybatow further observe that difficulties are noticed in the different arguments of the verb because of the massive variability it shows. In the realm of Construction Grammar, Goldberg (1995) argues that in argument structure, an abstract meaning of syntactic construction exists independent of the lexical representation of the verb in the construction. This means that the theory posits that the meaning of a verb in a particular syntactic context is derived from a relationship between the lexical meaning of the verb and the meaning of the respective construction. Dolling & Heyde-Zybatow observe that controversy exists in

this proposal because the source of these abstract meanings of syntactic construction cannot be substantiated. Thus, they propose a minimal residual of lexical semantic representation of the verb and emphasize conceptual information to what they refer as the Multi Level Model of meaning: the understanding process consists of a number of different levels using semantic form (SF) and parameter – fixed structure (PFS).

The semantic contribution of verbs and constructions is proved to be one of the major principles of Goldberg’s theory. Croft’s (2012:374 – 83) analysis explicates this assertion. The syntax of English Ditransitive consists of [SBJ VERB OBJ1 OBJ2] as in the construction,

(49)	Julie	gave	Simon	a	book.
	SBJ	VERB	OBJ1		OBJ2

Goldberg argues that the Ditransitive construction contributes the meaning the “the agent ... acts to cause transfer of an object to a recipient” (Goldberg 1995:32). This implies that the meaning of the verb ‘gave’ in the example above and ‘bake’ in (47b) above are not necessarily part of the meaning of the verb. The ‘basic’ meaning of *bake* for example, does not involve transfer of possession. But this semantic component as argued by Goldberg (1995:32) is present only when *bake* occurs in a Ditransitive construction. She further argues that in the case of ‘bake’ and other verbs of creation; we notice that the Ditransitive construction contributes to an intended and not actual transfer of possession. But in the case of the constructions: *Julie gave Simon a book* and *Karen baked Sam a cake*, an entailment is realized. While Simon comes into possession of the book, it is possible that Sam does not receive the cake or Karen could drop it or change her mind not give the cake to Sam after all. As a result, we notice different contributions of Ditransitive construction as in the above examples. Thus, the contribution of Ditransitive construction is slightly different for *give* and for *bake*.

On noticing the problem above, Goldberg quickly resolves it by proposing that constructions can be polysemous. That is a construction can have more than one meaning and the meanings can be treated

as semantically related. In the examples above, the Ditransitive construction has two related constructional meanings: actual transfer of possession (Julie gave Simon a book) for the verb (*give*) and intended transfer of possession (Karen baked Sam a cake) for the verb (*bake*). To further elaborate on the constructional meanings, Goldberg (1995:38, figure 2.2) lays out six related constructional meanings for the two senses identified above and presented below. These meanings, as Croft (2012:315) points out, “are associated with verb classes”.

(50) A. Central Sense: agent successfully causes recipient to receive patient

1. Verbs that inherently signify acts of giving: *give, pass, land, serve, feed,*
2. Verbs of instantaneous causation of ballistic motion: *throw, toss, slap, kick, poke, fling, shoot,*
3. Verbs of continuous causation in a deictically specified directly: *bring, take, ...*

B. Conditions of satisfaction imply that agent causes recipient to receive patient

1. Verbs of giving with associated satisfaction conditions: *guarantee, promise, owe,*

C. Agent causes recipient not to receive patient

1. Verb of refusal: *refuse, deny,*

D. Agent acts to cause recipient to receive patient at some future point in time

1. Verbs of future transfer: *leave, bequeath, allocate, reserve, grant,*

E. Agent enables recipient to receive patient

1. Verbs of permission: *permit, allow*

F. Agent intends to cause recipients to receive patient

1. Verbs involved in scenes of creation: *bake, make, build, cook, sew, knit,*
2. Verbs of obtaining: *get, grab, win, earn.*

However, Croft (2003b:55) observes that the variation in Goldberg’s (1995) Ditransitive construction meaning does not appear to be true polysemy. Each verb semantic class is related with only

meaning or sense of the Ditransitive construction. In addition, their association is not random. It is not an accident to see verbs found in Ditransitive sense E, for example, correspond with verbs of permission or verbs of obtaining correspond with sense F. That is, the modulation of possessive relation specified by each constructional sense-actual, enabling and negative transfer of possession – matches a semantic component of these verbs (Croft 2012:378). Koenig and Davis (2001) also criticize Goldberg’s semantics of Ditransitive construction analysis. They refer to this kind of analysis as ‘sub-lexical modality’ that can be found generally with most verbs (Koenig and Davis 2001:77), as in the following examples:

(51)

- a. Bill had /received/lost/lacked/needed many books
- b. Sue perceived/noticed/overlooked/missed him.
- c. Bill managed/tried/failed/neglected to read the books.
- d. Sue forced/urged/defined/forbade Bill to go.

The ‘sublexical modality’ of Koenig and David (2001) signifies an analysis that concedes the idea that the semantic component is attributed to the verb meaning. They also observe that one other sense of Ditransitive construction required by one class of verb is not captured in Goldberg’s six constructional meanings (Koenig and Davis 2001:76; Croft 2003:55):

(52) Acquisition of goods causes recipient to no longer have possession of many

- 1. Verbs of costing: *cost, set, back, charge,*

Goldberg clarifies that the fact of the analysis above by Koenig and Davis (2001) and Croft (2003) is evidence against a monosemy analysis and not her polysemy analysis. That is an analysis that portrays the Ditransitive construction as simply “transfer of possession without specifying the modulation of this event” (Goldberg 1995:36). On the contrary, Croft (20012:377) observes that the Ditransitive construction of Goldberg were not truly polysemous because the verb *bring*, for example, cannot be found in the

Ditransitive sense F. If it does, it would result to meaning like “X brings Z with the intention of causing Y to receive Z” or *kick* could also occur with Ditransitive sense C, resulting in meaning like “X kicks Z causing Y not to receive Z”. But these are not detected. Instead, Croft (2012) concludes that Goldberg’s proposal reveals a different “sense” of the Ditransitive construction tied to the verb classes that each “sense” of the verb comes along with.

The second most important issue raised by scholars relating to the semantic contribution of Goldberg’s theory is the relationship between verb meanings and verb specific (or verb – class – specific) constructions. In this relationship, the verb is carefully isolated from the construction that it occurs in and, as such, isolates the verb’s meaning and what it contributes to the meaning of the verb occurring in a specific argument structure construction, such as the Ditransitive construction. Croft (2012), for example, evaluates the unitary meaning model of verbal semantics representation adopted by Goldberg. The semantics of the combination of verb + Ditransitive construction can be divided into three: the verbal root: which indicates the meaning of the verb even from the same verbs of the same semantic class, e.g. *kick, throw, toss, etc.* Secondly, the transfer of possession meaning that is prevalent among verbs when they appear in Ditransitive constructions and the third components known as ‘modulation’ (Croft 2012) or ‘sublexical modality’ (Koenig and Davis 2001): whether the transfer of possession is actual, conditional, intended, etc. Consequently, Croft argues that any verb that occurs in the Ditransitive construction can be put into three groups, depending on the semantic components the basic verbal meaning would include. These three groups are presented in the Table below (Croft 2012:380 Table 9:1); a V indicates which component is intuitively part of the verb meaning.

Table 1 Componential Analysis of Ditransitive Verb Class Basic Meaning

Verb class	Verbal root	Modulation	Transfer of possession
<i>Group I</i>			
Inherent giving (AI)	V	V[actual]	V
Conditional giving (BI)	V	V[condition]	V
Future transfer (DI)	V	V[future]	V
<i>Group II</i>			
Refusal (CI)	V	V[negative]	
Permission (EI)	V	V[enabling]	
Costing (GI)	V	V[depriving]	
<i>Group III</i>			
Instantaneous ballistic motion (A2)	V	[actual]	
Deictic continuous causation (A3)	V	[actual]	
Creation (F1)	V	[intended]	
Obtaining (F2)	V	[intended]	

From Table 1 above, Croft (2012) concludes that the semantic classes of verbs in Group III are the ones that appear to have the strongest case for a constructional meaning and, therefore, the verb meaning does not include the transfer of possession meaning or its modulation ('sublexical modality'). But Goldberg (1995: 44) cautions on 'a system where a new sense is posited in an unrestrained way for each new syntactic configuration that is encountered'. As a result, verbs of creation like *bake* should not have an additional meaning posited that adds transfer of possession because it occurs in a Ditransitive construction. The fundamental fact about the presentation above is that many linguists and the speakers of English, especially in the ESL environment; do exhibit the same pattern of behavior in their sentence constructions. The ranges of verbs they use are explained outside of the argument structure constructions. This research attempts to identify such expressions and occurrences and analyze them.

Consequently, Croft (2003) concludes that the dichotomy that exists between the lexical rule and constructional analysis is a false one. The same conclusion exists between the Goldberg's abstraction across constructions and Croft's (2012) idea of verb-specific construction. Generally, Croft (2012: 83) proposes an alternative analysis called "verb-specific construction". This alternative approach shares with the lexical rules the specificity of the relationship with a specific verb (or narrow verb class) and similar with the constructions in terms of meaning that is associated with the overall construction not just the verb or any of the elements in the construction. Finally, it represents a particular construal of event that takes care of both the verb and verb semantic class and purports a direct and explicit representation of "exceptions" to general rules of argument realization. Therein, all grammatical structures are represented uniformly as pairings of (complex) forms with (complex) meanings – a basic principle of the Construction Grammar approach (Croft and Cruse 2004: 255; Goldberg 2006: 5). He concludes that verb specific constructions are the basic level of mental representation of verbs and argument structure.

Riemer (2010) contends that one of the important features of Goldberg's (1995) theory is that arguments can be subcategorized by the construction itself. In other words, construction itself, which has its meaning different from the verb that projects the argument of the clause has the tendency to have different categorizations (subcategorization) in its argument realization. Thus, the descriptions of the syntax of each construction reveal the characterizations of argument structure. In essence, some phrases can be found in a clause and change the meaning of the utterance as a result of the construction not as a direct consequence of the verb. For example:

(53)

- a. She sneezed **the napkin off the table**

b. The fly buzzed **into the room**

(Reimer 2010: 361)

The sentences above are grammatical without the highlighted phrases. This implies that the phrases above are adjuncts and the verbs in the two sentences do not regard them as part of their argument structure. But the inclusions of the napkin and off the table in (53a) above indicate two additional argument slots: caused motion construction. On its own, *sneeze* is just an intransitive verb with a sense of bodily emission and can stand alone even without the additional phrases. Therefore, Reimer (2010) asserts that constructions exist and have meanings. In this respect, constructions are like idioms because they are specified lexically, as in the case of (53a), which is an intransitive motion construction. The only difference between a constructional and a traditional account of argument structure is that the constructional account reduces the teaming of verb-senses. That is why Goldberg (2006:6) maintains that the constructional approach to language has a wide application and “even basic sentence patterns of a language can be understood to involve constructions that is, the main verb can be understood to combine with an argument structure construction (e.g. transitive, intransitive, ditransitive, etc.)”. However, Reimer observes that, though Goldberg’s ditransitive construction has its own polysemous set of meanings, it is a radical departure from the point of view of projectionist accounts because it could not interpret the differences in the lexical entries of verbs themselves. To counter this criticism, Goldberg states that everything in language can be seen as a construction: a form-meaning pairing including phonology, which can also be fully specified. It includes partially or fully words, idioms and general linguistic patterns, as illustrated in Table 2 below:

Table 2. Examples of Constructions, Varying in Size and Complexity

Word	<i>e.g., tentacle, gangster, the</i>
Word (partially filled)	<i>e.g., post-N, V-ing</i>

Complex word	<i>e.g., textbook, drive-in</i>
Idiom (filled)	<i>e.g., like a bat out of hell</i>
Idiom (partially filled)	<i>e.g., believe<one's>ears/eyes</i>
Coveriational	The Xer the Yer
Conditional	<i>(e.g., The more you watch the less you know)</i>
Ditransitive	Subj V Obj1 Obj2 <i>(e.g., She gave him a kiss; He fixed her some fish tacos.)</i>
Passive	Subj aux V ^{pp} (PP _{by}) <i>(e.g., The cell phone tower was struck by lightening.)</i>

Meng-ying (2013) observes that Goldberg's (1995) Construction Grammar proposed that the verbs in constructions have frame-specific roles and, therefore, viewed as participant roles and constructions are generally regarded as more of general roles and as the argument role. This implies that a verb in a construction is having a participant role while the construction in general is acting as argument role. Thus, argument roles associated to Ditransitive Construction are agent, recipient and patient and for the fusion of the verb and the construction, we notice participant roles side by side with the argument role. However, although Goldberg's (1995) theory has accepted the fusion of the verb and the construction, the distinction between lexical meaning and constructional meaning is an issue of concern to many linguistics. Langacker (2005) argues that if a verb is said to have a particular meaning, which is yet to be empirically verified, the same subschema characterizes both the verb and the construction. Zhang (2006) further posits that the integration of a verb and construction, as proposed by Goldberg, lacks explicit examples and the categorization of the verb as regular meaning and the construction as extended meaning also violates the general speaker's knowledge of language that is constrained by, among other things, general processing demand: an important thrust in constructionist approaches. Supporting this criticism,

Meng-ying (2013) suggests that Goldberg's categorization should only lead to an integrated view of the verb and the construction to elicit more constructive and well formed expressions that have compatible meaning of both the components of the construct and the construction itself.

Adger (2012) raises a number of issues as regards Goldberg's Construction Grammar, especially the usage-based model. To empirically support Goldberg's (2006) core idea that the meaning of the sentence can be specified as a property of structure rather than as that of any lexical item, she identifies many different non-linguistic but innate cognitive constraints on both learning and representation, indicating statistical generalizations, cognitively represented semantic structures and cognitive relation between form and meaning. For example, Goldberg illustrates the ditransitive construction "She gave him the apple" as the meaning of actual or potential transfer and "He sneezed the bullet out of his right nostril" (Adger 2012: 3) as Caused-Motion Construction. However, Adger (2012) observes that both constructions in terms of form and meaning of the sentences abstracted away the verbs in the constructions. Hence, we notice only interpretation avoiding an important grammatical property of the expressions. Consequently, he concludes that CG only assures massive amounts of innate constraints on both learning mechanism and on cognitive representation with no a priori argument for this position. In addition, the CG hunch of attributing semantic structures rather than the words, lack empirical argument to jettison language specific properties. Overall, Goldberg's theory is yet to provide an answer to this question: "How do learners of say, English, come to have the same constraints on structures, such as parasitic gaps, which they barely ever encounter?" (Adger 2012: 11).

Lidz and Williams (2009) point out that Goldberg's Construction Grammar avoids lexical items, traces in particular and non-transformational patterns. But Goldberg suggests that these choices make learning or processing easier by bringing grammatical analysis closer to the surface. On the one hand, they criticize this suggestion that the theory fails to provide a direct discussion on how this grammatical analysis is brought closer to surface. On the other hand, it does not demonstrate the assumption of simplify processing or learning. Moreover, Lidz and Williams argue that the claim that the grammatical

structure itself contributes substantive predicates to the meaning of a phrase and the lexicalists claim that predicates project from lexical signs provides no evidence for constructionism. For example, the expression: *Nick smacked the table* asserts some relation of the table (i.e. the table that is smacked, constructionist) and the verb *smacked* contributes to the whole structure (lexicalist). The constructionists also agree that the verb contributes but to only part of the structure. This Goldberg (1995) observes as a strong association between syntactic frame and semantic relation but not specific to the verb occurring in the frame above. She then argues further that associations are readily learned. But Lidz and Williams critique that neither the constructionists nor the lexicalists can account for the recognition of such associations and the argument structure is determined by the verb or the association can be learned lacks evidence for what constructionism per se stands for. They conclude that even the Agent and Patient relation which exists side by side with its subject and object transitive construction of Goldberg's (1995) principle, as in the sentence above is a redundant analysis, even though it is not a false one because of this addition: the Agent of a smacking is necessarily its smacker (Dowty, 1989, Landman 2000).

On his part, Kay (2010), following some ideas of Gawron (1986), refutes Goldberg's (1995) hunch of Construction Grammar that posits the idea of a caused motion construction as part of the grammar. He argues that in order to explain the agent-argument of intransitive verb and other non-motion verbs like *boil, melt, grow, evaporate, freeze* and many more, we need a transitivity construction that adds an agent argument as against the caused-motion construction that only licenses the verbal argument only. In addition, we need a construction that adds a path argument to transitive verbs. This implies that Kay's (2010) opinion is suggesting for constructions that possess agent-adding and path-adding properties, and when such constructions possess these properties, Goldberg's caused-motion construction has nothing left to offer. He exemplifies this by the following sentences

(54) a. The top spun.

b. Kim spun the top.

c. The top spun off the table.

d. Kim spun the top off the table. (Kay 2010:11)

The arguments in the sentences above indicate that the transitive verb *spun* and other non-motion verbs, as adumbrated above, can be explained using the transitive construction indicating an additional agent argument in (54) **a, b** and also a construction that adds a path-argument to intransitive verbs as glossed by (54) **a, c**. But the sentence (54**d**), which is a caused motion construction, as described by Goldberg, only licenses the verbal valence and exposed to a spurious ambiguity of caused motion construction alone and by connection to transitivity and path adding constructions. If we posit Goldberg's caused motion construction that elucidates agent, theme and path argument, the need for agent adding for (54) **b** and path-adding for (54) **c** becomes imperative. Kay (2010), therefore, concludes that what is important is to have agent – adding and path adding constructions without the construction being embedded with ambiguity, and once there exist these two different forms of construction, a caused – motion construction ceases to make impact in the grammar of English constructions.

Furthermore, Kay (2010) reports that even though the observations above criticize Goldberg's (1995) construction Grammar that posits a caused motion construction, there exist three instances where caused motion sentences would not yield to analysis that prove the agent adding and path adding constructions. In the first, the theme argument cannot occur without the path argument. Second, there are some verbs that do not have motion meaning unless a path argument is added. The third and final instance is the presence of unconventionalized expressions that can be found in caused-motion constructions. The following examples elucidate the points raised above.

(55) a. They laughed him off the stage.

b. * They laughed him.

(56) a. We let the water out of the pool.

b. * We let the water.

(57) a. She showed him to the door.

b. He squeezed the shin under the pedestal.

(58) He sneezed his tooth right across town. (Kay 2010:12 – 13).

The constructions in (55) **b** and (56) **b** indicate that the theme argument cannot be accepted without the path argument in the constructions (55) **a** and (56) **a**, respectively. The sense of the verb *let* also portrays individually a conventionalized usage. The same argument configuration is not possible with similar verbs like *allow* (colloquial) *leave* or closely related verbs *permit* and *enable*, which all share a similar semantic interpretation with *let*. For example, the verb *permit* is inherently volitional while *let* is not. Ergo, expressions such as *A leaky roof let water into the barn* is accepted but *A leaky roof permits water into the barn* is not. Kay (2010), therefore, argues that there is some distinction which allows *let* but no similar verbs to unify with the caused motion construction, and as such verbs that work or go along with the caused-motion e.g. *let*, *laugh* and *show* should have some rules that allow semantically similar verbs to be produced as the same construction. If not, he concludes the acceptable examples in the sentences above are just individually conventionalized according to a caused motion pattern of coining.

For Sugayama (2011), Goldberg's (1995) idea that the simple sentence types of English are directly correlated with one or more semantic structures is weaker by motivations that support the view that the basic sentence patterns are inclined by semantic or syntactic information spelt out by the main verb. In other words, Sugayama advocates the projectionist approach to the study of grammar rather than the constructional approach. Adopting Goldberg's (1995) notation of Ditransitive construction, he takes into consideration that not all sentences with double object form have their form and associated meaning naturally attributed to the main verb (e.g. *Pat baked Chris a cake*) and implausible verb senses also support the idea of constructional meaning, as in the case of the verb *sneeze* (a textbook example of an intransitive verb) that can appear in both transitive and intransitive constructions (e.g., *Pat sneezed* and

Pat *sneezed* the foam off the cappuccino (Ahrense 1995:35)), respectively. Sugayama also indicates that the support for language acquisition is another point associated to the constructionists claim, as evidenced in children's use of the syntactic frames that a verb is used in order to determine the meaning (Landau and Gleitman 1985), as well as experimental evidence that shows children do pay attention to the syntactic frames and use that information to narrow down the choice of possible verb meanings (Naigles 1990; Sethurman, Goldberg and Goodman 1997). But, despite all the arguments above to support the claim that construction has a meaning of its own independent of its component parts, as theorized by Goldberg (1995) in CG, Sugayama (2011) emphasizes three arguments against constructional meaning: the argument of the realisation option of new denominal verbs; the recognition of argument structure patterns as linguistic units and event structure and augmentation that lies in the lexical semantic analysis of verb meaning.

In the argument realisation option of new denominal verbs, Sugayama (2011) argues that new lexical items such as *fax* and *wand* can be used transitively and extended to ditransitive construction in the case of *fax* and not *wand* in the latter construction. This extension can be viewed as an element of productivity and evidence that new and hypothetical verbs that signify an instance of transfer can be used in a syntactic pattern. Therefore, verbs of information that signify transfer can occur in a ditransitive construction, indicating that their lexical meanings project three semantic roles realised as subject and obj1 and obj2: an argument structure construction regarded as independent of its component parts. These verbs include *fax*, *mail*, *cable*, *radio* and *e-mail*. But *wand* is not among this list. The examples below justify this claim.

- (59) a. He *faxed* the letter.
- b. The librarian *wended* the barcode.
- c. He *faxed* the letter.
- d. He *mailed/cabled/radioed/e-mailed* me the letter (Sugayama 2011:62)

Second, the abstract argument structure types adumbrated in the English Argument Structure Construction, as shown in Table 3 below, accounts for alternations and the verbs that occur in such patterns are the lexical items that assign meaning directly to the sentences and not the construction. If not, it is not possible to absorb such a variety of meanings into the prototypical meaning of the transitive construction that means ‘X act on Y’, as defined in Table 3. He critiques Goldberg’s notion such as “subject”, “object” and “transitive” as not revealing to give and bear different semantic relations, which each of the verb shows in the brackets below, as illustrated by Levin’s (1999) examples in (60).

- (60) a. The engineer *cracked* the bridge. (patient)
b. The engineer *destroyed* the bridge. (consumed object/patient)
c. The engineer *painted* the bridge. (incremental theme: Dowty 1991)
d. The engineer *moved* the bridge. (theme)
e. The engineer *built* the bridge. (effected object/factitive: Fillmore 1968)
f. The engineer *washed* the bridge. (location/surface)
g. The engineer *hit* the bridge. (location: Fillmore 1970)
h. The engineer *crossed* the bridge. (path)
i. The engineer *reached* the bridge. (goal)
j. The engineer *left* the bridge. (source)
k. The engineer *saw* the bridge. (stimulus/object of perception)
l. The engineer *hated* the bridge. (stimulus/target or object of emotion)

(Levin 1999:224(1))

Examples of English argument structure constructions with their forms and proposed meanings and assigning meanings to each abstract argument structure patterns as linguistic units in their own right

(Goldberg 1995; Jackendoff 1997; Michaelis and Lambrecht 1996; Rappaport-Hovav and Levin 1998) are shown in Table 3.

Table 3: English Argument Structure Construction

Construction	Form	Meaning	Example
Transitive	Subject Verb Object	X act on Y	Pat opened the door.
Ditransitive	Subject Verb Object1 Object 2	X causes Y to receive Z	She gave her a pen.
Resultive	Subject Verb Object Compliment	X causes Y to become Z	Kim made him mad. Kim talked himself silly.
Caused motion	Subject Verb Object Oblique	X causes Y to move Z	Joe put the cat on the mat. Joe sneezed the foam off the cappuccino.

(Source: Bencini and Goldberg 2000:642)

Sugayama concludes that it is very difficult to account for the varieties of meanings in the transitive constructions of Levin’s (1999) examples, as shown above, by using the skeletal meaning “X act on Y” in Table 3 above without making reference to the verb’s meaning or the semantic roles of objects. This, therefore, renders the CG framework as restricted and makes the verb and semantic role of direct object as a rich contribution to the meaning of the sentence.

The third and final argument rests in what Sugayama (2011:63) refers to as “a lexical semantic analysis of the verb meaning”, which augments the event structure of a verb to make a complex construction. In other words, verb meaning can be changed using event templates. An event template consists of a constant (<...>), the verb-specific core meaning that supplies spell-out and an event structure that is common to verbs of the same class. He cited *sweep* as an example and discloses that it has an activity-sense and a manner verb always constant <SWEEP> enclosed by angle brackets. Thus, the nature

of its activity sense makes it constant to be associated with two arguments or participants: a sweeper (x) and a surface (y) (or the place swept). So it is represented as (i) [x ACT *sweep* y] and (ii) Terry *swept* [the floor]. He therefore suggests that the resultive construction of Goldberg's CG reflected in Table 3 is viewed as the event structure of a main verb being augmented and it can be derived by a template associated with the verb. He concludes that verbs name events or states with participants and as such they are the organisational core of the sentence not the construction, as Goldberg (1995) claims.

In the same vein, El-Zawawy's (2009) work on the contributions and outstanding questions to Goldberg's construction grammar moots the contributions of CG and critiques the basic tenets of the theory: the nature of constructions, argument structures, pragmatic analysis (context not the only issue) and the maximized motivation principles. To begin with the contributions, El-Zawawy posits the view that Goldberg's CG provides plausible accounts on idiomatic structures, humans do learn language through construction and that the theory emphasizes linguistic diversity that is subjected to comparative and constructive analysis. On the theory's principle of construction, he opines that unlike previous approaches to sentence analysis that is made up of lexical items and phrases, 'constructions' are marked as the starting point of linguistic analysis. For example, a simple sentence like '*John married Mary*' is perceived by CG as a construction, with the verb '*marry*' playing a pivotal role and each word in this sentence is viewed as a construction possessing the pairing of form and meaning. Furthermore, in language acquisition, Goldberg's theory has proved that humans do learn language through construction as against universal approaches that proves language learning to encounter many exceptions that are not universal but language-specific, which is what constructions aim at. The well-known experiment with children to provide the plurals of words and the discovery of lexical construction of a word that takes the zero plural and as an abstract term proves the assertion above.

On the contrary, El-Zawawy (2011) questions the notion of 'constructions' as it is exposed to laziness related to pure idioms, tense and Croft's (2011) atomic units. In other words, the notion of construction could not provide evidence to accommodate pure idioms in its definition clear as it stands. In

Goldberg's definition of construction on page 4, pure idioms cannot be interpreted on the basis of their constituent words (Palmer 1996; Lyons 1996). In addition, 'construction' ignores tense as an inherent marker of time not only in sentences but also as independent words. Even though Goldberg defines her model as usage-based, omitting tense as a plausible construction entails limiting grammatical constructions that gloss the nature of time and aspect. For Croft (2001), tense in constructions cannot stand alone and El-Zawawy concludes that certainly tense is omitted as construction, although Goldberg argues that it is encapsulated in the pairing of form and meaning. The absence of atomic units, as Croft observes in the notion construction, implies independent words whose grammatical categories have no independent status and are only defined in relation to constructions within which they occur (El-Zawawy 2009). But this position is criticized as a large number of words can be analysed into nuclear units called 'phonoaethemes' (Bender nd). Phonoaethemes are smaller constructions capable of being further analysed into nuclear units than Croft's atomic unit (e.g. *-amble* as in *ramble*, *scramble* which means locomotion). By implication, both atomic units and phonoaethemes provide useful information of the 'lexical items' in construction but are overlooked in Goldberg's 'construction'.

The idea of usage-based construction grammar that emphasizes argument structure is viewed by El-Zawawy as nailed within the verb's functional role, which is referred to as 'participant roles: roles associated within a sense of a verb' (Goldberg 2005: 2). Goldberg argues that in communicative situations, arguments are not always expressed and as such she kicks against the Argument Realization Principle (ARP) that stresses one argument must be realized in the syntax of each sub-event structure template. But El-Zawawy claims that the issue of 'profiling' and 'deprofiling' noticed in participant roles (principally, subject and direct object), which are given high profile and other roles deprofiled, are just scenes that capture generalisations about verbs' functional role. Thus, he concludes that there is nothing new about Goldberg's argument analysis because argument structure is considered from argument role, which are dependent on discourse functions. To confirm this opposing view, Marantz (2013: 159) indicates that verbs have independent principles to connect syntactic and semantic structure revealing the

argument structure of such construction to “situates the semantic contribution of the verbal root in modifying the semantic structure built by the syntax”. This, therefore, serves as a path to examining and analysing verbs and their argument structure using semantic representations.

Related to the issue of argument structure roles as elucidated above is the notion of context. El-Zawawy contends that the monostratal account representation of Construction Grammar provides evidence for the usefulness of argument roles at pragmatic, syntactic and semantic levels. But expressions like ‘Last summer, he died’ or its variant ‘He died last summer’ are not captured by Goldberg’s representation. Adjuncts not related to verbs have θ theta roles and hence do not participate in argument structure analysis and thus are disregarded in argument roles. This implies that they are left out in her CG and viewed as unimportant. However, ignoring such constructions indicates the overemphasis placed on the pragmatic context and rejecting the potential contributions of the adjacent in co-text analysis. This conclusion as ignored in CG theory support other theoretical perspectives (e.g. Transformational Grammar) that permits adjuncts not related to the verb to be regarded as adverbial phrases or more to the positions of adverbial phrases: constructions that are possible to be generated when describing an event situation.

The final criticism of Construction Grammar lies in its principle of maximized motivation that El-Zawawy advocates as mere generalization. Goldberg analyses the principle of maximized motivation and summarizes it as: “If construction **A** is related to construction **B** syntactically, then the system of construction **A** is motivated to the degree that it is related to construction **B** semantically..... Such motivation is maximized”. Some of the gaps he observes in this definition include (i) the term ‘maximized’ is not always true because there are constructions with the same grammatical properties, but do not necessarily share the same semantic properties (ii) within the inheritance links of Goldberg (1995: 72), there are four types that stand out as exceptions out of the 19 well formed ones. These are polysemy links; subpart links; instance links and metaphorical extensions (Evans and Green 2006: 680 – 684). More so, this issue of links becomes more aggravated with languages that abound in instance links. He cited

Arabic as an example and the word ‘dharaba’ (to hit) has about 25 instance links as opposed to English that instantiates only three to four usages (El-Zawawy 2009). Thus, he upholds his claim that maximized-motivation is just a principle and not a generalization: a characteristic that it ought to encompass. He concludes that Goldberg’s theory and the observation above underscored cognitive dimensions and most constructions in human communication should pave the way for examining the recess of the human brain with all its hidden mysteries.

Despite the criticisms above, Goldberg’s Construction Grammar has proved to be a theory of language that foregrounds cognition as opposed to other approaches. Since its emergence several off-shoot studies have emerged (e.g. Construction Grammar for Kids) with focus on language acquisition, Sign-Based Construction Grammar that focuses on semiotics and of recent usage-based analysis (e.g. Goldberg’s approach) where pragmatics is the focus of attention. In fact, any linguistic pattern that can be intuitively analysed and interpreted is viewed as a construction and should be considered as a seminal avenue for research (Ohori 2000). Thus, Goldberg and Casenhiser (2007: 2) maintain that:

Nonetheless, the majority of linguistics are willing to apply the term ‘construction’ to certain grammatical patterns that have unusual quirks in either their formal properties or their semantic interpretation (or both) that make them ill suited for universal status. That is, these cases do not follow completely from any general principles and so their patterns cannot be predicted; they must be learn piecemeal.

It is based on the point above that this research studies the sentence constructions of ESL learners in a corpus-based methodology.

2.9 The Challenges for the Theories of Argument Realization

The preceding section 2.6 that dwells much on the criticisms and variations that abound with Goldberg’s theory largely originated from the following perspectives: ‘projectionists’ (e.g. Pinker 1989; Levin and Rappaport Hovav 1998, 2005) ‘neo constructionists’ (e.g. Borer 1994,2005; Boas 2010;

Erteschick-shir and Rapoport 2004), ‘radical construction grammar: typologist’ (e.g. Croft 2003, 2012) and ‘minimalists’ (e.g. Dolling and Heyder-Zybatow 2007), etc. But this section introduces some of the challenges associated to all the theories of argument realization.

From the 1980’s, many linguists have studied verb meaning and argument structure from the grammatical perspective. They built their arguments on the premise that the syntactic structure of arguments is largely predictable from the meaning of their verbs. The task herein indicates that the syntactic structure of a sentence is composed of lexical properties with the verb as its predicator or argument taking lexical item. It is based on this conclusion that Levin and Rappaport Hovav (2005) identify lexical semantic representation as one of the major challenges that should be taken seriously by theories of argument realization. This, therefore, projects that the arguments of the verb are appropriately represented in the syntactic representation of its clause. Some of the leading theories include the principles and parameters framework’s projection principle (Chomsky 1981:29, 38) and Lexical – Functional Grammar’s (LFG) completeness and coherence conditions (Kaplan and Bresnan 1982:211 – 12). Such line of thinking suggests that within the syntactic properties of the clause, there exist other lexical items apart of the verb whose role and meaning can influence the overall meaning of the sentence. Although this explanation is very common, the successful implementation of verbs to determine their meaning depends not only on the syntactic properties but also on the lexical semantic representation of verbs and the mapping between the relevant syntactic representations. But the challenge here is, as Croft (2012) observes there is no common set of greater or lesser use of a unified theoretical constructs, especially the lexical semantic representation.

Baker (1997) provides certain principles that are used by syntacticians to understand what is involved in formulating lexical semantic representation. This principle that is derived from Baker’s Uniformity of Theta Assignment Hypothesis (UTAH) states that Noun Phrases (NPs) bear identical semantic roles to a verb and they are often realized in the same syntactic relation to that verb in a given sentence. Applying this hypothesis, without understanding the semantic role encoded in the argument of

the verb can lead to misappropriation. In other words, when this hypothesis is invoked without understanding how two NPs bear the same semantic relation to a verb in the clause, there is the tendency, as Levin and Rappaport Hovav (2005:9) observe to deprive the verb of its power, “since it is never clear whether it is being applied appropriately”. This situation implies that near – paraphrase sentence pairs such as *Terry gave a watch to Sam and Terry gave Sam a watch* do have a dative alternation. In this case, the two VP-internal arguments of these sentences may bear the same semantic roles and thus open another door to the analysis of the alternation. This data, therefore, suggests that most scholars (syntacticians) tend to ignore the complicated issues involved in semantic analysis and apparently semantic role in sentence constructions, which can be accounted for as a reflection of language acquisition, language learning and cognitive considerations.

The second challenge is the notion of word meaning. It is very complex and consists of multifaceted interpretations (Aitchison 1994). In addition, it is very difficult to provide words with a structured lexical semantic representation. In relation to these facts, Levin and Rappaport Hovav (2005) identify grammatical relevant facets of meaning as one of the challenges associated to the use of verb meaning and argument realization. They posit that certain facets of word meaning are relevant to argument realization. This confirms similar findings by Davis (2001); Grimshaw (1993); Jackendoff (1990); Levin (1999); Pinker (1989); Mohanan and Mohanan (1999) and Rappaport Hovav and Levin (1998), among others. They emphasize that grammatical relevant component of verb meaning should be isolated from the common semantic denominator of verbs in the theory of argument structure. That is why Pinker (1989:166) opines that “Perhaps there is a set semantic elements and relations that is much smaller than set of cognitively available and salient distractions, and verb meaning are organized around them”. Although such remarks appear to be justified, apart from the grammatical aspect of verb meaning found in an expression, the semantic elements within that same expression can be studied to indicate different cognitive and language acquisition or learning evidences reflected in the verb meaning.

Regarding the large classes of verbs in English, Levin (1993) explicates that verbs can be categorized into classes and further subdivided according to their nature. For example, verbs of emission can be subcategorized by the nature of the emitted element: light, sound, smell or substance. Thus, verbs of sound emission display a wide range of argument structure options that are restricted to its subset. However, the same verb can denote argument that allows transitive, causative uses with the emitter as object and an entity or natural force that causes the sound emission as subject. This indicates that the verb in the explanation above can take an argument that shows transitive and intransitive uses, as well as causative uses acting as both object and subject, as in the following: 61a & b and 62a & b.

- a. The truck rumbled.
- b. *Peter rumbled the truck.
- a. The teacups clattered.
- b. I clattered the teacups as I loaded the dishwasher.

(Levin & Rappaport Hovav 2005:11)

Consistent with what Levin and Rappaport Hovav (2005) notes on the discussion of verbs of sound emission, as in the examples above, the idea still remains that verbs are used in such a way that their various meanings can be illustrated through their argument structure. Hence, Levin's (1993) position does really validate Pinker's (1989) criticism that offers semantic analysis as against only grammatically relevant components of verb meaning. This challenge, therefore, serves as a valid point for this research to study the types and classes of verb types in the sentence constructions of ESL learners that may reveal an element of language productivity.

Moreover, new findings on the use of verb meaning have argued that it is not the meaning or mode of the verb that determines a verb's behavior but rather the verb lexicalizes an internally caused event or externally caused event (Levin, Song and Atkin 1997). That is why Levin and Rappaport Hovav (1995) drawing from Smith (1970), Croft (1991), Haspelmath (1993) and van Voorst (1995) agree that in

the use of verb meaning, the verb's internal and external cause events can both influence its argument. An internal caused event is perceived to arise from the inherent properties of the verb while the external cause event is conceptualized as brought about by an external cause that has an impact on the verb. For example, the verb opened in the expression: (63). "*The wind opened the door*" and (64). "*The door opened*" respectively indicates an external cause "wind" in the former and in the latter: the verb "opened" appears to have intransitive use which describes an internal cause. These properties 'responsible' for the verb to be regarded as having external and internal causes might be the central issue for the study of the argument structure options available to verbs in various semantic classes.

The position of verb classes is further regarded as another challenge in the argument structure theory. This implies that there are some sets of verbs that usually overlap within the same classes. Further, many verbs show more than one argument realization resulting to what is referred to as diathesis or argument alternations. When this occurs, it is directed to the impact of the element of meaning that recognizes the intricate system of verb cross classification. This is what Levin and Rappaport (2005:16) refer to as "the cross classification of verbs and the status of verb classes" challenge. Such data lead to the conclusion that it is the elements of meaning that define verb classes and the status of verb classes themselves are important areas that need further investigation, especially as it relates to identifying the semantic properties that is the source of the differences in the behavioral qualities of such classes of verbs. For example, the expressions (65) "*Evelyn screamed (to Marilyn) to go* and (66) "*Evelyn screamed about the new management*" indicate that the verb "screamed" is one of communication and classified as that of manner and of speaking (Levin and Rappaport Hovav 2005:16). Even though in both expressions the verb can express the addressee in a prepositional phrase (PP), the result is that the verb of manner of speaking allows the addressee to be expressed in a PP headed by 'to' and that of verb of content of speaking is headed by 'about'. The examples above reinforce the overlapping conditions that are considered as a challenge to the argument structure theory and by implication justifies the need to study and analyze such expressions as used by ESL describing an event in restricted context.

Other scholars (e.g. Fowler 1996, Levin 1999; Blume 1998; Testelec 1998) have identified the issue of uniformity and variation as another challenge associated to argument structure and lexical semantic representation theories. In these theories, some verbs in their semantic classes show uniformity and in other classes tend to show variation in argument structure both within and across languages. The result of variation and uniformity, as Levin and Rappaport (2005) recognize forms another test bed in argument structure, which the verb can generate, and thus considers such verbs as clear cut because their elements of meaning depict a stable argument realization pattern and less clear cut because they provide wider variation. For instance, within English, there exist some verbs (of authority) that show uniformity even though they are transitive (e.g. *rule*, *direct*, *manage*) (Levin & Rappaport Hovav 2005). But there are other verbs that do not show uniformity in their argument structure and are mostly expressed in intransitive form, indicating their second argument as the object of the preposition *over*. These verbs include *preside*, and *reign*. The challenge however, is to find out how some verbs show the same argument structure options and in another case may not show the same argument realization. Thus, the quest to interpret the types and classes of verb use by the users of English in an ESL context is very crucial.

In argument structure theories, the issue of agent-patient verbs that are realized in the transitive verbs of English and other languages constitutes another major challenge that requires further and consistent investigation. In theories of argument structure, reference to the semantic role agents and patients is often associated to subjects and objects. In other words, the rules indicate that agents are realized as subjects and patients as objects. The controversy in this case is that, first, “agent” and “patient” are not the only semantic notions associated with subject and object (Levin & Rappaport Hovav 2005). Second, subject and object often do have multiple morphosyntactic structures found in some given sentences. As such, when deviations occur in construction, the results may indicate that it is not always the case that agents are subjects and patients are not always objects. Moreover, in English the range of subjects can be wider, as noted by Levin & Rappaport Hovav (2005). The tendency is that the argument

realization theory should formulate a principle that agents are always subjects but allow other arguments to be subjects.

The picture above depicts that in English utterances can be classified into semantic roles of agents as subjects and patients as objects. Second, some utterances depict non-patient arguments i.e. they express the agents but not express as subjects; for example, they may contain some oblique's in the construction, as in (a) Pneumonia killed his uncle (b) His uncle died from/of Pneumonia. Third, languages often have one or more morphosyntactic processes, which create subjects from objects, with the passive being the most widely cited. Borrowing from the finding above, the analysis of agents subjects and patients objects demonstrates that a multiple types of construction can be found in expressions use by language users to describe a particular event that depends on basic assumption concerning the nature of the mapping between lexical semantic and syntax and ultimately 'promotes' linguistic competence and usage.

Finally, the results and interpretation above suggest that there are major challenges for the theories of argument realizations and the related area of lexical semantic representation. In the context of this research, the most important lexical item, 'the verb', is shown to occupy a significant position in sentence construction and its meaning represents linguistic construals of happenings in the world. To this extent, our analysis should incorporate and accommodate the variety and complexity found in the association of semantic roles, bearing in mind that in argument realization research, different constructions can reveal more than the assumed agent-subject patient-object associations.

2.10 Review of Empirical Studies Related to Verb Meaning and Argument Structure

The preceding sections reveal the relevant literature used in the cognitive linguistic research paradigm to analyse semantic structures on the phenomenon of verb meaning and its arguments in argument structure construction. By and large, each scholar used one approach or the other to present his/her ideas as well as conclusion. Divjak and Gries (2006) distinguish three approaches that most semanticists use in the analysis of semantic phenomena: Based on non-empirical data (i) based on

partially empirical data and (iii) fully empirical approaches. This thesis bifurcates the empirical review into two versions: the empirical and the partially empirical. The empirical studies reviewed herein contain such studies that use in their analysis elicited or non-elicited data. The partially-empirical focuses on a new meaning component that is discovered and compared to other established senses and makes testable predictions on conceptual studies and grammatical patterns. Both the fully-empirical and partially empirical are condensed as empirical studies. This section presents some of these studies.

Hollman and Siewierska (2007) investigate the first person singular possessive in possessive-noun constructions in the Lancashire dialect using a construction grammar account. On the basis of a corpus of 26 interviews, which was later transcribed, they present reduction pattern according to (in)alienability. Taking their cue from the typological literature on (in)alienability effects, they reveal that reduction is more frequent in construction where the noun is a kinship or body part term as in (i) I was so young then like and er *me brother* took the opportunity and he went (ii) When I was four I used to go round this house with *my eyes* closed (iii) I remember *my father* coming out a small room: as against construction that do not take the kinship or body part as in (iv) I couldn't play for them because they couldn't afford *my football shoes*. This result runs counter to the normal assumption in English, which is viewed as a language that (in)alienability plays no structural role in. In addition, the result of the investigation further reveals that frequency may indeed underlie alienability/iconicity in the data collected. However, a few of the first person singular possessives, as in the case of (iv) above, appear to be problematic in their reduction part and thus create a problem for the frequency based account. Closely related is the fact that the verb in the verbal predicate is ignored in the analysis and understanding of the overall sentence, as well as the construction. The argument structure of the sentence is only limited to the possessive noun-constructions and does not include the argument structure construction, which must include the verb.

In "Creative Syntax", Hampe and Schönefeld (2003) explore the kind of syntactic creativity that can be studied whenever a verb is used with an argument structure in relation to other verbs or verb

classes that are found in some expressions. They collected these expressions from journalistic and literary prose. Some of the expressions they observed include (i) An Oxford student is feared drowned. (vs consider drowned) and (ii) She paid herself in at the hole (vs. check in). Their analysis reveal that most of the expressions exhibit an extended verbal meaning and unusual syntactic structure, which could be attributed to either borrowed, derived or “inherited” from these other verbs/verb classes. In other words, the use of *feared drowned* instead of *considered drowned* and *paid herself in* instead of *checked in*, as in the examples above, are said to be the result of borrowed, derived or “inherited” characteristics derived from the verbs or verb classes: ...a word can have distributional and semantic properties that overlap with the properties of certain other words (or word classes). We might say it “inherits” some of its grammatical properties, from the associated word (Fillmore and Atkins 1992: 96). Thus, they argue that these creative verb uses are clearly instances of “syntactic blending and quite analogously to such cases of morphological blending” (Hampe and Schönefeld, 2007: 128). Therefore, the intended meaning is arrived at through conceptual integration/blending of the two verbal concepts that appeared in each expression. Even though the explanation above is related to the ‘fusion model’ that is proposed by (Goldberg 1995: 50), the tendency of the verb to display a wide range of argument structure options that are restricted to its subset is a challenge to Goldberg’s theory, as well as other theories of argument structure.

To improve on the notion of ‘creative syntax’ and the challenge posed above by the earlier study, Hampe and Schönefeld (2007) conducted another study on Syntactic leaps or lexical variation. They based their study on a search in the British National Corpus (BNC) for all the occurrences of the verbs *encourage*, *fear*, *support*, and *bore* in complex-transitive argument structures. The emphasis was placed more on causative verbs. The result of their analysis reports that their corpus data call for the extension of Goldberg’s (1995) ‘fusion model’ and suggests that within a construction there is the tendency to have different levels of schematicity that involve (i) fixed collocations through lexical variations (verb-class-specific) and fully schematic argument structure constructions (ASC). More specifically, the ASC provides both generic meaning and syntactic template which gets fused with the semantic and syntactic

frame of the verb. For example, the verb *bore* in this sentence: *She bore them stupid* is said to be resultive and an important innovation because the verb phrase (VP)'s complement is not determined by the verb alone and the argument structure is determined by the composite effects of the verb and the construction (Goldberg and Jackendoff 2004). The overall result indicates that for all four verbs whose composite usage data were retrieved from BNC: *encourage*, *support*, *before* and *fear*, it portrays that their instantiations are in complex-transitive patterns with their prepositional phrases and adjectival phrases indicating "caused-motion" and resultive constructions, respectively. This, therefore, justifies that both lexical and syntactic properties play a significant role in verbal semantics and argument structure.

On the part of Divjak and Gries (2006), they conducted a contrastive study of phrasal verbs in English and Russian using a corpus-based cognitive semantic analysis of five verbs that express 'begin' in English and Russian, i.e. *begin*, *start*, *načinat/načat*, *načinat'sja/načat'sja* and *stat*. The behavioural profile (BP) approach was applied. The key assumption in this approach relies on the parallelism between the distributional and functional planes. To achieve this, they retrieved all the instances of a word's lemma from a corpus and conducted a manual analysis of morpho-syntactic, syntactic and semantic properties of the head word it collocates and the hosting clause/sentence. In other words, a comprehensive inventory of the verbs in question within the confines of a simple clause or sentence in actual speech and writing was used. In total, 1, 479 English and Russian sentences were illustrated for 73 properties. These properties capture the syntax and semantics of the verbs and their immediate surroundings. Following the Schmid (1993) corpus-based cognitive semantic analysis, they reveal that *begin* and *start* in English can be used intransitively, transitively and as quasi-aspectual verbs, as in the following examples:

- (67) a. *The land campaign has therefore begun.* (intransitive)
b. *It's now thirty-two hours since she began her shift.* (transitive)
c. *Accidents were beginning to happen.* (quasi-aspectual)
- (68) a. *Well, war hasn't started yet.* (intransitive)

b. What are we going to give ourselves *to start this song?* (transitive)

c. So. *I started to think* about the Crystal Cave.

(Divjak and Gries 2006: 280 – 281)

On the basis of a quantitative analysis of data cited from the British component of International Corpus of English (ICE – GB) and the Uppsala corpus, they conclude that these prototypes for each verb and each set of verb in each language revolve around different characteristics found in each sentences and the difference between *begin* and *start* is only lexical in nature. This implies that the verbs as words or senses play an important part in the network of the lexicon and the construction. The verb serves as the strength of the connection reflected in the elements displayed by the syntactic and semantic component of the construction. This position contradicts Goldberg’s (1995) opinion that provides explanation of the verb and construction as two distinct elements having a dual role in the form and meaning of the sentences.

In the study of the argument structure of psych-verbs, Engelberg (2014) conducted a quantitative corpus study on verb profiles using German verbs in newspaper texts. A verb profile is viewed as a frequency count of the argument realization patterns of the verb based on a random sample of sentences from text corpora. In this study, a sample of 100 – 200 sentences was analysed with each sample of the sentences being processed and assigned an argument realization pattern. The verbs in all the sentences were counted and subjected to statistical analyses. Apart from detecting the verb-specific idiosyncrasies, the argument of the verb with particular attention to its role in terms of verb specific distribution, such as comitatives, instruments and benefactives, was also presented. The results of this investigation yield eight roles and an expletive pronoun for the verb *ärgern* ‘be angry/anger’, and that psych-verbs like *ärgern* ‘be angry/anger’ and *freuen* ‘be happy/please’ convey emotion and show a stronger affinity to the construction in which they appear than other cognitive verbs like *interessieren* ‘be interested/interest’. On the basis of verb profile analyses, he concludes that functional dependencies between different argument

structure patterns do create some problems between these patterns and general principles of the memory system do influence the distribution patterns. However, Stefanowitsh and Gries (2003: 28) argue that in Goldberg's ditransitive construction what is noticed is that a verb like *give* shows the strongest association to the construction than the verbs above presented by Engelberg. Thus, the verb most strongly associated with the construction is the one that shares its basic meaning with the meaning of the construction.

Gries (2006) conducted a comprehensive cognitively-oriented analysis of the many senses of the verb *to run* using corpus-based and cognitive semantic methods. The first part of this study consists of a comprehensive analysis of all 815 occurrences of the verb *to run* from the British component of the international corpus of English (ICE-GB: n=391) and the (American English) Brown corpus (n=424). The result reveals more than 40 senses of the verb showing different cognitive linguistically motivated interrelationships both in transitive and intransitive constructions. In the second part of the study, he presents a behavioural profile of *to run* by coding all the occurrences of the verb phrase *to run* and the clause in which it appears, as well as the lexical semantic characteristics of all of *to run*'s arguments. This yield about 200,000 data points and the results provide objective empirical evidence, suggesting the use of prototype identification, the level of sense distinctiveness and automatic sense identification. To illustrate the results that indicate the intransitive and transitive use of *to run*, Gries (2006) posits that the central or prototypical sense of *to run* in the intransitive construction appears to be that of fast pedestrian motion as in: "Simon had run down the villa to get help" [n of this sense in corpus = 203], and where motion is still fast but not necessarily pedestrian as in: "Yet they kept running from one physician to another" [n=4] and where the motion is not fast any more as in: "There are three boats that run from mainland to the island" [n=24]. On the transitive uses, he reports that the finding is similar to Levin's (1993) that the prototypical sense of 'fast pedestrian motion' can also be found in transitive uses where the direct object is an event, such as a race or marathon; a concrete object determining the direction/endpoint of movement or a direct object that describes a distance/measure phrase. These

analyses confirm the role of the verb in a sentence, as well as indicate the multi-facet role of the verb in a given construction. Even though Goldberg also agrees that the verb's meaning in a sentence is significant to the overall construction, she objects to the fact that it determines the overall meaning of construction.

Newman and Rice (2006) re-examined the properties of intransitive and transitive uses of the verb EAT and DRINK in English by the corpus-based methodology relying upon the BNC. To be specific, they investigated diathesis alternations using a sample of more than 7, 500 instances of the verbs lemmas *to eat* and *to drink* in spoken and written parts of the BNC. The results reveal that there are greater instances of transitive usage of the verbs in the spoken sub-corpus than the written sub-corpus and generic nouns like *food* and *meat* are often used as the object in the transitive constructions that describe habitual context than the objects of the verbs in the simple past tense of the transitive construction. These findings contradict Goldberg's previous results on transitive clauses that indicate the uses of the two verbs, as identical across modalities in both intransitive and transitive constructions and low transitivity usage in the spoken language. They concluded that inflectional forms do have their own preferences of patterning in a construction. This conclusion, however, confirms similar findings by Goldberg (1995) and Divjak and Gries (2006) that collocational patterning can be associated to the inflectional form of a verb in a given construction.

For Schönefeld (2006), the study of verbal elements in a construction can best be investigated through posture scenes with specific reference on the conceptualization they represent. To her, many of the scenarios humans talk about are identical but the collocations used to talk about these events are language specific. Thus, she used the corpus-based analysis to study the expressions of English, German and Russian. Schönefeld's study concentrates on the posture verbs *sit*, *stand* and *lie* and the data consists of several thousand examples of English, as well as their transition equivalent in German (*sitzen*, *stehen* and *liegen*) and Russian (*sidet'*, *stojat'*, and *lezat'*) all from journalese corpora of 3 million words. Each of these verbs was associated with a set of image schemas in what is referred to as image-schematic profile, which, for example, *stand* comprises the image schemas BALANCE, CENTRE PERIPHERY,

COMPULSION, (COUNTER) FORCE, RESISTANCE, CONTACT, LINKAGE, SUPPORT, AND VERTICALITY. The results indicate that the frequencies of posture verbs in all the three languages differ and the semantic classes to which these verbs occur are associated to humans, animals abstract/concrete object, etc. It also contends that the languages exhibit such differences for scenes that the location of the scenes is independent of the posture verbs. However, what is not clear is the fact that one application of the posture verbs using humans or animals is clearly not distinguished from that of the abstract or concrete. The transition between them is not clear.

Ellis and Ferreira-Junior (2009) on their part investigate the effect of construction frequency, form, function and prototypicality on second language acquisition (SLA), focusing on the English verb-argument constructions (VACs). The VACs consist of verb locative (VL), verb object locative (VOL) and ditransitive (VOO). In other words, they investigated the degree to which three linguistic constructions – VL, VOL and VOO, are acquired by English as second language (ESL) learners using cognitive principles of category learning. Following Goldberg's (1995, 2006) idea that learning a language involves the learning of its constructions, Ellis and Ferreira-Junior (2009) used various computerized language analysis (CLAN; MacWhinney, 2000a) tools to fish out these potential verbs and their frequencies from the sentence constructions of their subjects. The result identified 10, 448 verb tokens (234 types) from the Non-native speakers (NNS) ESL learners of which 436 were found in VL (39 types), 224 in VOL (24 types), and 36 in VOO constructions (9 types). This finding confirms Goldberg's hunch that in natural language high frequency-exemplar is a clear evidence of the prototypical in meaning, which is noticed by wide applicability. Although this conclusion is restricted to VACs, it appears to be a generalized conclusion, as there are some researches that point out to the opposite conclusion about the broad claim above.

In their studies of English Ditransitive Construction with particular attention to the role of verb prototype, input distribution and frequency, Year and Gordon (2009) divided their Korean speakers of English subjects into two: a skewed frequency group and a balanced frequency group. The former group

was exposed to input that was skewed toward *give* and the latter group to input that was evenly distributed among the training ditransitive verbs. This experiment reveals little evidence of construction learning in the skewed group and a superior learning with a more balanced set of verbs by the balanced group. This result shows that input is paramount in “usage-based” linguistic theories (Ellis, 2008, Goldberg 2006) and confirms Goldberg’s (2006) proposal that learning linguistic constructions may be affected if the input is skewed toward a particular verb. But the only distinction is, while Year and Gordon’s (2009) result reports less usage of *give* in the ditransitive construction, Goldberg’s subjects produced an argument structure that is dominated by ditransitive construction (SUBJ-V-OBJ1-OBJ2) and dominated by the occurrence of *give*.

It is important to point out that in Goldberg’s (1995) theory; the verb is viewed as playing a crucial role in a construction just like the other lexicon within the construction. In relation to this idea, Kroeger (2010) studies the grammar of *hitting*, *breaking* and *cutting* in Kimarag Dusun, an endangered Philippine-type language of northern Borneo. Following the idea of Fillmore (1970), he distinguishes two classes of transitive verbs in English: “Surface contact” verbs (*e.g. hit, slap, strike, bump, stroke*) Vs. “change of state” verbs (*e.g. break, bend, fold, shatter, crack*). These classes of verbs are grammatically relevant in Kimaragang, as in English, and the senses of these verbs are composed of the component meaning (the event template) and the idiosyncratic properties of the individual root verb. The result of this comparative analysis demonstrates that class sensitive alternations are not restricted to the ability to express one new argument but a series of arguments into the argument structure of the construction. He concluded that the comparison of verb classes can yield meaning relevant for determining how arguments are expressed and identify the semantic base verb classes of the grammatical construction. This latter conclusion contradicts Goldberg’s position that views both the semantic of the verb and construction to be rooted in the argument structure construction.

Wulff, Ellis, Römer, Bardovi-Harlig and Leblanc (2009) explore the acquisition of tense-aspect (TA) morphology from the constructionist perspectives, using converging evidence from corpora and

telicity ratings. In this study, Wulff et.al (2009) report the result of 2 corpus based studies that investigate the relative frequency distribution of examples of English TA via BNC/MICASE data and used statistical analysis to determine the association between verb-aspect combinations, and the second study examines whether native speakers use the most frequent forms of one particular tense-aspect in isolation to a more prototypical lexical aspect. However, this research is less concerned with the latter study as the former falls within its concern. The general result suggests that frequency, distinctiveness and prototypicality affect the acquisition of TA. They observe that the frequency with which the verbs occur with a certain tense-aspect category is inversely proportional to its rank in the frequency table. Thus, the verbs do appear in past, perfect, present and progressive forms. This finding confirms the constructionist tenet that views language as intrinsically symbolic allowing the language user to express his thought according to how he/she conceptualizes an event using different TA categories.

On his part, Montrul (2001) conducted an experimental study to investigate the relationship between lexical semantics and derivational morphology in the acquisition of causative/inchoative-related verbs in Turkish as a second language. The subjects of his studies were Spanish and English speakers. Using the picture judgement task as the instrument, the first result shows that second language learners can acquire the correct lexico-syntactic classification of verbs in Turkish but are constrained by the morphological patterns of their first language. Other results indicate the presence of transitivity errors and inappropriate derivational morphology related to non causative/inchoative transitive verbs. The errors identified were reported to be caused by overgeneralizations that are found in the L1 and L2 acquisition literature of English and some languages. He concludes those learners' errors in respect to the above are as a result of their inability to be clear about the event type classification, i.e. verb-type classification and when L2 learners are at-tuned with the rich morphology of the target language that the errors of their lexical semantic and derivational morphology would be less. However, this result has been criticized on several grounds, including the lack of consistency across L2 studies.

Another important study carried out by Snyder & Stromsword (1997) is the structure and acquisition of English dative construction. The study focuses on the English double object dative construction (e.g., *John gave Mary the book*). They used the 1989 version of CHILDES corpora in the analysis and their subjects were children who speak American English as a first and only language. A total of 195,000 lines of children's speech was used and corrections, sign tests and t-test were used as the statistical tools for the acquisitional predictions. In this study, they argue that the acquisition of the whole construction depends on two important properties: the grammar to generate double object datives (causative/perceptual construction) and Verb-participle Noun phrase (NP) constructions that depend on the knowledge of grammar, as well as the verb. However, this result is criticized on the basis that the knowledge of the verb alone is not sufficient to assign a goal argument of the verb but they also need the goal θ -role to assign to the verb through the knowledge of preposition. The knowledge of grammar as proposed by this study is too general to accommodate the acquisition process of the subjects of this study.

Moyse-Faurie (1992) conducted a study on verb classes and argument structure variation in Futunan spoken by the 5000 inhabitants of the Island of Futuna in the Wallis and Futuna Island territory. In this study, he proposes a verb classification based on the number and kind of admissible constructions, which give room for the optional or obligatory nature of arguments and their semantic function. The study reveals that in Futunan verbs are usually inherently oriented for specific construction with only a few regarded as "labile", and most of them change their argument structure through a process of derivation. The derived verb takes two arguments, absolutive and ergative, while the non-derived verb takes only one obligatory (absolutive) argument. In the case of semantic relationships, it reveals that verb derivation is regarded differently according to whether the absolutive argument of the non-derived verb represents an agent or a patient. He concludes that the role of obligatory (absolutive) argument as agent or patient determines possible changes in argument structure, and it depends on the meaning of the verb and thus becomes impossible to define the verb classes of Futunan and their classification independently of the semantic relationship between the predicate and the primary absolutive argument. However, this study is

unable to treat the lexical aspectual distinctions that characterize specific construction in verb meaning and argument structure. But to do him justice, he admits that there are a few studies conducted in the Futunan language and more research can reveal further findings related to verb and argument structure.

Gentner (1978) conducted observational studies on *Relation Meaning: The Acquisition of Verb Meaning*. In this study, he gave an account of the acquisition of meaning, describing the role of acquisition between nouns and verbs, analyzing the formal notation for representing verb meaning and finally discussing in some detail the acquisition of verb meaning. The results of this study indicate that the acquisition of verb meaning is very different from that of simple noun meaning, as verbs are slower to be acquired by children than the simple nouns. It also proves that verbs are used by both children and adults with greater breadth of application, i.e. more frequently than simple nouns. Finally, it reports that to have a deeper knowledge of meaning or give a componential account of meaning, one needs to acquire verb meaning more than he does on simple nouns. Thus, the meanings conveyed by verbs tend to show relationships among entities as against the meanings conveyed by nouns, which only refer to real world entities. This conclusion is attributable to the observational approach used in the study. But in dealing with data that express nominal and verbal lexicon organization, one needs data that can be compared and their frequencies established. Therefore, if the data is taken in its own right, frequency then becomes a tool for discovery of linguistic meaning, in particular, verb meaning and argument structure.

Jiang and Haryu (2011) also conducted a study on young Chinese-speaking children to test their understanding of the correspondence between verb meaning and argument structure. 120 participants divided into three groups (forty 2-year olds, forty 3-year olds and forty 4-year olds) were used as the subjects and six sets of videos were used as the materials of this study in order to show a non-causative event and a causative one. The result, however, shows that Chinese speaking children selected causative events more frequently in the transitive condition than in the intransitive condition, and they can map a novel verb that appeared in a sentence with two arguments to a causative event. In contrast, they were not willing to map a novel that appeared in a sentence with one argument to a non-causative event. This

finding confirms the prediction that children learn the correspondence between verb meaning and argument structure from the input. What appears as a gap in this study is that the subjects were restricted to transitive and intransitive constructions. In this case, there is a sharp distinction between them. However, in a situation where a set of videos is shown and the subjects are not restricted, there is the possibility to have sentences that indicate ditransitive constructions displaying ‘basic’ and ‘derived’ meanings. Thus, more research by linguists in this area, especially by non-native speakers of English, may improve conclusions of this previous finding.

Lee and Naigles (2008) also investigated whether Chinese-speaking children could infer verb meanings based on the structure of the sentence in which the verb operated. In this study, the subjects were presented with familiar verbs embedded in either transitive (NVN) or intransitive (NV) structures. Using the act-out task, they were instructed to construct similar given sentences. The result of this study was striking because it reveals that the children were able to construct not only similar given sentences, but a number of arguments even when some of the sentences were ungrammatical. Thus, they concluded that the ability to use the number of arguments to infer verb meaning is innate, rather than learned. This is also very important to this study because the participants tested were Chinese speaking-children who lived in Singapore. English is considered an official language in this country. So is the case with the present study. But what is necessary, especially to the users of English as a second language, is to stimulate real human language production. The subjects should not be restricted to constructing similar sentences. Instead, their knowledge of language should be tested by allowing them to construct similar novel result constructions and result phrases (i.e. a combination of similar and new constructions that are meaningful).

Using fast mapping as a method to reduce test bias in semantic assessment, Johnson (2001) conducted a study on fast mapping verb meaning from argument structure with African American English (AAE) speaking children and Standard American English (SAE). In this study, the subjects were exposed to lexical items that are used in standard tests in order to test their semantic knowledge. They were

presented with two comprehension tasks involving real verbs and the fast mapping of novel verbs in four different structures (intransitive, transitive, transfer and complement). The results reveal that a significant difference exists between AAE and SAE Speakers in transitive argument structure using real verbs and there is also a significant difference in the transfer argument structure. It also indicates that both groups were able to fast map novel verbs. This study has common interest with this present research because of the similarity in the semantic assessment of the participants' sentence constructions. However, the ability of the subjects to identify real verbs and fast map novel verbs is not adequate to describe the argument structure constructions and grammatical relations. It requires them to also describe the verb-class specific construction and semantic roles, indicating their grammatical, as well as semantic knowledge.

Goldberg, Casenhiser & Sethuraman (1995) conducted an experiment on general purpose verbs and constructional meanings. These 'general purpose' verbs include *put*, *go*, *do* and *make*. 81 University of Illinois undergraduates took part in the experiment and all the subjects were native speakers of English and ranged from 18- 24 years of age. The subjects were randomly and equally divided into three conditions: the *no-training* condition, the *balance* condition and the *high token frequency* condition. 16 film clips were shown to all the subjects except those in the no-training condition. The results show that *go*, *put*, *do*, and *make* are among the first and most frequent verbs used by all the subjects. *Go* displays a 54% frequency, *put* depicts 31% and *do* presents 6% frequency occurrences, respectively. Also, the subjects in the high token frequency conditions showed a statistically significant improvement over the balance and the no-training conditions. The subjects in the balance condition also indicated significantly improved performance than those in the no-training condition. These experiments are very relevant and similar to this study, as the subjects are also undergraduates: the area of investigation on verb meaning and the instrument (film) are similar. However, there has been insufficient data in this study to draw our attention on the distinction between lexical verbs and auxiliary verbs, as well as time reference (tense) that can be found in the constructions.

From the studies in this section, the literature review is concluded with the evidence that studies on verb meaning and argument structure or related issues can be viewed from non-empirical, partially empirical data and fully empirical approaches, as in the case of this sub-section that merged both the partially empirical and empirical approaches as empirical studies. The literature also supports the corpus-based approach and the assumption that language is not an autonomous cognitive faculty and the knowledge of language emerges from language use (Croft and Cruse 2004: 1). Moreover, the evidences in the literature review above provide insight into the use of perceptual or conceptualized images to elicit sentence constructions that are capable of explaining verb meaning and its argument structure. More important are the facts that the study and analysis of verb meaning and argument structure are viewed from the projectionists and constructionists perspectives, resulting to scholarly findings that present the need for continuous research in lexical syntactic-semantic interface.

2.11 Theoretical Framework

The theoretical framework that this research uses is the lexical conceptual structure theory. Over the years, the analysis of event structure and its role in grammar, particularly in argument structure, has been approached by linguists through at least three different semantic frameworks: the formal, the generative and the cognitive. This research uses the cognitive semantic approach and lexical conceptual structure theory as part of the cognitive linguistic paradigm to analyze the English sentence constructions by the users of English in an ESL environment. The major proponents of this framework include Ronald Langacker, Leonard Talmy, Adele E. Goldberg, Ray Jackendoff, George Lakoff, James Pustejovsky, William Croft, Gilles Fauconnier, Charles J. Fillmore, Nick Riemer, Beth Levin and Malka Rappaport Hovav, to mention a few.

2.11.1 Cognitive Linguistics

It is imperative to point out that within the realm of cognitive linguistics, proponents of this field have shared a similar approach to language but they do differ in a more limited respect. For example, the

terminology, “cognitive grammar” is associated with Langacker (1987, 1991), “cognitive embodiment” with Lakoff (1987, 1992) and “cognitive semantics” is largely ascribed to Talmy (2000a, 2000b). This research uses cognitive semantics (CS) as espoused by Talmy (2000a, 2000b). The heart of this approach is the prominent role the term ‘conceptual’ plays, which cognitive linguistics refers to as “meaning” or “semantics” or, simply put, “conceptual content”, as it is organized by language. It is important to reiterate that the contour of the CS approach is not exhaustive at all. This research only presents those tenets that are appropriate to the analysis of the verb meaning and argument structure as used by ESL learners in their transitive and intransitive constructions.

Generally speaking, cognitive linguistics covers a variety of quite different approaches, but what it sets out to do is to develop a global integrated system of the conceptual structuring of language. It is characterized by a holistic vision of the place of language within cognition. Its major commitments involve a rejection of a modular approach to language, an identification of meaning with “conceptual structure”, a rejection of the syntax-semantic distinction and a rejection of the semantic-pragmatics distinction. The last but not least is its commitment to the usage-based approach to the study of language.

Many cognitivists reject the modular approach promoted by Chomsky (1965) and Fodor (1983) because they believe that language is governed by the same cognitive principles at work in other psychological domains, as against the modular impression that language constitutes an independent cognitive competence governed by its own distinct principles. In fact, cognitivists like Langacker (1987), Lakoff and Johnson (1980) and Lackoff (1987) reject this modular vision and claim that understanding a language structure should be seen through psychological mechanisms known to operate elsewhere in cognition. For example, Langacker (1987) suggests that these general mechanisms involve our attention and our ability to present different aspects of a scene through language. When this is available, it can be used to understand different “linguistic and grammatical phenomena” (Riemer, 2010:238). Even though Neely’s (1991) study has in particular included semantic conceptual concern in the psychological mechanism in the modular approach, Talmy (2000a) argues that it lacks sufficient conceptual structuring

capable of understanding a language through conceptual content. This indicates that this research can investigate a scene to evoke lexical words or verbs that can describe the same scene, and each of them directs attention to or profiles different aspects of it through conceptualization.

The second issue in cognitive linguistics is the tendency to identify meaning with conceptual structure. Most cognitivists reject the distinction between dictionary and encyclopedia. They propose that linguistic meaning is the same as studying the nature of human conceptual structure. In other words, linguistic meaning is well grounded on a well established conceptual structure. Thus, Jackendoff (2002:293) asserts that “we must consider the domain of linguistics to be continuous with human conceptualization as a whole”. To buttress this position, Langacker (1987:98) states that conceptual structure is a term in linguistic semantics that is used to infer our “thoughts, concepts, perceptions, images and mental experience in general”. As such, semantic representations in cognitive linguistics are predetermined to present conceptual structure rather than truth conditions in the world. In practice, Croft (2010:5) observes “it is the mapping between syntactic structure and semantic structure with attention to the conceptualization processes that link conceptual structures to the situations in the world they presents”. It is essential to mention that the conceptual approach arises from cognitive linguistic paradigm. “It is concerned with the pattern in which, and process by which conceptual content is organized in language”. (Talmy 2000a:12). Langacker (1987:98) opines that ‘conceptual structure’ is the linguistic structure of basic conceptual categories that includes space and time, scenes and events, entities and process, motion and location and force and causation. It also addresses basic ideational and effective categories that are regarded as cognitive agents, such as attention and perspective, volition and intention and affect. Others it addresses are the semantic structure: morphological and lexical forms and syntactic patterns, or grammatical construction. Furthermore, it addresses the interrelationships between conceptual structure that includes metaphoric mapping, semantic frame and those between text and context. Given this frame, the conceptual approach can best be used to analyze the transitive and intransitive constructions of ESL learners.

The third important idea in the cognitive linguistic paradigm is that form and meaning are not separated into two distinct components. Instead, syntactic structures forms are paired with their corresponding semantic structures meaning. This position informed many cognitivists to reject the semantic-syntax distinction based on the notion that language as a whole is not seen as a distinct cognitive capacity and as such its internal division (semantics and syntax), often recognized by some linguists, is typically rejected. For instance, in Chomskyan linguistics, phonology, morphology, syntax and semantics are viewed as distinct areas significantly operating with different kinds of principles. In this approach, therefore, these component parts of language are strictly treated as autonomous and thus form and meaning are only a consequence of interaction, and the result of this interaction presents what the generativists refer to as ‘morpho-syntax’ or ‘syntax-semantic’ interface. So, meaning in this context plays no role in the syntactic structure.

However, many cognitivists reject this view of autonomous linguistic components. They consider grammar not as an autonomous cognitive faculty but a process of conceptualization that pair form and meaning in a conceptualized structure. Therefore, most cognitive approaches to grammar hold the view that the basic unit of grammar is a form–meaning pairing, as in Langacker’s cognitive grammar or construction in a construction grammar (Goldberg 1995; Jackendoff 2002 and Gao 2005). As such, cognitive linguistics concludes that any structure of a language should be treated as a symbolic unit that has a form (structure) and a semantic (conceptual) structure meaning that are intertwined but not distinct components.

In essence, what this research focuses on, as we investigate the use of verb meaning and argument structure in sentence constructions by the users of English, is the semantic representation of event structure through the general approach of construction grammar. In construction grammar, abstract (SCHEMATIC) syntactic structures, such as transitive construction, as well as lexical items and their tense-aspectual unity, are paired in the context of form and meaning. By implication, cognitive approaches to grammar permit the investigation of linguistic phenomena as form-meaning pairings from

morphemes to word \diamond clause \diamond sentence and to idiomatic expressions. Thus, “meaning and grammar are mutually interdependent and complimentary” (Khumalo 2007:166). The other important commitment by cognitive semantics relevant to this study is the rejection of the semantic-pragmatics distinction. Cognitive linguistics rejects this distinction on the basis that a semantic level of word meaning should not be distinguished from non-semantic level of language use.

The last assumption relevant to this research which permeates most cognitive linguistics work is the usage based thesis. This posits that linguistic knowledge and language use, which is competence and performance, are mutually interrelated. That is to say there is a very close or intimate relationship between grammar (defined as the conceptual content ability of language characteristics) and language use. This relationship is probably unique to language because the “knowledge of language is best conceived as categorical determined by discrete either–or parametric settings, linguistic knowledge is ultimately shaped by how language is actually put to use” (Gries 2006:2). Consequently, the ultimate aim of the cognitive approach is to argue for what Lakoff (1990:53) calls “empirical linguistics”: a branch of linguistics governed by generalization commitment and cognitive commitment.

The generalization commitment, on the one hand, represents the “commitment to characterize the general principles governing all aspects of human language (Lakoff 1990:53), and so involves issues like categorization, polysemy synonyms, collocation, metaphor, etc. The cognitive commitment, on the other hand, “makes one’s account of human language accord what is generally known about the mind and brain from discipline other than linguistics” (Lakoff 1991:54). This may include categorization, attention and metaphor. So by these commitments, cognitive linguistics emphasizes on models of language and linguistics that are reflections of the human brain and what the human mind wants to express.

On the basis of the assumptions or commitments mentioned above, cognitive linguists have investigated a number of issues related to syntax and semantics. In the area of syntax, very difficult core issues are investigated through this approach. These issues include the identification of meaningful

syntactic structures, e.g. constructions and categorization and the explanation of their semantic distributional properties. Within semantics, notorious issues in lexical semantics, e.g. word meanings in general, word senses of polysemous words and constructions are all addressed by cognitive linguistic approaches. Moreover, the close relationship between syntax and lexis is also addressed using syntactic arguments to support semantic claims and vice versa. It is based on this premise that this research investigates verb meaning and argument structure as used by ESL learners in their sentence constructions.

2.11.2 Cognitive Semantics

Cognitive semantics (CS) is the approach that is used in this research. The name of this approach is largely attributed to Talmy (2000a). In the background above, it is stated that both “cognitive semantics” and “cognitive grammar” are used as a particular approach in the domain of cognitive linguistics. The terms have been used to explicate language phenomena according to how a particular scholar wishes to use them. That is why Taylor (2002:3) opines that on a general perspective “cognitive linguistics is a descriptive term for a broad movement within modern linguistics, which includes a variety of approaches, methodologies and emphases, which are however, unified by a number of common assumptions”. Therefore, for the purpose of this research the term “cognitive semantics” and all its terminologies, descriptive techniques and other conventions are used. In some instances, there is overlapping of terms used in the cognitive grammar and semantics approaches. What is important to us is that the ‘mother’ of these approaches, i.e. cognitive linguistics, is concerned with the study of language forms as an integral part of human cognition and places emphasis on the insightful analysis of a linguistic problem that involves human cognitive abilities and language use. The following section gives a brief discussion on the specifics of cognitive semantics, as espoused by Talmy (2000a).

The most striking characteristic of Talmy’s cognitive semantics tenets is the semantics of grammar. It is the most striking feature because it is the key to conceptual structuring in language. Its main focus is that in every language there are meaning bearing forms divided into two different sub-

systems: the open-class, or the lexical and the closed-class or the grammatical. The open-class consists of many members and commonly includes nouns, verbs and adjectives. Closed classes have few relative memberships and are difficult to augment. They include bound forms—inflections, derivations and clitics and such free forms as prepositions, conjunctions and determiners. Within semantic grammar, Talmy (2000a) identifies three essential elements that play a major role in the linguistic expression of human beings. These are: the semantic constraint on grammar, the topological principle of grammar and the concept structuring function of grammar.

Within the semantic constraint on grammar, cognitive semantics finds that the meaning of open class forms does show an unrestricted expression, but the closed class forms are highly constrained. In the typology class, there is no single global principle that determines conceptual categorization. Instead, the topological principle is applied to the meanings or “Schemas” is used to close class forms to refer to space, time or other certain domains. These schemas mostly exhibit topological properties as “magnitude neutrality” and “shape neutrality” (Talmy 2000a:5). The third major finding is that the two types of form classes exhibit a functional difference based on their formal and semantic differences. The open – class forms contribute most of the content and the closed class forms are perhaps the most fundamental conceptual structuring system of language. Thus, the conceptual structure of a language best provides the opportunity to examine the formal category of language depicting overall human cognition.

One of the key ideas of cognitive linguistics is schematic structure. Cognitive semanticists hold the view that schematic structure refers to the meaning of a single morpheme and thus refers to it as “schema” (Talmy 2000a) and “image schema” (Lakoff 1987). Schematic structure also extends to closed class notions categories. Such categories have some structural properties capable of converting from one category to another and the possibilities of having multiple nesting. Generally, the schematic structure is further sub-divided into three schematic systems: configuration structure, perspective point and distribution of attention. Configuration structure represents such structure for space, time or other conceptual domains related geometric patterns (Talmy 2000a; Herskovits 1986). It establishes the basic

differences by which a scene or event being referred to is structured. The “Perspective point” directs one as to where to place one’s “mental eyes” to look at the structured scene or event (Talmy 2000a: 8) and represents such in linguistic expression. The third schematic system is the *distribution of attention*, which directs the listener’s or observer’s attention differently over the structured scene or event from the established perspective point (Talmy 2000a:ch.4). By implication, an individual’s idiolect and personal usage can present the schemas above when exposed to a situation that may produce such grammatical expressions.

In the distribution of attention, cognitive semanticists identify several patterns that map out grammatical patterns from the components of the structure. The several patterns include focal attention, level of synthesis, window of attention and attention nesting. While all these patterns are important, the last is used as an illustration. In cognitive semantics, an expression referring to the same scene can have a different grammatical form showing a schematic system of attention or “attention nesting” (Talmy 2000a). Attention nesting can be deduced from the following two sentences: (69) *The goalkeeper kicked the ball*/ (70) *The goalkeeper was permitted to kick the ball*. In the second sentence, the focal attention is directed to the referee by the lexical choice of ‘permit’ and in the first sentence to the goalkeeper by the lexical choice of ‘kick’. All of the two, semantically, can be distinguished from each other by the lexical choice each speaker places on the embedded construction. The dividing line between linguistic knowledge and real world knowledge in the case above is attributed to the attention and usage of the language.

It is also important to mention that in cognitive semantics, apart from the semantic system, language is grounded in other conceptual organizations, such as figure/ground organization, factive/fictive organization and force dynamics. This means that in representing many spartial, temporal, equational and other situations, language can be bifurcated into two parts of the situation: the “Figure” and “Ground”. Each of the two relate conceptually with the other. Thus, the figure is concerned with a movable entity and the ground is a reference entity with a stationary setting relative to the reference

frame. For example, *The ball hit the goal-post*. The ball functions as Figure as a movable object whose location is restricted in terms of the goal post location. The stationary goalpost is viewed as the ground because it is set within the implicit reference of the football field. The sentence can be reversed: *The goalpost hit the ball*. (i.e. the figure/ground is reversed). However, since prototypically, a goalpost is not conceptually movable and a ball is not a fixed reference point, “these new role assignments clash with a background knowledge” (Talmy 2000a:11) or is against our “background knowledge and the association that are linked to the concept” (Steinvall 2002:42). The main issue in this framework is that the meaning of a construction can best be explained in terms of figure/ ground relationship. But it should be noted that the sentence should not be flagged as odd, as in the case of the ground/figure construction above.

Cognitive semantics also propagates the idea of interactions among semantic structures. This implies that apart from viewing language on its conceptual structure, these structures whether small or large can interact with each other in accordance with certain principles. These principles, according to Talmy (2000a), include conceptual imposition, cognitive recruitment, semantic conflict resolution and semantic interactions. Each of these four categories is extensive and has various sub-categories within its realm. But in our present terms, conceptual imposition and semantic conflict resolution are explained. In reality, cognitive linguistics views the content and structure of cognition to be derived from real properties of external phenomena through the process of perception and abstraction in what Searle (1979:62) calls “world – to – mind direction to fit”. This implies that the properties of attention which is attributed to intrinsic content and structure in cognition, are regarded as part of cognitive functioning. For Talmy (2000a:14), they are part of “conceptual imposition” with several realizations among which is “alternative conceptualization”. This indicates that in a particular construction or linguistic expression alternatives of conceptualization exist.

Alternatives of conceptualization refer to a situation where a particular structural or contentful conceptual can be ascribed to an event resulting to alternative conceptions that could also be ascribed to it. This means that a single event can be conceptualized in alternate ways and yet produce “linguistic

expression(s) or devices courtesy of the conceptual imposition that prompted alternative attention and cognition. These alternatives are what Talmy (2000a:15) refers to as “conceptualization” and Langacker (1987:63) the “construal” of a phenomenon. For example, (71) *Messi zigzags from the centre down into the net* are a fictive motion that could be ascribed to a net along co-extension path as in the same way as: (72) *Messi dribbles in a zigzag way from the centre down into the net*. This process is termed as “imposed alternatives of conceptualization on the scene” (Talmy 2000a:15).

The last among the ideas of cognitive semantics is the semantic resolution of conflict. They argue that a conflict does exist “between the references of two constituents in a sentence or between the reference of a constituent and the context or one’s general knowledge” (Talmy 2000b: ch 5). This means that in the analysis of a sentence within and across languages one can come across an expression that falls in the domain of semantic conflict. The treatment of such conflict compliments the treatment of semantic “embodiment” that Talmy (2000) refers to as semantic “unification”. When this conflict occurs, cognitive semanticists propose or apply one of the following sets of resolutions. These include “shifts” Talmy (1977) or “coercion” Pustejovsky (1993), “blends” (Talmy 1977, Fauconnier & Turner 2002) and juxtapositions and juggling (Talmy 2000a). The bases of this proposed solution is to produce an overall meaning that does not involve the presence or absence of a fundamental specification of the sentence via the language that is used.

Generally, cognitive semantics is a viable approach to be used in the investigation of verb-meaning and argument structure. It can be used to account for the types of verbs that are found in the sentence constructions of ESL learners and the semantics of the verbs, as determined by the complimentary patterns of usage by ELS learners. Notably, it can be used to utilize the illustrative use of the corpus data, which make the cognitive semantic field a usage based area that has a variety of advantages, as summed up by Gries and Divjak (2006:108), that it “provides many instances of constructions rather than isolated judgments, provides data from natural setting rather than “arm chair” judgments or responses that potentially reflect experimental – induced biases; provides co-occurrence

data of many different kinds i.e. not just those a particular researcher may consider important and thus, allow bottom-up identification of relevant distinctions, as well as for a more comprehensive description than is typically provided”.

2.11.3 The Lexical Conceptual Structure (LCS) Theory

Various other approaches to semantics have been developed in order to show the impact of argument structure on grammatical form. Currently there are two main approaches to the lexicon: the projectionist view and the constructionist view. The former emphasizes that the argument alternations are ruled-governed by specific aspects of meaning encoded in verbs' lexical entries (Levin and Rappaport Hovav 1995 and Pinker 1989). The latter view appears to stress the importance of the overall construction with the syntactic and aspectual constraints being responsible for how arguments are determined (Goldberg 1995; Borer 1999; Ritter and Rosen 1998). Thus, second language (L2) acquisition of the lexicon has recently attracted attention within the framework of projectionist principles (Inagaki 1997; Juffs 1996; 2000 and White et al. 1999).

The acquisition of verb argument structure and how they are used in a given construction are particularly interesting, especially as semantically coherent verb classes participate in argument structure alternations. Therefore, there is the need to investigate how second language learners use these verbs pattern together with respect to their syntactic behavior in a given construction. In line with Montrul's (2001) views, this research assumes that both lexical information and syntactic construction contribute to constrain verb meaning and argument structure, especially in a conceptualization situation (Schonefeld 2006). In order to satisfy one of the crucial issues of this research i.e. argument structure, it is found necessary to employ a theoretical framework and discuss it even though some of its general tenets are captured in the cognitive semantic approach framework. In this sub-section, the lexical conceptual structure (LCS) framework that emanates from the lexical decomposition theories is used as a sub theory of cognitive semantics.

But it is equally important to point out that Robering (2014) identifies three main types of alternative theories of argument structure: (1) contiguity theories, (2) relational theories, (3) and frame theories. Almost every theory that is used as a framework to deal with argument structure within (spoken) language or restricted to the argument structure on sentence level (written) is derived from these three mentioned theories of argument structure. In relation to this fact, a brief discussion on them will further support the choice of LCS as the theoretical framework of this research.

Contiguity theories of argument structure assume that arguments are on the expression which operates on them and found within the arguments of the expression. A verb, for instance, can be identified to have two main noun phrases as its argument by attaching to it the sub-categorization frame [+V,-NP NP]. Using this notion, the traditional transformational grammar and some varieties of generative grammar apply this prime tenet in their argument structure analysis. They employ movement rules to account for arguments and hold the view that the argument structure is coded in the lexicon of the syntactic structure.

Relational theories of argument structure emphasize the notion of the relational approach that is based on the notion of grammatical relations. In these theories, emphasis is given to “subject-of”, “direct-object-of”, “indirect-object-of” and the distinction that is drawn between these relations and the oblique relations. Two well known proponents of this theory that challenge this view and later improve this idea in relation theories are Perlmutter’s (1983) and Postal & Joseph’s (1983) relational grammar (RG) and Lexical Functional Grammar (LFG) of Bresnan and Kaplan (2000). In RG, a clause is viewed to consist of “terms which are the relata of the grammatical relation” (Robering 2014:6). The LFG analyses sentences by assigning to them two different structures: a c-structure, which displays the constituent’s structure of the sentence and an f-structure, which shows the functional structure of the sentence that is understood from the grammatical relations found in the constituents of the sentence under analysis.

The third major theory, as adumbrated by Robering (2014) is the frame theories of argument structure. Frame based theories oppose the view that semantic values are lacking within the internal structure of the sentence. Rather, frames are data types which store knowledge about stereotyped situations. Within the notion of frames, there are sub-frames that explain the internal structure of the sentence. This hunch is derived from Fillmore's Case Grammar (1968, 1977) and his later extended general approach to semantics called "Frame Semantics" (Fillmore 1976, 1982). Others that apply the theory of frame semantics include Levin's (2012) study of argument realization across languages and Levin & Rappaport Hovav's (2005) argument realization. Many of Fillmore's ideas spill over and have been taken up by Construction Grammar, e.g., Goldberg (1995) and Jackendoff's (2002) Conceptual Structure.

Following recent developments in the theories cited above, verb meaning is assumed to be decompositional and its arguments comes from the conceptual structure, as in Levin and Rappaport (1995, 2005), Pinker (1989) and Jackendoff (2002), among others. Hence, the use of LCS as a theoretical framework in this research is very crucial. This approach considers syntactic transparency as semantic composition, which implies that all the elements of content in the meaning of a sentence are found in the LCS of the lexical items composing the sentence. As such, semantic decomposition can be used to investigate the mapping between semantics and grammatical process.

This approach involves the description of a generalized structure of an event or state represented by a verb. That is to say the meaning of a verb is represented as a structure composed of different primitive predicates. It also argues that the arguments of primitive indicate are loaded by core arguments of the verb. This shows that this type of decomposition approach allows us to represent a case that in one syntactic structure we can find multiple slots of argument emanating from the root verb. Within LCS, different verbs classes can be identified from the interaction of primitive semantic predicates (CAUSE, BE, BECOME, STATE) and the type of verb used in a given construction can project the type of construction of the sentence (e.g. transitive or intransitive). Thus, the eventive verbs that describe a

construction as transitive may have a lexical structure that is capable of showing two verbal projections, “an upper verb phrase (VP) headed by sub-predicate CAUSE (the cause event) and a lower one headed by BECOME (the resulting state)” (Montrul 2010:10). While a transitive construction does have a simple lexical structure consisting of one verbal projection.

LCS also postulates that semantic categories are built up by a combination of functions and arguments. This implies that a particular utterance can have a universal semantic category explaining the lexical item as an event, state object (thing), path, place, property, etc. It also has a theta and theta roles hierarchy as part of its tenets. These are derived configurationally (Baker 1997). This indicates that within a sentence, roles hierarchy can be assigned to each lexical word. These roles among others are Agents; Patients; Themes; Experiencer; Beneficiary, etc. Agents are in the specifier of the CAUSE sub-predicate and themes or patients, or both occupy the specifier of BECOME. Therefore, at the semantic level of the argument structure, LCS predicts the arguments of the clause by their thematic roles and hierarchy in such a way that one role precedes the other.

Within the LCS approach, grammatical constructions play a central role in the relation between the form and meaning in a simple sentence. The relationship between verbs and constructions are also offered. Prototypes and frame semantics also play crucial roles in this approach. That is why Minsky (Robering 2014: 9) argues that conceptual knowledge displays “effectiveness of common sense”; its “apparent power and speed” requires that the “chunks of reasoning” are not small, unstructured and isolated from each other but rather are “larger and more structured” and “intimately connected”. These “chunks of reasoning” are organized as frames, which we retrieve from memory when encountering new situations”. Therefore, this study is based on the assumption that the utterances or sentences used by ESL learners have correspondence roles and can be analyzed with the aim of describing the verbs and their argument structure. It is based on the above that this research finds the lexical conceptual structure as a viable theory within the cognitive linguistic paradigm to investigate the use of verb meaning and argument structure by the users of English in a College of Education.

2.12 Conclusion

This chapter reviewed the concepts of the verb, meaning, argument and argument structure. The main objective is to point out the interesting phenomenon that exists within the two topics: verb meaning and argument structure. There are also researches and contributions to the study of verb meaning and argument structure from two opposing perspectives: the projectionists and the constructionists. Both perspectives were presented with accompanied criticisms by scholars and researchers to indicate the gaps that exist within the domain of this research topic. Thus, these gaps justify the need for further investigation on this research area. Despite the strong influence of the examples and analysis on verb meaning and argument structure from the English native speakers' environment, it is clear from the empirical studies presented in this chapter that the study of verb meaning and argument structure is viable within an ESL learner's context, as well as the use of corpus-based approach. Hence, this review portrays the limited research conducted on this topic as used by ESL learners. Finally, the theoretical framework for this study was offered and elucidated within this chapter.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the methodology and techniques used in this research. Since this research adopts the quantitative corpus-based approach that produces cognitive linguistic relevant results, the methodology is presented in the following order: data collection procedure, method of analysis, target population, sample and sampling technique, research instrument, validity and reliability, the corpus-based approach, the description of the corpus and conclusion.

3.2 Data Collection Procedure

To collect data for this research, the permission of the college management of Sa'adatu Rimi College of Education Kumbotso, Kano was obtained in order to use the Resource Centre for the purpose of administering the test and video-viewing. The researcher explained the purpose of the study to the subjects and allowed them to express their willingness to participate in this research exercise. The test and retest sessions were administered to them in the resource centre. The test and retest exercise was used as the basis for determining the subjects' background knowledge on verb in a construction before the actual sentence constructions task that were extended to include a detailed inventory of verb meaning and argument structure within the confines of transitive and intransitive constructions in writing. The entire written test on the knowledge of verb was used based on the assumption that this knowledge (i.e. verb's knowledge) is a pre-requisite to the understanding and construction of a sentence whether as a simple clause or complete sentence. In this BGK test, lexical words that are considered as verbs were identified, their transitivity nature were also presented and sorted out and their tense–aspect were provided and fished out. The connection between the knowledge of the verbs, nature of their transitivity and tense–aspect relationship reflects the likelihood that the subjects' background knowledge on verb can be

displayed in the sentence constructions task. In other words, the sentence constructions of our subjects are reflection of their linguistic knowledge on the use of verbs in a construction.

After the test, they were instructed again to watch a video film on football and pay close attention because there would be a written exercise at the end. The exercise required them to use any verb to construct sentences from the different scenes in the video. This sentence constructions task serves as a reflection of our subjects' conceptualization or perception of the different scenes they viewed from the football video. In other words, the sentences constructed by the subjects of this study are reflections of their linguistic knowledge that were derived from their conceptualization of the diverse scenes represented within sentences in actual writing. Upon the completion of the sentence constructions task, the 20 sentences constructed by each subject were connected and made into one paragraph. Thus, 200 paragraphs were realized and joined together to form one single text that serves as our corpus. (Note that in this corpus no single word or expression is changed or edited). The sentences transformed into one text are presented as they were written by the subjects (c.f Appendix 3 for details). The 4,296 lemma of the verb identified in this study, as an example, representing 177 lexical verbs extracted from the corpus and used in our analyses were exported to Wordsmith tool and each of the most frequent verbs were individually examined. The words that collocate with some of the verbs were not left out in the data collection procedure (Refer to Appendix 6 for explanation).

In addition to the procedure above, the sentences constructed were also used to determine whether the subjects presented the sentences with verbs that are transitive or intransitive or any other sub-categorization. The frequencies of such verbs were determined and the relationship between syntax and semantics were analyzed through the verbs used in the constructions of the sentences. Some un-interpretable constructions were also extracted and examined from the individual sentences constructed by our subjects. This is done with such assumptions that in written sub-corpus not all constructions; especially by ESL learners are viewed free from grammatical and semantic errors that may blur the expressions (c.f. Appendix 7 for details). Some un-clear constructions revealed through the corpus were

also used to represent some of the constraints data that are found in this corpus-based approach (Appendix 8 describes such expressions).

At the end, the test and the sentence constructions exercises were collected and used as the data and corpus of this study. Finally, the researcher thanked the subjects for their contributions to knowledge.

3.3 The Method of Analysis

Data collected from this study was analyzed using percentage, mean score and standard deviation for the BGK test, and simple frequency and percentage for the sentence constructions task. The Wordsmith (WS) tool version 5 by Scoth (1996) was firstly used to determine the frequency of each verb as used by the subjects. This tool is a concordance corpora programme that can fish out a list of words occurring in a text in an alphabetical order. It gives the researcher the chance to search for a given word or a grammatical form of the corpus. It also displays the context in which the word occurs in a given text. So in this study, the search item is the verb in the transitive and intransitive constructions. The concordance lists are used to show the argument structure of the various types of transitive and intransitive constructions and also demonstrates the various contexts in which the verb is used.

To begin with, each verb as stated above was checked and its frequency and percentage were determined. Second, each legitimate verb usage was coded for its source corpus (e.g. SSC1), and whether the usage had a direct object (transitive) or not (intransitive), the morphological forms (present tense, past tense or infinitives) and the sense of the verb. Third, the sentences were grouped into transitivity related categorizations, indicating the frequencies of transitivity and intransitivity usage and morphological form: frequencies of tense and aspect (e.g. infinitive, present tense, past tense, and past participle). Fourth, the theta-theory was used to analyze the semantic role arguments of the verbs used in the argument structure of the sentence constructions. Finally, a general analysis was provided to indicate the verb semantic and argument structure of the sentences constructed by the subjects of this study.

A small proportion of the examples that were deemed uninterpretable and linked exclusively to the SSC corpus were extracted and presented. This is done to indicate that it is a fact in language usage to discover utterances or expressions especially in written discourse that are un-interpretable or incomplete. Sometimes, when one looks up the full context of usage one may find some sentences that yield no information about the subject or object of the sentence. In this case, this researcher adopted a conservative approach to analyse such expressions and thus coded them as “un-interpretable”. But for the analysis of the semantic role arguments (thematic roles), as indicated in the forth process above, Carnie’s (2007) set of roles was adopted.

3.4 Target Population

The population of this research comprises all the final year students studying English as a course in Sa’adatu Rimi College of Education, Kumbotso, Kano. The statistics obtained from the Directorate of Strategic Planning and Research of the College reveals that there are in the 2011/2012 session, 455 students studying English as a Double Major or combined subject. This figure cuts across the following subjects combinations from the three schools of the College: English Double Major (DM), English/Arabic and English/Hausa from the School of Languages; History/English from the school of Arts and Social Sciences and Special Education/English from the School of Education. There are 181 students studying English (DM) as a subject, 70.1 (n = 127) male and 30% (n = 54) female. English/Arabic students are 36 in number, 75% (n = 27) male and 25% (n = 9) female. English/Hausa students are 225.71%, (n = 159) male and 29% (n = 66) female. There are five (5) students in History/English, 80% (n = 4) male and 20% (n = 1) female. The Special Education/English students are 8 in number. 87.5% (n = 7) male and 12.5% (n = 1) female. Thus, the total number of the final year male students studying English is 324, representing 71% of the population, and the final year female students are 131, representing 29% of the population, i.e. 455. Below in Table 4 is the summary of the target population.

Table 4: Summary of the Target Population (2011/2012 Session).

Schools	Subject-combinations	No: of students per subject-combination	No: of Students (Gender)		Percentage (%) (Gender)	
			Female	Male	Female	Male
Arts and Social Sciences	History/English	5	1	4	20%	80%
Education	Special Educ/English	8	1	7	12.5%	87.5%
Languages	English (DM)	181	54	127	30%	70%
	English/Arabic	36	9	27	25%	75%
	English/Hausa	225	66	159	29%	71%
No: of schools = 3	No: of subject combinations= 5	Total no: students=455	Total Female=131	Total Male=324	% of female students = 29%	% of male students = 71%

3.5 Sample and Sampling Technique

A sample of 200 participants was selected to represent the population of the study. According to Krejcie and Morgan (1970), a population size of 400 requires a sample size of 196, using a degree of accuracy/margin error of 0.005. This sample size was drawn from all the five combinations: English (DM), English/Arabic; English/Hausa; History/English and Special Education/English. To select the sample above, a random sample strategy was adopted.

As stated above, the random sampling strategy was employed in order to give all the elements of the population the opportunity or an equal likely chance of being selected as the sample. This implies that all the participants were selected from all the subject combinations stated above through what Sambo (2004:84) considers as “drawing from a hat” procedure. This procedure involves asking all the participants to write their admission numbers on a piece of paper, fold and drop it inside in an empty box. The researcher then thoroughly mixes the papers and dips his hand to pick any of them. When this was

done, the admission number picked was recorded by a research assistant. The same paper was returned to the hat or the empty-box for the next draw. This process was repeated up to the point of selecting 200 participants. In the case where the same admission number (participant) was picked twice or thrice, only one entry was recorded. Also, participants that were not willing to participate in the research were replaced by those willing through the same procedure of selection. Therefore, a total of 200 participants were drawn from the 455 final year English students regarded as the population of this study.

3.6 Research Instrument

The instruments used in this research are a test and a video. The variables in the test instrument consist of three major areas: (a) the identification of verbs (verb intransitive (vi) and transitive (vt) (b) how verbs are used transitively or intransitively (c) tense-aspect construction. Each item in the test was closely examined and some of the items were rephrased to ensure that the subjects of this research make sense and understand the items of the test. The identification of verbs as Vi or Vt section consisted of 15 items. Items in this section were adapted in order to evaluate the subjects' knowledge of verbs and their types. The second section consists of five (5) items that evaluate the use of the verb transitively or intransitively. The third section consists of five (5) items. In this section, the subjects indicated their level of tense-aspect construction by indicating whether the sentences are in the present progressive, past progressive, present perfect, present tense or past tense.

In addition to the three areas in the test items explained above, the final year English students were asked to construct English sentences after watching a video tape of a football match to demonstrate their ability in the use of verb meaning and argument structure. Each of the participants in this research was asked to construct 20 sentences indicating non-causative event and causative one. In essence, the data from the test items above, and the data from the English sentences constructed by the subjects after viewing the video revealed the linguistic ability and language usage of our subjects and provided the chance to analyze verb meaning and argument structure by the ESL learners. In this case, Lacey & Luff

(2001) assert that if the data from one source contradict the findings from data of another source, it means that the researcher has not failed, but shows the complexity of “real” life situation. In fact, it reveals the use of rigorous analysis.

3.7 Validity and Reliability of the Instrument

In order to confirm the validity and reliability of the two instruments (test and video/text: sentence constructions), a pilot study was conducted with 70 students. The designed test instrument was reviewed and revised by the researcher’s supervisor and two other experts in the field of English Language. During the process of the reliability analysis of the test items, the Cronbach alpha reliability coefficient was used and calculated. The test-retest reliability coefficient was found as .60, indicating that the test items have a high level of internal consistency.

The video football match was edited by an expert to only play for 45 minutes as against the 90 minutes expected in complete football timing. However, both the actions of both first and second-half were included in the edited 45 minutes video recording. The English sentence constructions that were done by the subjects after watching the video were subjected to content analysis. During the reliability check, the Pearson-correlation was used and the result revealed a significant correlation at the 0.001 level (2-tailed).

3.8 Conclusion

This chapter examined the methodology and techniques used in this study. The first part discussed the research design that adopted the quantitative corpus-based approach and intuition for the analysis of the results. The chapter also presented the description of the corpus of this study, target population, sampling and sampling technique. It also noted the research instruments that cover background knowledge information through a designed test and sentence constructions exercise after viewing a video football match. Details were provided on the data collection procedure and the method of analysis used in

this research. Finally, a pilot study was conducted in order to prove the validity and reliability of the instruments used in this study.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1. Introduction

This chapter advances and analyses the sentence constructions of the subjects of this study. The data were collected through the actual written usage by the subjects who demonstrated how they used the verbs in their constructions. Thus, the chapter presents an account of the verb in a particular event, as well as sentence constructions by the ESL learners. Specifically, it is imperative to mention that all the verbs explained were derived from the cluster of a list of words in the text (lemma) and the verb meaning and argument structure were examined from the point of view of one single event as previously highlighted in the literature. This is important in the sense that it demonstrates the availability and complexity of verbs derivation that can be analysed and extended to actual usage by the users of English as a second language. This in effect reveals the large pool of verbs that exist in English, their classes and sub-classes, frequency, types, tense-aspect, semantic properties and, above all, whether constructions have meaning on their own or not. The chapter, therefore, is generally an outline of the general notions of verb meaning and argument structure, as used by some adult ESL learners in a College of Education.

4.2. Data Related to the Subjects' Background Knowledge (BGK) of the Verb

Since this study concerns the study of verb meaning and argument structure by some ESL learners in SRCOE Kumbotso, Kano, a background knowledge (BGK) test was administered to the subjects with the intent to find out their knowledge of the English verbs and their transitivity knowledge in terms of linguistic expression and how this linguistic knowledge can be used to construct English sentences whose verbs meaning and argument structure can be semantically interpreted. Thus, the BGK test was restricted to three sections with the following questions:

- a. Identify the underlined verb in each of the following sentences and choose whether the verb is transitive or intransitive.
- b. Underline the verb in each sentence and identify if it is used transitively or intransitively.
- c. The sentences below indicate tense-aspect construction. Identify the tense-aspect that is used. (See full text of the test at Appendix A).

Below is the data of the subjects' performance related to the knowledge of the English verbs, their number, mean score (\bar{x}) and standard deviation (SD) given in Table 5.

Table 5: Analysis on the Subjects' BGK of English Verbs, their Number, Mean Score and Standard Deviation.

Items	N	Minimum	Maximum	Mean		Std. Deviation
	Statistics	Statistics	Statistics	Statistics	Std. Error	Statistics
Identification of verbs (Vi&Vt)	200	4.00	14.00	9.4200	.15682	2.21770
Use of transitive and intransitive verb (Vi&Vt)	200	.00	5.00	3.2550	.07668	1.08437
Identification of tense/aspect	200	1.00	5.00	3.8400	.06075	.85912
Overall performance	200	40.00	96.00	66.1600	.92278	13.05013
Valid N (list wise)	200					

Using the total sample of 200 SRCOE, Kumbotso final year English students 2013/2014 as the subjects of this study, the minimum and maximum scores, means (\bar{x}) and standard deviations (SD) were calculated for the identification of verbs, use of intransitive and transitive (Vi & Vt) and identification of tense-aspect, respectively. The overall mean scores indicating the subjects' ability to identify the verbs as Vi or Vt stands at 9.4200 (SD = 2.21770) with 14.00 as the maximum score and 4.00 as the minimum

score indicating a standard error (SE) at .15682. The mean for the identification of the verbs as used intransitively or transitively places at 3.2550 (SD = 1.08437) (SE = .07668) with 5.00 as the maximum and .00 as the minimum. For the identification of the tenses-aspect used in the sentences, the mean stands at 3.8400 (SD = .85912) and (SE = .06075) with 5.00 and 1.00 as maximum and minimum scores, respectively. Generally, the overall mean for the overall performance puts at 66.1600 (SD = 13.05013) and (SE = 92278).

Table 5 represents the subjects' knowledge of the English verbs. A highly significant 96% performance indicates the maximum score and only 40% as the minimum score. Even though there are individual scores that are less than 40% and a very few with 98%, the statistics on average stands at 96% maximum and 40% minimum. This indicates that generally the subjects' linguistic knowledge on the English verbs is significantly very good and encouraging with the hope of a promising analysis when it comes to actual language usage.

4.3. The Data on the Lexical Verbs Extracted from the Subjects' Sentence Constructions

The first research question seeks to identify the lexical verbs, as well as the classes of the verbs that are found in the SRCOE final year English students' sentence constructions. Table 6 presents the lexical verbs (Head word) extracted from the list of words (lemma) generated from the sentence constructions (text) of the subjects of this study. The percentage of the lexical verb was calculated by dividing the number of occurrences of each verb by the total of occurrences of all the lexical verbs identified in the sentence constructions and multiplied by 100. The table below, therefore, depicts verbs that occurred in the subjects' sentence construction after retrieval from all instances of a word's lemma from the corpus.

Table 6: List of Lexical Verbs and their Frequency Distributions and Percentage in Alphabetical Order

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
1	admire	4	0.09	1,307
2	afford	1	0.02	
3	analyse	3	0.06	
4	anger	142	3.30	
5	announce	2	0.04	
6	annoy	73	1.69	
7	applaud	1	0.02	
8	assign	1	0.02	
9	attack	10	0.23	
10	attempt	50	1.16	
11	attend	1	0.02	
12	award	2	0.04	
13	beat	1	0.02	
14	begin	2	0.04	
15	behave	1	0.02	
16	bench	1	0.02	
17	bend	1	0.02	
18	blow	98	2.28	
19	bottle	1	0.02	
20	bounce	22	0.51	
21	break	11	0.25	
22	call	14	0.32	
23	card	253	5.88	
24	care	1	0.02	
25	catch	73	1.69	
26	celebrate	285	6.63	
27	change	10	0.23	
28	check	1	0.02	
29	cheer	6	0.13	
30	clap	38	0.88	
31	clear	1	0.02	
32	close	4	0.09	
33	coach	10	0.23	
34	collect	2	0.04	

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
35	come	9	0.20	
36	complain	31	0.72	
37	command	1	0.02	
38	commence	1	0.02	
39	commend	2	0.04	
40	comment	8	0.18	
41	communicate	1	0.02	
42	conclude	1	0.02	
43	continue	2	0.04	
44	control	4	0.09	
45	cross	8	0.18	
46	cry	2	0.06	
47	dance	32	0.74	
48	defeat	7	0.16	
49	defend	2	0.04	
50	delay	1	0.02	
51	demonstrate	1	0.02	
52	depict	1	0.02	
53	discuss	3	0.06	
54	display	2	0.04	
55	disturb	1	0.02	
56	dive	3	0.06	
57	divide	2	0.04	
58	do	3	0.06	
59	dominate	2	0.02	
60	draw	8	0.18	
61	dribble	9	0.20	
62	drink	6	0.13	
63	dress	3	0.06	
64	encourage	4	0.09	
65	end	24	0.55	
66	enjoy	44	1.02	
67	enter	2	0.04	
68	embarrass	1	0.02	

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
69	embrace	2	0.04	
70	exchange	2	0.04	
71	excite	4	0.09	
72	fail	8	0.18	
73	fall	46	1.07	
74	flow	2	0.04	
75	force	1	0.02	
76	foul	2	0.04	
77	gather	1	0.02	
78	get	22	0.51	
79	go	37	0.86	
80	give	189	4.39	
81	grab	1	0.02	
82	greet	5	0.11	
83	ground	5	0.11	
84	guide	3	0.06	
85	hate	8	0.18	
86	head	9	0.20	
87	hit	49	1.14	
88	hold	3	0.06	
89	hug	1	0.02	
90	ignore	1	0.02	
91	introduce	1	0.02	
92	jog	10	0.23	
93	Jump	14	0.32	
94	keep	1	0.02	
95	kick	340	7.91	
96	knock	1	0.02	
97	languish	1	0.02	
98	laugh	13	0.30	
99	lay	4	0.09	
100	lead	3	0.06	
101	leave	4	0.09	
102	lift	1	0.02	

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
103	like	7	0.16	
104	listen	1	0.02	
105	live	2	0.04	
106	look	9	0.20	
107	lose	32	0.74	
108	maintain	4	0.09	
109	make	49	1.14	
110	match	15	0.34	
111	meet	1	0.02	
112	miss	23	0.53	
113	motivate	3	0.06	
114	move	8	0.18	
115	nod	1	0.02	
116	order	1	0.02	
117	pass	172	4.00	
118	pause	1	0.02	
119	penetrate	1	0.02	
120	pick	3	0.06	
121	play	83	1.93	
122	point	1	0.02	
123	praise	1	0.02	
124	pray	3	0.06	
125	pretend	1	0.02	
126	pull	20	0.46	
127	punch	8	0.18	
128	punish	1	0.02	
129	push	172	4.00	
130	put	1	0.02	
131	raise	29	0.67	
132	receive	8	0.18	
133	replace	1	0.02	
134	replay	1	0.02	
135	reserve	2	0.04	
136	roll	8	0.18	

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
137	run	56	1.30	
138	satisfy	2	0.04	
139	save	32	0.72	
140	sit	2	0.04	
141	scale	2	0.04	
142	score	668	15.54	
143	scream	1	0.02	
144	send	24	0.55	
145	shake	110	2.56	
146	shock	3	0.06	
147	shoot	141	3.28	
148	shout	105	2.44	
149	show	6	0.13	
150	sing	2	0.04	
151	smile	4	0.09	
152	snatch	4	0.09	
153	spot	1	0.02	
154	spread	1	0.02	
155	stand	13	0.30	
156	start	24	0.55	
157	stop	2	0.04	
158	strike	1	0.02	
159	strive	1	0.02	
160	substitute	9	0.20	
161	support	4	0.09	
162	tackle	1	0.02	
163	take	15	0.34	
164	talk	7	0.16	
165	teach	1	0.02	
166	thank	1	0.02	
167	throw	106	2.46	
168	try	5	0.11	
169	upset	1	0.02	
170	walk	35	0.81	

S/N	Lexical Verbs	Frequency	Percentage (%)	Word-list (token)
171	warm	4	0.09	
172	watch	5	0.11	
173	wave	12	0.27	
174	whistle	5	0.11	
175	welcome	1	0.02	
176	win	45	1.04	
177	worry	9	0.20	
Total	177	4,296		1, 307

Using the 4,000 sentence constructions of the 200 SRCOE Kumbotso final year English students as the subjects of this study, the total words list was retrieved and a subset of verbs which are the words of interest of this research, were also retrieved and the frequencies and percentages of these verbs were calculated. The result of this retrieval, as indicated in Table 6 above, is the lexical verbs (head word) extracted from the SSC corpus. The first column contains the serial number, which ultimately presents the token (index) of the lexical verbs, the second column contains one citation of each head word, i.e. the verb in question, the third column contains the occurrences of the verb (frequency) and the last column represents the total number of the word-list generated from the corpus.

Table 6 above, therefore, indicates that 177 lexical verbs were used by our subjects, representing 13.54% of the word-list = (1, 307) generated. The lemma of the verbs, which is the overall frequency, stands at 4,296 with various percentages, ranging from 15.54% as the maximum to 0.02% as the minimum. This result proves the nature of the lexical knowledge of our subjects as it justifies the abundance of verbs that are found in the English verb inventory. Levin's (1995) study on English Verb Classes and Alternations provides large scale results of the English verbs that support this research's result. Therefore, Croft and Poole's multidimensional scaling (MDS) analysis using the thresh hold of 0.5% is adopted to scale down the verbs for further analysis. Thus, the verbs with the highest number of percentages are identified. It is important to note that occurrences of the head verb in the table above are

4,296. Therefore, adopting Croft and Poole (2008) thresh-hold of 0.5% indicates that the thresh hold in the context of the data above is a verb had to be used for a minimum of 22 contexts (representing 0.5%) in order to be included in the analysis. Consequently, the Table below provides all the verbs that satisfy the threshold and are used in our analysis.

4.3.1 The Selective Lexical Verbs based on the Frequencies and Percentages

In order to map out the head verbs that most occurred frequently, using the base line of 22 contexts (0.5%) as the thresh-hold and stress the role of frequency in language acquisition and usage, the Table below sorts out the co-occurrence of the verbs found in SSC with the aim of utilizing the frequency effect and identifying their semantic classes distribution. Table 7 below displays the most occurred verbs and their percentages.

Table 7: Co-occurrence of Verbs based on their Frequencies and Percentages

S/N	Head word(Verb)	Frequency	Percentage (%)	Lemma of the Verb
1	score	668	15.54	4, 296
2	kick	340	7.91	
3	celebrate	285	6.63	
4	card	253	5.88	
5	give	189	4.39	
6	pass	172	4.00	
7	push	172	4.00	
8	anger	142	3.30	
9	shoot	141	3.28	
10	shake	110	2.56	
11	throw	106	2.46	
12	shout	105	2.44	
13	blow	98	2.28	
14	play	83	1.93	
15	annoy	73	1.69	
16	catch	73	1.69	
17	run	56	1.30	
18	attempt	50	1.16	
19	hit	49	1.14	
20	make	49	1.14	
21	fall	46	1.07	
22	win	45	1.04	
23	enjoy	44	1.02	
24	clap	38	0.88	
25	go	37	0.86	

S/N	Head word(Verb)	Frequency	Percentage (%)	Lemma of the Verb
26	walk	35	0.81	
27	dance	32	0.74	
28	lose	32	0.74	
29	save	32	0.74	
30	complain	31	0.72	
31	raise	29	0.67	
32	send	24	0.55	
33	start	24	0.55	
34	miss	23	0.53	
35	bounce	22	0.51	
36	get	22	0.51	
Total = 36		3,730	=	86.82%

36 lexical verbs were identified as the most frequently used among the 177 verbs retrieved in the previous table (6). These verbs are either actual or zero-derived verbs that are related to nouns or related to verbs, i.e. having two lexical categories. The actual verbs are: *celebrate; give; annoy; enjoy; complain; and get*. Others that are verbs but also related to nouns are: *kick; pass; push; shoot; shake; throw; shout; blow; play; catch; run; hit; make; fall; win; clap; go; lose; save; raise; start; miss; bounce; walk and send*. The zero-derived, i.e. derived from nouns, are: *score; card; anger; attempt and dance*. The frequency of the occurrences for these verbs stands at 3,730 representing 86.82% of the lemma of the verbs (4,296) earlier calculated. This suggests that a large proportion of the verbs used in the sentences constructed by our subjects are adequate and the sentences they occurred in are a very adequate representation of the corpus.

The crucial information obtained from the data above indicates that high and low frequencies can be found not only in linguistic distribution unique to word distribution, but it is also present in the

distribution of verbs. Thus, the pattern of identifying a linguistic distribution through word frequency distribution (e.g. Baayen, 2001, 2008) and verb-object construction in CHILDES (Yang, 2008, 2010) confirm the data above as capable of presenting more linguistic distribution (in particular the distribution of verbs within the verb semantic classes). But before the distribution into verb semantic classes, a morphological distribution and their occurrences are also very important. Below is the Table that explains this case.

4.3.2. Selected Verbs, Frequency Distribution, Percentage and Morphological Form in the SSC.

Before the distribution of all the verbs identified in the SSC into verb semantic classes, which form part of the response to the first part of the research question number one, a morphological distribution of the verbs cited in the subject's corpus and their occurrences are also relevant to the understanding of verb meaning and argument structure. Below are the 36 selected verbs considered the most occurred lexical verbs identified from the corpus in Table 8.

Table 8: Selective Verbs from a Co-occurrence Table of Lexical Verbs in SSC Depicting their Frequency Distribution and Percentage.

Rank(r)	Headword	Frequency	Verb usage	Frequency	%	Morph. form
r ₁	score	668	scored	499	74.70	past tense
			score	154	23.05	present tense
			scoring	9	1.34	present continuous
			scores	6	0.89	present tense
r ₂	kick	340	kicked	192	56.47	past tense
			kick	140	41.17	present tense
			kicking	4	1.17	present continuous
			kicks	4	1.17	present tense
r ₃	celebrate	285	celebrated	157	55.08	past tense
			celebrating	50	17.54	present continuous
			celebrates	40	14.03	present tense
			celebrate	38	13.33	present tense
r ₄	card	253	card	183	72.33	present tense
			carded	70	27.66	past tense
r ₅	give	189	given	74	39.15	present perfect
			gives	52	27.51	present tense
			give	31	16.40	present tense
			gave	30	15.87	past tense
			giving	2	1.05	present continuous
r ₆	pass	172	passed	107	62.20	past tense
			pass	36	20.93	present tense
			passing	16	9.30	present continuous
			passes	13	7.55	present tense
r ₇	push	172	pushed	118	68.60	past tense
			push	50	29.06	present tense
			pushes	2	1.16	present tense
			pushing	2	1.16	present continuous
r ₈	anger	142	angry	126	88.73	adverb
			anger	11	7.74	present tense
			angered	5	3.52	past tense
r ₉	shoot	141	shoot	84	59.57	present tense
			shoots	52	36.87	present tense

Rank(r)	Headword	Frequency	Verb usage	Frequency	%	Morph. form
			shot	3	2.12	past tense
			shooting	2	1.41	present continuous
r ₁₀	shake	110	shook	70	63.63	past tense
			shake	18	16.36	present tense
			shaking	18	16.36	present continuous
			shaken	2	1.81	present perfect
			shakes	2	1.81	present tense
r ₁₁	throw	106	threw	34	32.07	past tense
			thrown	21	19.81	past tense
			throwing	12	11.32	present continuous
			throws	1	0.94	present tense
r ₁₂	shout	105	shouted	57	54.28	past tense
			shouting	33	31.42	present continuous
			shouts	15	14.28	present tense
r ₁₃	blow	98	blew	73	74.48	past tense
			blown	11	11.22	past tense
			blows	8	8.16	present tense
			blow	6	6.12	present tense
r ₁₄	play	83	played	38	45.78	past tense
			play	31	37.74	present tense
			playing	14	16.86	present continuous
r ₁₅	annoy	73	annoyed	62	84.93	past tense
			annoy	10	13.69	present tense
			annoying	1	1.36	present continuous
r ₁₆	catch	73	caught	41	56.16	past tense
			catch	18	24.65	present tense
			catches	12	16.43	present tense
			catching	2	2.73	present continuous
r ₁₇	run	56	ran	27	48.21	past tense
			running	13	23.21	present continuous
			run	12	21.42	present tense
			runs	4	7.14	present tense
r ₁₈	attempt	50	attempt	38	76.00	present tense
			attempted	11	22.00	past tense
			attempts	1	2.00	present tense

Rank(r)	Headword	Frequency	Verb usage	Frequency	%	Morph. form
r ₁₉	hit	49	hit	45	91.83	past tense
			hits	2	4.08	present tense
			hitting	2	4.08	present continuous
R ₂₀	make	49	made	39	79.59	past tense
			makes	5	10.20	present tense
			make	5	10.20	present tense
r ₂₁	fall	46	fell	32	69.56	past tense
			fall	10	21.73	present tense
			fallen	2	4.34	past tense
			falls	2	4.34	present tense
r ₂₂	win	45	win	21	46.66	present tense
			winning	10	22.22	present continuous
			wins	9	20.00	present tense
			won	5	11.11	past tense
r ₂₃	enjoy	44	enjoyed	23	52.27	past tense
			enjoy	21	47.72	present tense
r ₂₄	clap	38	clapped	20	52.63	past tense
			clapping	7	18.42	present continuous
			claps	6	15.78	present tense
			clap	5	13.15	present tense
r ₂₅	go	37	went	18	48.64	past tense
			go	12	32.43	present tense
			going	5	13.15	present continuous
			gone	2	5.40	present perfect
r ₂₆	walk	35	walked	30	85.71	past tense
			walking	2	5.71	present continuous
			walks	2	5.71	present tense
			walk	1	2.85	present tense
r ₂₇	dance	32	danced	24	75.00	past tense
			dance	4	12.50	present tense
			dancing	4	12.50	present continuous
r ₂₈	lose	32	lost	18	56.25	past tense
			loosing	6	18.75	present continuous
			lose	4	12.50	present tense
			loose	3	9.37	present tense

Rank(r)	Headword	Frequency	Verb usage	Frequency	%	Morph. form
r ₂₉	save	32	saved	17	53.12	past tense
			saves	8	25.00	present tense
			saving	5	15.62	present continuous
			save	2	6.25	present tense
r ₃₀	complain	31	complained	27	87.09	past tense
			complain	4	12.90	present tense
r ₃₁	raise	29	raised	22	75.86	past tense
			raises	5	17.24	present tense
			raising	2	6.89	present continuous
r ₃₂	send	24	sent	22	91.66	past tense
			send	4	16.66	present tense
r ₃₃	start	24	starting	13	54.16	present continuous
			started	7	29.16	past tense
			start	3	12.50	present tense
			starts	1	4.16	present tense
r ₃₄	miss	23	missed	18	78.26	past tense
			miss	3	13.04	present tense
			misses	1	4.34	present tense
			missing	1	4.34	present continuous
r ₃₅	bounce	22	bounced	13	59.09	past tense
			bounces	6	27.27	present tense
			bouncing	3	13.63	present continuous
r ₃₆	get	22	get	12	54.54	present tense
			got	10	45.45	past tense

In quantitative analysis, Table 8 presents the 36 most frequently used verbs in their rank order. This follows the Zipf law (Zipf, 1949) that assigns rank 1 to the most frequent word and the next as rank 2 and the third most frequent word as rank 3. Thus, in this study, the verb *score* is assigned rank 1, *kick* rank 2, and *celebrate* rank 3 up to the last three at the bottom: *miss* as rank 34, *bounce* as rank 35 and *get* as rank 36. These verbs that appear as the headword and their frequencies extracted from the ESL learners' corpus show how they were used in their morphological form providing the frequencies of each verb as it used, as well as its percentage. The first most frequent verb, *score* has a frequency of 668 with

scored used 499 times, representing 74.70%; *score* has 154 occurrences, representing 23.05%; *scoring* 9 occurrences, representing 1.34% and *scores* 6 occurrences representing 0.89% and collectively indicating the morphological distribution as past tense, present tense, present continuous and simple present tense, respectively. The verb *kick* was identified to be used as *kicked* for 192 times (56.47%), *kick* was used 140 times, representing 41.17% and *kicking* and *kicks* had 4 occurrences, representing 1.17% for each usage. These verbs also had their morphological form distributed along the past, present; present continuous and simple present tenses, respectively. The same cases apply to all the verbs that fall within the 36 most occurred verbs as used by the subjects of this study.

As presented in Table 8, there is a clear preponderance of SCORE over the 35 most commonly used verbs followed by KICK, CELEBRATE, CARD, GIVE, PASS, PUSH, SHOOT in the following order up to the last verb GET in the SSC corpus. The Table also gives the impression that a single verb can designate the subcategories of verbs, resulting to different morphological forms with the past tense showing a higher preponderance over present simple tense and followed with less present continuous tense usage. In a clear sense of verb usage, the past tense form of the verb used are: *kicked, celebrated, passed, pushed, shook, threw, shouted, blew, played, annoyed, caught, ran, hit, made, fell, enjoyed, clapped, went, walked, danced, lost, complained, raised, sent, missed, and bounced*. This implies that 27 out of the 36 verbs were used in the past tense form more than the other tenses, representing 75%. The present tense forms of the verbs used are: *card, shoot, and get* (3 verbs), representing 8.33% while the present continuous form of the verb used is *starting* (one verb) representing 2.77% and the present perfect form has *given* as the only verb used, representing 2.77%. Thus, when a verb meaning is combined with its morphological form, the resulting combination also forms part of its argument structure. The findings, which summarize the Table above appear to be similar with the result of Goldberg (1998) that claims that a single verb is capable of consisting a coherent semantic frame if it specifies both manner and result and further confirm Newman & Rice's (2006) claim that there is a highly significant effect that the high frequency of EAT is one of the factor that makes it more salient than DRINK and the relative distribution

across inflectional form (by both person and number of Subject and Tense, Aspect and Mood marking on the verb) does affect the argument structures of a construction. The distinction in the results above, is that in this research up to 36 different verbs were classified as against two verbs (EAT and DRINK) studied by Newman & Rice (2006).

As Table 8 represents the head word (verb) used mostly in the inflected forms: -ed; -d; d (zero); -s; -ing and -en revealing a morphological form of past tense, simple present tense, present continuous and perfect tense respectively, most of the incidence of transitive and intransitive usage can be best explained from the citations of the sentence constructions of our subjects. Therefore, Table 10 below presents a sample of transitive and intransitive usage of these verbs across the two contrasting argument structures in the written sentence constructions of our subjects. But before then, the distribution of verb semantic classes is provided in Table 9 below.

4.3.3 The Identification of Verb Semantic Classes as Used in the SSC Corpus

In English, lexical verbs are used both transitively and intransitively. Sometimes, within the same semantic class of the verb, one verb can take the transitive form and the other only the intransitive. To make an analysis of the verbs used by the subjects of this research in a particular event more vivid, the 177 lexical verbs identified in the sentence constructions were classified in terms of their semantic class, class membership, count and percentage.

Table 9: The Distribution of Verb Semantic Classes in the SSC Corpus using Levin’s (1995) Classification

S/N	Verb Semantic Classes	Class Members	Count	Percentage (%)
1	Psych – Verbs (verbs of psychological state) 1.1 <i>Admire</i> verbs	Positive: admire, enjoy, like, miss, stand, support	27	15.25

	<p>1.2 <i>Amuse</i> verbs</p> <p>1.3 <i>Marvel</i> verbs</p>	<p>Negative: hate annoy, attempt, anger, disturb, encourage, embarrass, excite, foul, move, motivate, satisfy, shake, shock, strike, strive, try, upset, worry care, cheer</p>		
2	<p>Verbs of Motion</p> <p>2.1 Manner of motion</p> <p>2.2 Inherited directed motion</p> <p>2.3 Accompany verbs</p>	<p>dance, head, jog, jump, march, roll, ran, walk, bounce, come</p> <p>cross, enter, fall, leave, go, attack, penetrate</p> <p>guide, lead</p>	19	10.73
3	<p>Verbs of Change of Possession</p> <p>3.1 Verbs of future having</p> <p>3.2 Verbs of obtaining</p> <p>3.2.1 <i>Get</i> verbs</p> <p>3.2.2 <i>Obtain</i> verbs</p> <p>3.3 Verbs of exchange</p> <p>3.4 Give verbs</p>	<p>assign, award</p> <p>get, catch, order, reserve, save, score, win, (Negative: card, fail, defeat</p> <p>collect, grab, receive exchange, substitute</p> <p>give</p>	18	10.16
4	<p>Verbs of Communication</p> <p>4.1 Manner of speaking</p> <p>4.2 <i>Say</i> verbs</p> <p>4.3 <i>Complain</i> verbs</p> <p>4.4 Transfer of message</p>	<p>call,, shout</p> <p>announce, comment</p> <p>complain</p> <p>demonstrate, display, teach, discuss</p>	11	6.21
5	<p>Verbs of Change of State</p> <p>5.1 <i>Break</i> verbs</p> <p>5.2 <i>Bend</i> verbs</p> <p>5.3 <i>alternate</i> verbs</p> <p>5.4 Zero related to Adjective</p> <p>5.5 Alternating verbs of</p>	<p>break</p> <p>bend</p> <p>change, clear, close, divide</p> <p>loose, warm</p> <p>replace</p>	9	5.08

	change			
6	Aspectual verbs 6.1 <i>Begin</i> verbs	begin, commence, conclude, continue, end, keep, start, stop, pause	9	5.08
7	Judgement verbs 7.1.1 Positive verbs 7.1.2 Negative verbs	applaud, celebrate, commend, praise, welcome, greet, thank punish	8	4.51
8	Verbs with Predicate Compliments 8.1 Characterize verbs 8.2 Conjecture verbs 8.3 Dub verbs 8.4 Masquerade verbs 8.5 Verbs of obtaining	take hold, maintain make behave, pretend pick	7	3.95
9	Verbs of Existence 9.1 Exit - verbs 9.2 Entity – specific modes of being 9.3 Contiguous location 9.4 Herd verbs 9.5 Modes of being involving motion	languish, live blow dominate, meet gather wave	7	3.95
10	Verbs involving Body 10.1 Gestures/signs involving body parts 10.2 Non-verbal expressions 10.3 Breathe verbs 10.4 Wink verbs	raise cry, laugh, smile dribble nod, point	7	3.95
11	Verbs of Appearance, Disappearance and Occurrence 11.1 Appear verbs 11.2 Reflexive verbs of appearance	begin, flow, spread, attend show, depict	6	3.38
12	Verbs of Throwing	hit, kick, pass, shoot, throw	5	2.82

13	Verbs of Social Interaction 13.1 Correspondence verbs 13.2 Marry verbs 13.3 Meet verbs	communicate embrace, hug play	4	2.25
14	Verbs of Searching 14.1 Searching verbs 14.2 Rummage verbs	check, dive, watch look	4	2.25
15	Verbs of Emission Verbs of sound emission	clap, scream, sing, whistle	4	2.25
16	Cognate Prepositional Phrase Construction Pocket verbs	bench, bottle, ground	3	1.69
17	Verbs of Exerting Force Push/pull verbs	push, pull, force	3	1.69
18	Verbs of Putting 18.1 Inspatial configuration 18.2 Put verbs 18.3 Fill verbs	lay put control	3	1.69
19	Verbs of Removing 19.1 Possession Deprivation: steal verbs Pit verbs	lift, snatch scale	3	1.69
20	Verbs of Perception 20.1 Peer verbs 20.2 Sight verbs	listen (to) spot, ignore	3	1.69
21	Verbs of Contact by Impact 21.1 Hit verbs 21.2 Swat verbs	Knock, tackle, punch (person)	3	1.69
22	Verbs Requiring Special Diatheses 22.1 Obligatory Reflexive Object 22.2 Obligatory adverb	defend do	2	1.12
23	Alternation Involving		2	1.12

	Argument within the Verb Phrase 23.1 Reciprocal alternation 23.2 Contain verbs	introduction afford		
24	Verbs of Assessment	analyse	1	0.56
25	Verbs with Predicate Compliment: Captain Verbs	coach	1	0.56
26	Verbs of Lingering and Rushing: Lingering	delay	1	0.56
27	Verbs of Separating and Disassembling: Split Verbs	draw	1	0.56
28	Verbs of Ingesting: eat verbs	drink	1	0.56
29	Verbs of Dressing: dress verbs	dress	1	0.56
30	Verbs of Desire: long verbs (for)	pray	1	0.56
31	Verbs of Assuming Position	sit	1	0.56
32	Verbs of Sending and Carrying: Send Verbs	send	1	0.56
33	Verbs of Creation and Transformation: Performance Verbs	replay	1	0.56

As shown in Table 9 above, 33 verb semantic classes selected from Levin (1995) were identified and the result summarizes the 177 lexical verbs used by the subjects of this study. In other words, the 177 verbs used in SSC corpus were distributed into 33 verbs semantic classes. The analysis depicts that psych-verbs (verbs of psychological state) were found to be used more than the other semantic class. Verbs of motion, change of possession, communication, change of state and aspectual follow in descending order. Interesting about the result in the Table above is that the 23 verbs used by the subjects of this study were not captured in Levin's (1995) verb semantic classes. These verbs are: *afford, attack, attempt, attend, card, command, control, defect, depict, discuss, fail, force, foul, ignore, motivate, pause, penetrate,*

pretend, replace, replay, score, snatch and strive. This, therefore, justifies the availability and complexity of verbs that can be found in a particular context, as well as in actual usage, especially as used by ESL learners, thus, revealing a linguistic knowledge and expression that are unique to a particular linguistic group. In the context above, i.e. using the football match experience, verbs of psychological state are vigorously used and followed by verbs of motion and other semantic classes of verbs.

4.4. The Data on the Types of Verbs, Tense–Aspect Constructions and Argument Structure Extracted from Citations in the SSC

The results in this section answer Research Question number two of this study. As such, this section describes the transitivity nature of the 36 lexical verbs identified as frequently used and the interaction of the basic tense–aspect constructions with their distinct aspectual characteristics across these three constructions of the simple present, the continuous and the simple past as revealed by the morphological form in the preceding co-occurrence Table 8. Below are some selected constructions with their distinct aspectual characteristics across these three constructions (simple present, present continuous and simple past). Although, thirty-six verbs were chosen as representative of a class of semantically similar verbs, as in the Table above, the citations that are used in the Table below are also representative of the same tense-aspectual characteristics of the 36 verbs. Thus, not all the citations presented below contain all the 36 verbs. The constructions (citations) selected were assume to have likely different variations as deemed by this research’s interpretability judgements. Therefore, the data presented here provide a good sample of the subjects’ sentence constructions along transitivity, tense-aspect (TA) constructions and semantic senses of the constructions.

Table 10: An Excerpt from Citations in the Subjects’ Sentence Constructions

Citations	Types of verbs (Transitivity)	Tense – Aspect (TA)	Sense(s)
(73)			
a. Oscar scores.	intransitive	Present tense	generic
b. Oscar scored.			

c. Oscar scored the goal.	intransitive	Past tense	achievement
d. *Oscar scoring the goal.	transitive	Past tense	achievement cyclic
e. Chelsea scores.	transitive	Present cont. tens	achievement
f. Chelsea players score four goals.	intransitive	Present tense	generic
g. Chelsea scored four goals.	transitive	Present tense	generic
	transitive	Past tense	achievement
<hr/>			
(74)			
a. Eto'o kicked the ball.	transitive	Past tense	directed activity
b. Eto'o kicked the ball into the net.	transitive	Past tense	directed activity
c. Eto'o kicked the ball out.	transitive	Past tense	directed activity
d. The player kicked the ball from a corner.	transitive	Past tense	directed activity
e. Rositsky kicks the ball out.			
f. The players kick the ball.	transitive	Present tense	generic
	transitive	Present tense	generic
<hr/>			
(75)			
a. Chelsea fans celebrated.	intransitive	Past tense	directed activity
b. Chelsea players celebrated the goal.	transitive	Past tense	directed activity
c. Chelsea coach celebrates M. Salah's goal.	transitive	Present tense	habitual
d. Eto'o celebrated his goal.			
e. The spectators celebrated again.	transitive	Past tense	directed activity
f. The spectators were celebrating.	intransitive	Past tense	directed activity
g. The spectators were celebrating their victory.	intransitive	Past cont. tense	undirected activity
	transitive	Past cont. tense	undirected activity
<hr/>			
(76)			
a. Gibbs was red-carded.	intransitive	Past tense	undirected activity
b. The referee red-carded Gibbs.	transitive	Past tense	undirected activity
<hr/>			
(77)			
a. Gibbs was given a red card.	transitive	Past perfect tense	undirected activity
b. The referee gave Gibbs a red card.	transitive	Past tense	undirected activity
c. The referee gave a red card to Gibbs	transitive	Past tense	undirected activity

d. The referee gives a red card to Gibbs.	transitive	Present tense	habitual
<hr/>			
(78)			
a. Sagna passes the ball.	transitive	Present tense	habitual
b. Oscar passed the ball to Eto'o.	transitive	Past tense	directed activity
c. The players pass the ball.	transitive	Present tense	habitual
d. The player passed the ball among themselves.	transitive	Past tense	directed activity
e. The players are passing the ball.	transitive	Present continuous	non-incremental accomplishment
<hr/>			
(79)			
a. Sagna pushed the ball.	transitive	Past tense	directed activity
b. Sagna pushed the ball out.	transitive	Past tense	undirected activity
c. Sagna was pushed down	intransitive	Past tense	directed activity
d. Sagna pushes Hazard.	transitive	Present tense	habitual
<hr/>			
(80)			
a. Arsenal coach is angry with the second goal	transitive	Present tense	transitory
b. Arsenal coach was angry with the second goal	transitive	Past tense	transitory
c. Arsenal coach was angered.	intransitive	Past tense	transitory
d. The players angered Arsenal coach	transitive	Past tense	transitory
<hr/>			
(81)			
a. Oscar shoots the ball.	transitive	Present tense	habitual
b. Oscar shoots the ball into the net.	transitive	Present tense	habitual
c. Oscar shot the ball.	transitive	Past tense	directed activity
<hr/>			
(82)			
a. The players are shaking hands with each other.	transitive	Present cont. tense	non-incremental accomplishment
b. The players were shaking hands with each other.	transitive	Past cont. tense	undirected activity
c. The players shook hands with each			

other.	transitive	Past tense	directed activity
d. The players shake hands with each other.	transitive	Present tense	habitual

At the first glance of the examples (73) – (82) above, one might give the impression that verb meaning can vary in many unlimited ways. But in these examples, that is not the case. What we have are several variations of meaning in terms of TA constructions, which suggest the construal (senses) of the English present, continuous and past constructions. They also suggest the subjects’ linguistic abilities and expressions associated to the use of the verbs and sentence constructions in written usage. These variations also involve not only the number and syntactic type of complement that the verb can take but also the allowable combinations of these complements in a construction. Therefore, Table 10 above provides the picture of this analysis.

As shown in Table 10, not only were the verbs being used in the intransitive and transitive forms, most of the citations reveal the incidence of greater transitive usages than in the case with intransitive usages. The past tense construction receives the greatest usages and the present tense is next followed by the present continuous tense. Though this analysis appears too general, below further expatiates the transitivity forms and the T.A constructions, as well as the senses of the constructions.

The sentences in (73a-g) are deemed intransitive and transitive. The sentences (73a, b and e) are intransitive and (73c, d, f and g) transitive. *Oscar scores, Oscar scored and Chelsea scores* entail that Oscar and Chelsea (in f and g) scored something that is unexpressed. The unexpressed second part is what makes the sentences intransitive and the expressed second part in 73c, f and g “the goal” and ‘four goals’ respectively justify the sentences as transitive. Though the distinction between the intransitive and transitive constructions lies on the traditional view of the omitted object or unexpressed object, (e.g. Huddleston 1988; Huddleston and Pullum 2002) what is revealing in the sentences above is that both

transitive and intransitive forms do take different TA constructions (e.g., present and past tense). In other words, the intransitive alternate in 73a and 73b attracts both present tense and past tense constructions just as the transitive alternate in (73f) and (73g) also attracts present tense and past tense constructions.

The present tense uses, as in (73a) *Oscar scores*; (73e) *Chelsea scores* and (73f) *Chelsea score four goals*, indicate a present time reference that is not fixed and also describes an action that is completed or is unfolding. This is viewed as reference to immediate report or as Croft (2012:46) describes it “sport caster use”. One might argue that these construals have generic senses in their argument structure constructions. The inherent or generic sense implies the inherent prototypical property of the construal. Where the inherent property is not available in the predicates, a generic interpretation of the predicates is allowed (Croft 2012). The generic interpretations of these predicates indicate that ‘score’ in the above constructions is a verb of obtaining in the *Give Verbs* subcategory that typically expresses the subject argument: Oscar and Chelsea in the construction above. When the subject is singular, the present tense of the verb is written in the plural sense as in “scores”. If the subject is plural, it takes the singular form of the verb as in “score”. Therefore, both subjects in (73a and b) have the ability and skills to be able to score and thus get it. Therefore, the inherent property (generic) construal in these sentences indicates that the subject in the present tense has a direct relationship with the consequence or result of the predicates i.e. the meaning or sense of the verb ‘score’ as in the construction above, which is associated to the inherent or generic characteristics of Oscar or Chelsea.

The sense or construal predicted by the past tense constructions in 73b, c, and g is an intended achievement construal. The achievement construal implies the meaning of construal that can be applied to a number of situations. In this construction, it allows us to argue that the situation reveals a change of possession for both subjects. Oscar achieved this possession by his ability to score and Chelsea also achieved by scoring four goals. Therefore, the construal or sense of the past tense usages in these sentences is a portrayal of an achievement. This supports Croft’s (2012) position that the achievement construal is a profile ‘shift’ that characterizes the past aspectual contour of the English sentences.

The cyclic achievement construal predicted by the present continuous tense construction in (73d) above indicates that the verb ‘scoring’ must be preceded by an auxiliary verb ‘is’ to make the sentence grammatical and meaningful as the “English progressive construction” (Croft 2012: 152). But the absence of ‘is’ reveals either a linguistic error or an error associated with written usage. Thus, the sense expressed by the continuous tense in the 73d is limited by the absence of the auxiliary verb.

Sentences (74), (78) and (81) show a common pattern with a few variations in the TA construal. All of the verbs in these sentences were used transitively with objects. The verbs “kick”, “pass” and “shoot” are described as verbs of throwing and the argument of these verbs refers to something set in motion and is accompanied by an agent performing the action. These kind of verbs are described as “instantaneously causing ballistic motion” (Gropen et al. (1989)) because they involve the use of a force. While all the constructions are in transitive usage, the tenses vary across past, present and present continuous tense constructions. These variations in the TA motivate the distinctions of senses as revealed in the Table.

The sense projected by the past tense constructions in (74a, b, c and d); (78c and d) and (81c) is a directed activity that allows these verbs (kick, pass and shoot) to be supported with adverbial phrases or prepositional phrases (e.g. into the net, from a corner, out, to Eto’o; and among themselves) or “directional phrases” (Levin 1995) or “durative adverbials” (Croft 2012). On the one hand, the present tense usages predicted generic and habitual senses as in (74e and f), (78a and b) and (81a and b), respectively. The argument structure constructions in (74e) express a generic property of the locative subject pattern, as is the case with (81b), which did not specify the location where the ball is kicked or shot. On the other hand, the construal of the present continuous tense in (78e) predicted a non-incremental accomplishment. This sense implies that the motion that is set by the action of the subject is intended to satisfy the extended meaning of the predicate that is not permanently inherent in the process. Therefore, the construction (78e: *They are passing the ball*) is a non-incremental accomplishment because it is in progress and not the only activity performed by the subjects.

Indeed, the transitive usage that is dominant in the findings above and the variations in the construal of the TA constructions are instructive for this research, as they demonstrate the kind of variations that can exist in written corpus. This is opposite to Newman and Rice (2006) finding that reveals the incidence of transitive usages having greater percentage in the spoken corpus than in the written corpus but for the verb “Eat” and “Drink” only.

The sentences (75a-g) involve transitive and intransitive constructions using a positive judgement verb ‘celebrate’. The verb “celebrated” indicates a past tense construction, as it used both transitively and intransitively in (75b and d) and (75a and e), respectively. It appears to predict a construal involving a directed activity. The directed activity construal in the past as indicated by these sentences allows the verb “celebrated” to be thought of as accomplishment. It is a directed activity that is expressed after an accomplishment. On the one hand, sentences (75b and d) are transitive because the direct objects “the goal” and “his goal” respectively denote the cause of the celebration. In other words, the single noun phrases (the goals) and (his goal) functioning as the direct object of the verb qualify the construction as transitive, as well as a directed activity construal. On the other hand, the sentence in (75a) does not have a direct object but sentence (75e) consists of an adverbial phrase which both qualifies the sentences as intransitive. Even though there is the absence of a direct object in (75a and e) as against (75b and d), these two alternations indicate that the verb ‘celebrate’ can be expressed as intransitive or transitive, indicating a directed activity that the subject performs. Levin (1995) describes this kind of verb as judgement verbs that have their alternation either denoting our attention to the subject in the construction or to the attributes of the direct object.

The transitive usage in 75c that indicates the construction in the present tense predicts the sense of the construction as habitual. This implies that “Chelsea coach” as in the construction above or any other coach in a football event, does celebrate if “an agent” (e.g., M. Salah in the construction above) performs or controls the action. Croft (2012:150) describes the habitual construal of the present tense as that construal that “is available for events which in the real world occur regularly, particularly if the

regularity is controlled by an agent". For the sentences in (75f and g), we notice two distinct intransitive and transitive usages indicating past continuous tense construction and predicting undirected activity. The alternation in these constructions appears so because the intransitive usage as in "The spectators were celebrating" is viewed as a single alternation if the verb 'celebrate' is given a single analysis. But the transitive usage in "The spectators were celebrating their victory" is viewed as having two double arguments (agent and experiencer) that can substitute positions with the verb 'celebrate' as in "Their victory was celebrated by the spectators" (Experiencer and Agent). This single extension, though in the past tense construction, qualifies sentence 75g as undirected activity just as sentence 75f is also an undirected activity.

The sentences in (76) and (77) are also in transitive and intransitive forms. The verbs "carded" and "give" or "gave" are viewed as change of possession verbs with "carded" as negative *give verb* and "give" as a give verb within the realm of verb of obtaining subcategory. Sentences (76a and b) are instances of intransitive and transitive uses. They are written in the past tense construction and proposing an undirected activity construal. The undirected activity construal that is noticed in the past tense constructions displays that the activity prior to its occurrence was not deliberately intended by the subjects in (76a and b). In fact, the transitive usage in (76b) illustrates the agent as (the referee) and the recipient as (Gibbs). However, the semantic meaning of the verb "red-carded" is interpreted to mean "out of play", as in the case of a football match. What is clear from this construction is that "red-carded", as used above, is an element of coining. The word "red" is an adjective denoting a colour and "card" is a noun denoting thick stiff paper or a verb which implies showing. But coining a new lexeme "red-carded", which is used in the constructions above, indicates "creativity" in language. The construction perfectly fits what Goldberg (1995) posits that a verb can occur in any argument construction in as much as it is compatible with the argument roles of the construction.

While the sentences in (76a-b) are considered as elements of neologism in this research, sentences (77a-d) describe all the instances of *give verbs* to possess a direct object and sometime a

prepositional phrase in their constituents. Sentences (77a and b) consist of such a direct object and (77c and d) also consist of a direct object as well as a prepositional phrase “to Gibbs”. This, therefore, justifies the constructions above as a “causative alternation”, since the transitive use of the verb “give” can also take the prepositional phrase as an oblique. Thus, Levin (1995) describes this kind of construction as “causative/inchoative alternation” that shows the verb as capable of showing two or more alternations that do not qualify one as an instance of the other in a construction.

The constructions in (79a-d) show a slight difference with the alternations in sentences (77a-d). The verb “push” is considered as one of the verbs of exerting force. In other words, there is an element of force that is exerted when “push” is used in a construction. Therefore, sentences (79a, b, and d) are used in transitive form, indicating past tense and directed activity as they relate to (79a and b) with (79d) indicating present tense and a habitual sense TA construction. The alternate sentence in (79c) indicates intransitive usage in the past tense and a directed activity construal. Using Levin’s (1995) analysis, sentence (79a): “Sagna pushed the ball” can be viewed as a conative alteration, (79b): “Sagna pushed the ball out” as a resultive phrase because of the word “out” and “down” as another adverbial phrase in (79c). These alternations indicate that, even though it is the same verb that is used in all the constructions, the meaning of each construction differs because of the type of force exerted, as indicated by the different phrases.

The psych-verbs “anger and shake” are used in sentences (80 and 82). They show a fairly large variation in their argument structure constructions. The verbs in the constructions (80a, b and d) are used transitively and intransitively in (80c). All the constructions (82a-d) show transitive usages. The tense-aspect constructions also vary as sentences (80a and 82d) exhibit present tense and (82a and b) exhibit the present continuous tense construal. The past tense constructions are noticed in (80b, c and d), as well as (82c). Generally, the transitory sense is predicted in the sentences (80a – d) while we notice variations of senses in (82a – d): (non-incremental accomplishment in (82a), undirected activity in (82b); directed activity in (82c) and habitual construal in (82d).

The argument structure constructions patterns that are observed in (80a – d) allow alternation between a subject NP and a PP (80a vs. 80b) with the only distinction in the tense-aspect and between subject or agent stimuli and object or patient stimuli (80c vs. 80d). In other words, sentences (80a) and (80b) show the presence of a subject (i.e.) noun phrase: Arsenal coach + V + a prepositional phrase (with the second goal) and sentences (80c and 80d) project two constructions that consist of a subject or an agent stimuli “Arsenal coach” in (80c) and the agent stimuli changes its role to become the object or a patient stimuli in (80d). Thus, the unexpressed object in (80c) is now expressed in (80d) but takes the position of the subject (the players) and the subject now becomes the object stimuli (Arsenal coach). The sentences in (82a – d) display the characteristics of the psych – verb “shake”. This alternation displayed by the transitive verb ‘shake’ indicates that it involves motion and alternates with each other, i.e. a prepositional phrase. The alternating preposition in the constructions (82a – d) takes collective NP as the oblique. Therefore, the verb “shake” is viewed as a verb of mode of being involving motion (Levin 1995) and it also has the variant “with” in the constructions above. Other argument structure alternations have been investigated and the results have shown divergent alternations either between stimulus and experiencer subjects (e.g. Grinshaw 1990, Dowty 1991) and a few like the above finding report the “with variant” in actual language usage.

Adopting Croft’s (2012) lexical aspectual and grammatical aspect on tense-aspect analysis, we conclude that there exist in our subjects sentence constructions the presence of construal (senses) of the English present tense indicating generic, transitory and habitual usages; the present continuous tense indicating cyclic achievement and non-incremental accomplishment usages; the past tense showing achievement, directed activity, undirected activity construal and the past continuous and past perfect predicting undirected activity, respectively. The preponderance of transitive usage over the intransitive usage finding also confirms some of the findings by Newman and Rice (2006) that transitivity is a feature that is mostly found in written corpus. It also contradicts the results of Thompson and Hopper (2001) that assert low transitivity in written usages and greater usages in spontaneous conversation.

4.5 The Data on the Types of Lexical Semantic Features Encoded in the Arguments of Some Verbs Extracted from the SSC.

The results below are responses to Research Question three of this study. Consequently, this section illustrates the lexical semantic representations found in the constructions analyzed in 4.8 with focus on semantic role, argument structure/ realization, concordance, collocation and senses. Therefore, the verbs in these constructions represent the 36 lexical verbs identified as the most frequently used in this research.

4.5.1 Data Related to the Semantic Roles Argument (Thematic Roles)

Below are some examples of the verbs used by the subjects of this research, indicating the thematic roles of the participants in the event described by the verbs in their sentence constructions.

Agent > theme

73. a. Oscar scores.
b. Oscar scored.
c. Oscar scored the goal.

Agent > location

74. a. Eto'o kicked the ball.
b. Eto'o kicked the ball into the net.
c. Eto'o kicked the ball out.

Experience > theme

75. a. Chelsea fans celebrated.
b. Chelsea players celebrated the goal.
c. Chelsea coach celebrated M. Salah's goal.

Beneficiary > theme

76. a. Gibbs was red-carded.
b. The referee red-carded Gibbs.

Agent > patient > instrument

77. a. The referee gave Gibbs a red card.
b. The referee gave a red card to Gibbs.

Agent > theme

78. a. The players passed the ball.
b. The players passed the ball among themselves.

Agent > theme

79. a. Sagna pushed the ball.
b. Sagna pushed the ball out.

Experiencer > Stimulus

80. a. Arsenal coach was angered.
b. The players angered Arsenal coach.

Agent > Location

81. a. Oscar shot the ball.
b. Oscar shot the ball into the net.

To illustrate how semantic roles contribute to lexical semantic feature, sentences (71 – 83) provide that plat-form. The verb *scored* as used in (73a and b) appears in two different intransitive syntactic contexts, present simple (scores) as in (73a) and past tense (scored) in (73b). But in (73c) it appears in transitive syntactic context. The semantic role in sentences (73) indicates that the participant *Oscar* is the subject with the agent role and the constructions allow an agent and theme relationship. In

(73a and b), the verb *score*, which falls in the category of verb of obtaining, i.e. *get verbs*, selects arguments bearing on the subject (agent) only and in (73c) describes argument on the subject (agent: Oscar) and the NP (the goal), which is the theme. The verb *scored* describes the agent in transitive form and introduces the subject as the one causing the event, i.e. “Oscar scored the goal”. Following this argument, we can conclude that the sentences in (73a-c) with *scored* as one of the *Get Verbs* appear to be intransitive in (73a and b) but contain a single NP in (73c), which is (transitive) and, therefore, bears one semantic role: the agent > theme. Thus, in English sentence constructions, the verbs used can show double semantic argument of transitivity and intransitivity. That is why Poutsma (1926:54) asserts that in English grammar “almost all verbs are used both transitively and intransitively”.

The sentences in (74) describe “kick” as a verb of throwing that involves the use of force. Its argument involves an entity set in motion and moves without the support of the agent of the action. The sentences in (74b and c) further reveal an agent, a theme and location argument: “Eto’o kicked the ball into the net” and “Eto’o kicked the ball out”. In essence, two semantic roles are noticed. In 74(a), an agent and theme are identified without the location. The two semantic roles both identified in 74(b) and 74(c) as an agent and a theme for the two sentences are also based on the claim that Eto’o (the subject or agent) initiates the action, which moves to a location (into the net and out). The fact that Eto’o intentionally kicked the ball into the net necessitates the qualification of the semantics of role “theme” and “agent”. For the location “out” in 74(c), the integration of the football video (main event) and the event description of the sentence construction can prove whether it is intentional or not and qualify it to be both agent and theme. However, if Eto’o unintentionally kicked the ball out, the verb is said to have one semantic role “theme”. But if it is intentional, the verb then has a dual semantic role of agent and theme. The latter role is the case with this construction. This analysis of a dual semantic role confirms Gruber’s (1976) and Jackendoff’s (1983) findings that sentences with verbs of motion and verbs of transfer of possession do bear two semantic roles. So, we can also conclude that verbs of throwing, which have an element of

motion, as in the cases above, do exhibit the same sense of two semantic roles as against Fillmore's Case Grammar (1968) that suggests one semantic role per clause or sentence.

The sentences in (75) depict "celebrate" as one of the semantic classes of verbs called judgement verbs. Levin (1995:1996) describe these types of verbs as "verbs that relate to a judgement or opinion that someone may have in reaction to something". Therefore, the sentences in (75) also depict intransitive usage in (75a) and transitive usages in (75b and c). The verb "celebrated" in (75a) displays one single semantic argument with the subject (Chelsea Fans) as the experiencer. In other words, Chelsea fans (the experiencers) celebrate sequel to a judgement or reaction of a particular activity. While sentences 75(b) and 75(c) purport instances of two – NPs with the same role as object: the *goal* and *M. Salah's goal* respectively. Closer examination reveals that the verb "celebrated" in the two constructions reveals the same arguments of experience, as neither the experiencers (Chelsea fans) in (75b) and nor (Chelsea coach) in (75c) is the agent, i.e. the initiator of the action (the goal) that causes the need for the celebration. Nevertheless, verbs like *celebrate*, which is a judgement verb, exhibit a non-causative transitivity alternation (Merlo and Stevenson 2001) and that is why it has the presence of both the unexpressed object in the intransitive constructions "*Chelsea fans celebrated*" and the expressed objects in the transitive constructions "*Chelsea players celebrated the goal*" and "*Chelsea coach celebrated M. Salah's goal*".

The examples in (76 and 77) involve the addition of one element (coining) and double objects, respectively. The verb 'carded' in a football event is viewed amongst the *get verbs* but with a negative implication. Thus, the sentences in (76), on the one hand, show both intransitive and transitive usage but in (77), on the other hand, display transitive usage only. The verb "red-carded" shows one single semantic role argument as Beneficiary in both 76(a) and (b). "Gibbs was red-carded" indicates that Gibbs is the beneficiary for whose benefit the action (red-carded) was performed. The same applies to the transitive construction: "The referee red-carded Gibbs". "Gibbs" is the entity that benefitted from the action of the referee. In sentences 77(b) and (c), we notice a change of the semantic role of *Give* verbs. Even though

both of the two *Get* verbs: *card* and *give* describe change of possession, the constructions in (77) using the verb *gave* indicate that the subject (the referee) is an agent. Further examination highlights the presence of the NPs “a red – card” and “to Gibbs” in 77(b) and (c) respectively and thus deemed the verb *gave* in both constructions to involve an agent – semantic role for the subject (the referee). While the verb, “card” coined “red-carded” in (76) above participates in the benefactive argument, the verb “give” written as “gave” in (77) above displays the dative alternation showing double object construction but headed by “a” and the preposition ‘to’ in (77b and c), respectively.

In sentences (78 and 81), the verbs “pass” and “shoot” are described as verbs of throwing. They exhibit a sense by means of change of possession, as in 78(b) and (d) and change of location in 81(a) and (b). As a result, we notice in the constructions alternations or what Levin (1995:146) refers to as “Dative alternation”. The verb “passed” in 78(b) and (d) describes the sentences as Agent > theme semantic constructs. The subject (The players) is the agent and “the ball” and “the ball among themselves” as the theme. So is the case with the analysis of the sentences in 81(a) and (b). The only difference is that in (81b), we notice the presence of location in the construction. Therefore, the verb “shoot” in 81(a) and (b) projects an agent > location argument. The issue of a dual semantic role, as in the verb “kick” in sentences (74a-c), is only identified in both sentences (78 and 81). For instance, the subject of “pass” in “*The players passed the ball* and *The players passed the ball among themselves*” is both an agent and a theme because we observe the movement of the ball, as well as the location it moves to. In the case of 81(a) and (b), we also notice similar ‘forceful move’ and location (into the net). These intentional readings by the subjects (The Players) that they passed the ball and among themselves and (Oscar) shot the ball and into the net make the constructions have two semantic roles: “agent” and “theme”. But this latter analysis, as Levin and Rappaport Hovav (2005) observe, reflects one of the problems associated to one-to-one correspondence in Semantic role analysis.

The sentences in (79) reflect the verbs of exerting force. The verb “push” is considered as one of such verbs with “pull” and “force” as part of this category (Levin 1995). In 79(a) and (b), the verb “push”

exhibits transitive usage with the semantic role of agent and theme in 79(a) and Agent and location in 79(b). In 79(a), the subject (Oscar) who is also the agent “pushed the ball”. The meaning of the verb “push”, even though describing exertion of force, is not measured in 79(a). But the type of force exerted is noticed in the alternate sentence in 79(b), which describes the location of the ball. Following this argument, we can conclude that verbs of exerting force are identified and differentiated by the presence of a location as in the sentence above or with a preposition after the object.

The last sentences in (80) show the manifestation of verbs of psychological state in the sentence constructions by the subjects of this research. The verb ‘anger’ is a psych-verb that characterizes the semantic roles of (80c) and d as experiencer and the stimulus. (80c) is described as intransitive with “Arsenal Coach” expressed as the subject as well as the experiencer. The stimulus is not expressed in this construction and so renders it as intransitive. But the construction in (80d) has an expressed object (The players) that stimulates the experiencer’s (Arsenal coach) behaviour. Thus, we can assume that “amuse psych-verbs” like “anger” do possess the property to be used in transitive and intransitive forms. It also expresses arguments that borders on the experiencer (e.g. 80c) only as well as experiencer and the stimulus (e.g. 80d). This stimulus can be the cause, object of emotion, target of emotion or sometimes theme (Levin, 1995). The sentences in 80(c) and (d), therefore, projects a causative alternation with (80c) not expressing the cause of the anger and (80d) describing the cause of the anger. It is, therefore, possible to conclude that verbs of psychological state do allow various transitive and intransitive constructions with attention to Subject/Experiencer Vs Stimulus or Cause relationships. Grimshaw (1990) and Levin (1995), for instance, observe that various properties can be found in the arguments of psychological verbs.

4.5.2. Data Related to the Argument Structure/Realization in Some of the SSC

In this section, we consider the argument structure of the subjects’ sentence construction in relation to the argument realization or argument alternations of the constructions. Using the citations in 4.8 below are examples of these argument realizations, as used by the subjects of this study.

73. a) Oscar scores.
b) Oscar scored.
c) Oscar scored the goal.
d) Oscar scoring the goal.
e) Chelsea scores.
f) Chelsea players scores four goals.
g) Chelsea scored four goals.
74. a) Eto'o kicked the ball.
b) Eto'o kicked the ball into the net.
c) Eto'o kicked the ball out.
75. a) Chelsea fans celebrated.
b) Chelsea players celebrated the goal.
c) Chelsea coach celebrated M. Salah's goal.

These sentences show that the argument realizations of these constructions are expressed not only in a single set of arguments but a multiple argument realization. Whereas sentences (73a) and (b) describe a change of possession, i.e. getting a score, (73c and g) describe Oscar and Chelsea respectively as those responsible for the change of possession or responsible for getting the score, which invariably changes the football match situation. It appears that sentences (73a, b, and e) are related by paraphrase in sentences (73c, f and g), as the getting event in these sentences is connected to the one responsible for the change of possession. More importantly, there is the addition of one element selected by the verb: an NP (the goal,

and four goals) in these sentences as against the sentences in (73 a, b and e). While the arguments of the verb *score* includes the ability to get a point and so changes the possession of the event, it has a reading in which its argument refers to the one responsible for scoring and also projects the number of scores as employed in the NPs (the goal and four goals) respectively. In (73c) one person, i.e. single subject (NP) Oscar is responsible for one goal (the goal) and in (73f and g) a plural subject: Chelsea players and Chelsea as a team (collective noun) are/is responsible for the four goals, respectively.

In sentences (74a - c), we noticed another multiple argument realization with the verb *kick* displaying one single argument and the constructions showing multiple arguments that integrate both the meaning of the verb (minimal meaning) and the extended meaning of the argument structure constructions. In (74a), reference is made to a verb of throwing: *kick* and what the subject kicks, i.e. the ball, but in (74b) and (74c) other resultive events of the subject actions are described, i.e. *into the net* and *out*. In terms of event structure, *kick* is associated with the ball in (74a) but in (74b) and (74c) there is an addition of the arguments *into the net* and *out*. These additional arguments give rise to what this research refers to as resultive construction (into the net and out).

The resultive construction: “Eto’o kicked the ball into the net” and “Eto’o kicked the ball out” can be interpreted in line with Goldberg’s (1998) analysis as form: Subj V Obj X comp. meaning: X causes Y to become Z. By extension, Eto’o is the subject; kicked is the verb; the ball is the object multiplied by the compliment: “into the net” and “out” in both examples. The argument of the two compliments in these examples and the argument structure constructions justify the two constructions as resultive constructions. Therefore, both the lexicon, including the verb *kick* and the syntax, i.e. the sentences in these examples, stress the meaning of the overall constructions. Evidence for a single event in a sentence or a clause closely bound by the verb and the additional argument identified in the result phrase are available in some researches (e.g. Tenny 1994, Levin and Rappaport Hovav 1995).

Furthermore, the analysis of sentences (78) and (81) in table 4.8 using *pass* (the ball) and *shoot* (the ball) respectively reinforces the arguments of throw verbs, as identified in this research. For instance, *kick* in the preceding paragraph is described as the exertion of a force on the ball by Eto'o. So also, the sentences with *pass* and *shoot* (similar throw verbs) also express exertion of force on the ball and entail a double object/and reflexive pronoun argument as in *Oscar passed the ball to Eto'o* and *the players passed the ball among themselves*. Moreover, the verb *shoot* in the construction *Oscar shoots the ball into the net* also expresses an argument that entails the entity of the force and where the motion of shooting reaches, i.e. a particular goal. The directed goal, i.e. into the net, reinforces the view that verbs of throwing do take a multiple argument realization in sentences where they are used. Therefore, a different categorization of objects is found in a wide range of sentence constructions using throw verbs as used by our ESL learner's in this research.

Similarly, the sentences in (75) consist of an event composition with a judgement verb "celebrate" that is un-accompanied in (75a) and accompanied by a post-verbal NP in (75b and c). The post verbal NPs: *celebrated the goal* and *celebrated M. Salah's goal* buttress the additional argument of the constructions when compared with the single argument in "Chelsea fans celebrated." Although the subjects of the three constructions in (75) differed, the verb *celebrate* is coded as a judgement verb because it consists of something or a cause that stimulates the celebration. Therefore, the arguments expressed by the verb *celebrate* are found in both transitive and intransitive usage. Specifically, (75a) entails "experiencer" argument (Chelsea fans) and (75b and c) entail both an experiencer argument (Chelsea players and Chelsea coach respectively) and "causative arguments" (the goal and M. Salah's goal), i.e. the objects in (75b and c). So, beside the surface meaning of the construction in (75a) indicating a reaction to something, i.e. the verb "celebrate", is used as a reaction to something, the constructions in (75b and c) provide the action or cause that led to the celebration. Thus, these alternate constructions express additional arguments that are available in the subtypes of construction that deal with judgement verbs. This analysis so far presents two vital points from the subject's language usage. First, single and

multiple arguments are realizable in the sentence constructions of language users. Second, when a particular event (e.g. football event) is integrated in order to understand the knowledge of verb meaning and argument structure, language users perceive the same scene from different points of view and these divergences become the prime factor that determines such constructions.

In the same vein, the sentences in (80) and (82) display one single event that consists of two arguments with variations in the tense aspectual dimension. These variations offer multiple arguments realization that can be found in the aspectual categorization. The verbs *anger* and *shake* viewed as verbs of psychological state or psych-verbs best describe this situation. The constructions in (80) offer two arguments with *anger* used by the subjects of this study in intransitive form, as in *Arsenal coach was angered* and transitively in the other sentences. The same two arguments are expressed in (82) with the sentences used transitively. The two arguments in the “anger event”, as described by the sentences, are the subject’s psychological state, i.e. *Arsenal coach* is *angry* and “with variant” argument. In the “with variant”, there exists an argument that presents the cause or the root of the anger. The same arguments are also present in sentences (82) with the verb *shake* involving the amusement psychological state argument and “with each other” displaying the second argument with the multiple argument realizations noticed in the tense-aspectual dimension. The tense–aspect dimension further reveals the distinction of the time when both actions took place. It, therefore, becomes apparent that all the active constructions in these sentences used by the subjects of this study reveal a Noun Phrase “with variants” projecting the second arguments that are found when using psych-verbs and triple or multiple arguments when the tense – aspect usages vary.

Finally, this analysis on argument structure/realization, as described above, further highlights that semantic roles analysis does not suffice lexical semantic representation. In addition, the analyses above are just this researcher’s interpretation judgement and thus there exist various and divergent argument realization analyses giving a basis for further collocations and senses analysis below.

4.5.3. Data Related to Collocations and Senses as Used in the SSC.

In this section, we analyze a number of collocations for the insights they provide to the constructions and the way the subjects of this study conceptualize a particular scene from the football match and thus translate such experience into sentences or written constructions. The same citations in 4.8 are used as examples to point out the collocations found in each construction. It is equally important to note that even though collocations are relations within a syntactic unit between individual lexical elements (Matthews 2002), their analysis may show “peculiarity” or “idiosyncratic” usages by our subjects even when the same scene or situation is being described by the football match events. Therefore, this research focuses its attention on some selected verbs that appear more frequently within the constructions investigated, namely collocations that enter into the following: verbs of change of possession (e.g. score, card, and give); verbs of throwing (e.g. kick; pass; and shoot), judgement verbs (e.g., celebrate) and psych-verbs (i.e. verbs of psychological state (e.g., anger; and shake).

4.5.3.1. Verbs of Change of Possession and their Collocations

In order to track down the lexical elements that collocate with each of the verbs of change of possession, both the left and the right lexical words that become evident within the concordance lines in which the respective verbs appear were identified and analyzed. The expressions by the subjects extracted from their sentence constructions indicate that the verbs ‘score’, ‘card’ and ‘give’ are verbs of change of possession that are sub-divided into verbs of *obtaining* (score and card) and *Give* verbs (give). The verbs of obtaining are further sub-categorized into two: positive *get* verb (score) and negative *give* verb (card),

In the sentences constructed by our subjects, some of the following expressions describe the collocations that enter with the verb “score”. These expressions are: Oscar scored; Oscar scored the goal; Chelsea scores; Chelsea scored four goals etc. The verb *score* in these sentences co -occur with specific

subject phrases (NP) at the left side of the concordance line and adverbial phrases at the right side of the line. Thus, Oscar (n=319) and Chelsea (n=469) co-occur with the verb “score” in the NP’s position at the left side. This indicates the words that collocate with the verb “score”, which is positive *get* verb that changes the position of the score line. Other words identified that collocate with the verb “score” in the NP position are: Hazard (n = 150); Rosicky (n = 83); Salah (n = 24); the (n = 3268); a (n = 498); player (n = 624); they (n = 31); he (n = 70); the, Player; ball (n = 1,032); etc. It also co – occur with the following at the adverbial position: the, goal(n=556); four(n=176) goals; again (n = 29); the third (n = 24) goal; a, penalty (n = 68); Kick (n = 140); a goal; by (n = 117) Oscar; another (n = 58) goal; with (n = 163); header (n = 8); with, shot (n = 52); in, 25th minute, etc. These expressions extracted from the usage data are manifestations of linguistic expressions reflecting the construal of a scene or scenes. The NPs or subjects and the adverbial phrases cited above buttress the relations that exist between the verb and other lexical words within the constructions. To further confirm these words that collocate with “score”, a search in the BNC revealed that “score” does collocate or occurs with goal (589), with (172), point (479).

The constructions that consist of “card” and “give” representing the verbs in the sentences display mixed results in their collocations. The verb “card”, which is a “negative *get* verb”, was coined by the subjects of this study to include in its verbal position “red carded” or “yellow carded”. In the expressions *Gibbs was red – carded* and *the referee red – carded Gibbs*, we notice the presence of a human entity “Gibbs” as its collocates; “was” as an auxiliary and “red” an adjective indicating a colour with an allomorphic variation /id/ that changes the noun “card” to a verb “carded”. The human entity (Gibbs) gets the negative signal, i.e. sent off the field while the senses implied in the second expression by the words “the” and “referee” as the subject phrases, as well as words that co-occur at the left side of the concordance lines suggest a definite article (the) and personified entity “referee” (n = 258) administering the rule on the human entity (Gibbs), i.e. showing him the red – card that sent him off the field. Thus, “Gibbs” (n = 60) collocates with the coined verb “red – carded” at the right side of the concordance line.

Other words that collocate with this verb are: was (n = 59), red (n = 39), yellow (n = 39), ball (n = 13) Rosiskey (n = 8) Coach (n = 5) to (n = 5), etc.

For the verb “give”, the results of its collocations are spread across personified entities and a human entity. We notice the human entity in the expression: Gibbs was given a red – card. “Gibbs” (human entity) gets a concrete object “red – card” and thus he was sent off the field. But the expression: *The referee gave Gibbs a red – card* presents a personified entity (the referee) as the subject phrases and a concrete object (a red card) acting on the human entity (Gibbs). Thus, the following enter into collocation with the verb “give”, which also is a *Give* verb that changes the possession/or mood of the football match when an individual is given the red card. These words are: was (n = 68); card (n = 56); the (n = 54); a (n = 50); red (n = 41); player (n = 27); ball (n = 12); coach (n = 7); Arsenal (n = 7) etc.

This means that language users do not only use their respective verbs to express their perception on a particular scene, but they extend their lexical knowledge to include them in their constructions indicating the presence of similar or multiple categorization of the same lexical items, as in the cases above. That is why Rice (2002:61) notes that “even when functioning as locational or existence predicates, the cardinal English posture verbs impose a powerful covert semantic on their themes”. On the one hand, Rice (2002:62) further asserts that “language partitions their posture lexicons differently subject to contrasting motivations and expressive need”. On the other hand, Schonefeld (2006:302) concludes that “the observable differences in a language’s wording can be explained as following from the perception of one and the same scene by employing radically distinct image schemas”.

4.5.3.2 Verbs of Throwing and their Collocations

Following the same pattern as in the preceding sub-section, the underneath provides the collocations that enter into the verbs of throwing namely: *Kick*, *pass* and *shoot*. Assuming that the meanings of these three throw verbs are the same because they are viewed as verbs of “instantaneously causing ballistic motion” (Gropen et al. (1989) by revealing a force, identifying and connecting the

collocations that enter with these verbs provide the differences, as well as the importance and prominence of the lexical words that form part of the constructions.

First, “kick” as used by the subjects of this study collocates with Eto’o, Rosiskey, a, player, the, ball, was, He, one, of, etc. as the subject(s) and enter into relations with some other words after the verb (i.e.) at the right side of the concordance line. These words are: a, penalty, the, ball, out, into, net, etc. Therefore, expressions like *Eto’o kicked the ball; Eto’o kicked the ball into the net, the player kicked the ball from a corner and Rosiskey kicked the ball out* explain the identified collocations. Elaborating on the embodied meaning of kicking and integrating its usages within the scope of football event, we find a number of images that reflects more human beings as the subject (e.g. Eto’o Rosiskey or any other person within the play ground) and can be replaced with the pronoun “He” or a common noun “player “. The subject can also be a concrete object (e.g. ball). When the subject that collocates with the verb “kick” is a concrete object, the lexical item “was” precedes the verb. Thus, we notice the usages above with the following frequency Eto’o (n = 18); Rosiskey (n = 11); player (n = 20), a (n = 11) and ball (n = 62).

In a similar way, “pass” is significantly frequently associated with the (n = 116: 31 on the left side and 85 on the right side); ball (n = 81: 7 left and 74 right); to (n = 25: left and 24 right); Eto’o (n = 9: 6 left and 3 right); themselves (n = 6: all 6 right) and among (n = 5: all 5 right). This finding is similar to the result above, but the distinction appears in the separation of where the words occur in: while “the frequency of the words that co-occur with “kick” are not separated, the results in the usage of “pass” provides the number of frequencies on the left side, which serves as the subject and on the right side it serves as the object or adverbial position. Closely related to the findings in the preceding paragraph, the senses of these words are the same: human beings; pronoun; concrete objects and closed words (e.g. the – determiner).

In the same vein, the finding as it affects “shoot” revealed that the verb “shoot” as used by the subjects of the study is significantly frequently related with the following: the (n = 68): 16 left and 52

right); ball (n = 41: 1 left and 40 right); Arsenal (n = 15: 5 left and 10 right); David (n = 14: 14 left); Oscar (n = 11: 11 left); net (n = 10: 10 right); against (n = 10:10 right); into (n = 9: 9 right), target (n = 6: 6 right) and on (n = 6: 6 right). The summary of the result here indicates that apart from the closed classes word (the – determiner) and the human entity that function as the subject (e.g. David, and Oscar) and co-occur in the left side, majority of the words that collocate with the verb “shoot” take their position at the right side of the concordance line. This suggests that prepositions (e.g. into, on); concrete objects (e.g. ball, net) and motion objects (e.g. target) perfectly fit in the aftermath position of the verb “shoot” than its preceding position.

Thus, throw verbs significantly show relations with a human entity or concrete object as well as personified entity and closed words with the difference in the amount of force being exerted on the three verbs: while “kick” and “shoot” have a more amount of force being exerted and “pass” takes less force being exerted. And the difference between “kick” and “shoot” also lies on the force with “shoot” having a greater amount of force than “kick”.

4.5.3.3. Judgment Verbs and their Collocations

As the only judgment verb extracted in this analysis, “celebrate” is significantly used by the subjects of this study with wide range of lexical words. Since this verb relates to a judgment or an opinion that led to the reaction of something, the constructions cited by our subjects display the words that enter into relation with “celebrate”. The sentences in (75) present the preferred lexical words that collocate with “celebrate”, as used by our subjects: e.g. *Chelsea fans celebrated*; *Chelsea players celebrated the goal*; *Chelsea’s coach celebrates M. Salah’s goal*; *Eto’o celebrated his goal*; and *The spectators celebrated again*.

To begin with the first sentence: *Chelsea fans celebrated*, we notice two-compound words “Chelsea” and “fans”. They are frequently associated with the verb “celebrated” in the following frequency: Chelsea (n = 50: left 49 and right 1) and fans (n = 21: left 20 and right 1). This shows that

judgement verbs can take only the subject phrase and signal a meaning even though what led to the celebration is not specified, but certainly it is implied as a reaction to something. In “Chelsea players celebrated the goal” and “Chelsea’s coach celebrates M. Salah’s goal”, we notice the cause of celebration, as well as the additional lexical words that collocate with “celebrated”. They provide the cause of the celebration that was not available in the first sentence. These words are *the* (n = 144: left 69 and right 75) *goal* (n= 46: left 4 and right 42); *M. Salah* (n = 16 left: 4 and right 12) and *goal* (the same count as the former). The phrases: *the goal* and *M. Salah’s goal* justify the action of Chelsea players and Chelsea coach. Chelsea players and Chelsea’s coach reactions are the consequence of their judgment, leading to the celebration. Note that Chelsea players and Chelsea fans have the same syntactic meaning. Both are subjects in the sentences above and take the same semantic meaning of the verb “celebrate”. It follows naturally that both types of construal can co-occur with “celebrated”, as in the case of “*the spectators celebrated again*”. The only distinction is that this latter sentence consists of an additional word i.e. an adverbial phrase: *again*. So, by implication, a judgment verb (e.g. celebrate) takes a human entity or personified entity as its subject and enters into relation with words that are deemed as action (e.g. goal) and abstract noun (e.g. victory) at the right side of the concordance line.

To sum up, the findings in this study disclose that “celebrate” as a judgment verb can co-occur with the definite article “the” (n = 144: 6,9 left and 75 right), proper noun “Chelsea” (n = 50: 49 left 1 right) “Morinho” (n = 22: 42 left and 0 right) “M. Salah” (n = 16: 4: 12) common nouns e.g. “players” (n = 30: 29 left 1 right) and pronouns e.g. “they” (n = 6: 3: 3) and “he” (n=5).

4.5.3.4 Verbs of Psychological State and their Collocation

As we have seen in (4.5.3.1) through (4.5.3.3), some verbs enter into relation with other lexical words from left to right side of the concordance line. The same is the situation with most psych-verbs used by the subjects of this study. It is crucial to mention that majority of the subjects of this study used psych-verbs in their sentence constructions. This type of verbs represents the highest percentage (15.25%)

of usage than the other verbs used in their sentence construction. Therefore, the sentences underneath provide us the basis for analyzing the series of lexical words that collocates with “anger” and shake –two verbs identified as psych-verbs in this study. These sentences are: *Arsenal coach is angry with his goal; Arsenal coach was angry with the second goal; Arsenal coach was angered and The players angered Arsenal coach.*

The relation data from the extracted verb “angry” shows variations among lexical words (or the open class) and the grammatical (the closed class) words that co-occur with it in the subjects’ sentence constructions. While the lexical words that co-occur with the verb ‘angry’ consist of many members that include nouns (e.g. coach; ball; players, goal etc.), the grammatical words, i.e. the closed class words that also co-occur with it are limited but constitute the highest number of frequencies used on both the left and right sides of the concordance line. These closed class include determiners – (the and a) and prepositions (with and in).

Altogether, the word “angry” collocates with the following words and their frequency are as follows: the (n=158:left 76 and right82), was(n=84: left 71 and right 13), coach (n=76 : left 69 and right 7); Arsenal (n=60: left 53 and right 7); ball (n=30: left 18 and right 12); player (n=29 left and right 17); is (n=23 left 20 and 3); his (n=19 left 3 and right 16); goal (n= 18 left 14 and right 4); are (n=16 left 11 and right 5); with (n=14 left 0 and right 14); a (n=8 left 3 and right 5); and in (n=5 left 3 and right 2) etc.

From the sentences above, we can also deduce that the tendency of the subjects that co-occur with “angry” is restricted to personified referents (e.g. Arsenal coach) even though human and motion referents are presented at the adverbial position (e.g. “with his goal” and “with the second goal”), respectively. Human referents can also be the subject as in “Gibb is angry with the red-card”. Though this example is not cited above but it is available in some constructions made by the subjects of this research. One important word that collocates with “angry” and explains: why the word “angry” does select an

experiencer (Arsenal Coach) as the subject is the verb “is” or “was”. Its presence in the two sentences above provides a complete sense of the sentences as well as their conceptual structure meaning.

The other constructions: *Arsenal coach was angered* and *the player angered Arsenal coach* also attract personified referents (Arsenal coach and the players) but changes the word “angry” to the verb (anger). A cursory look at this psych-verb “anger” would suggest that it is only used when you are reporting the mood of the experiencer without the cause (e.g. Arsenal coach was angered) and when reporting the mood of the experiencer, as well as the cause or the stimulus that triggers such mood (e.g. the players angered Arsenal coach). However, citing the frequency of each word that enters into relation with “anger” would not suffice to provide this kind of explanation but the truth is that the verb “anger” in English only allows a “sentential subjects” (Engelberg 2014), as observed in our subjects’ sentence constructions. Importantly, the few constructions with the verb “angered” are noticed in our subjects’ sentence constructions and with significantly higher usages of “angry”, which is an adverb. Thus, the finding in this study reports the presence of human referent, as well as a personified referent as the subject that co-occurs with psych-verb, e.g. “anger” and also consists of definite articles (e.g. determiners) on the left position. These words do also co-occur at the adverbial position.

In the case of the psych-verb “shake”, the relation data presents the following as the words that co-occur with it in the sentences constructed by our subjects: hands (n=62 left 0 and right 62); the (n=59 left 53 and right 6); players (n=54 left 51 and right 3); with (n=18 left 0 and right 18); their (n=10 left 0 and right 10); themselves (n=8 left 0 and right 8); among (n=8 left 0 and right 8); coaches (n=8 left 8 and right 0); hand (n=7 left 0 and right 7); other (n=7 left 0 and right 7) and each (n=5 left 0 and right 5). This result suggests that most of the words that collocate with the verb “shake” or “shook” (past tense) in the sentence constructions of our subjects co-occur on the right side of the concordance line. In other words, these words come after the verb, i.e. at the predicate’s position. Even though there are also other words that co-occur with psych-verb “shake” or “shook” at the left side, suggesting a subject’s position role (e.g. the players, coaches).

A cursory look at the analysis above reveals that the following sentences are prevalent in our subjects' constructions: *the players are shaking hands with each other*; *the players shook hands with each other*. In essence, we notice a consistent pattern in these sentences that suggests the verb "shake" hardly shows differences with respect to the distribution of its subject. The subject (the players or the coaches) continues to appear in the left side and the alternate words in the right side of the concordance lines (e.g. *hands, with, each, other*) never take the position of the subject as in the case of 'anger' (e.g. Arsenal coach was angered vs The players angered Arsenal coach). This particular restriction of selecting the subject referent by the verb "shake" shows its strong association with particular words. For example, there is a high proportion of using human or personified referents as the subjects and concrete object/grammatical (closed class) words at the predicate positions, such as "the players shook hands with each other".

Therefore, we can assume that while the psych-verb "anger" can show a cross lexical word difference with respect to the subjects and predicate positions, the psych-verb "shake" hardly shows such alternating distribution, as exemplified above. In general, constructions that consist of psych-verbs do promote lexical words that can be restricted to the subject position and allow some lexical words to operate both at the predicate and subject's position. This finding follows Engelberg's (2014:140) result that concludes that "the psych-verb alternation is relevant for information structure; it serves to promote argument to subject position in order to pick up the theme of the preceding discourse".

From the analysis above, we can conclude that verbs that are categorized as verbs of change of possession (score, card and give) do collocate with a human entity (e.g. Gibbs, Oscar, Hazard, Rosicky); a personified entity (e.g., referee, coach, players), concrete objects (e.g. card, ball) and motion actions (e.g. goal, penalty, kick, header, shot). While verbs of throwing (e.g. *Kick, Pass* and *Shoot*) also display similar relations with a human entity, a personified entity and concrete objects, they significantly relate more with the closed class of words and prepositional entities at the adverbial position. The psych-verbs, on the one hand (e.g. anger) show a close relation with a human referent, as well as a personified referent

as the subject and, on the other hand, psych-verbs (e.g. shake) show a high proportion of subject restriction that is a human or personified referent as the subject and concrete objects at the predicate's position.

4.6 The Data on the Meaning of the Constructions and their Linguistic Constraints in the SSC

In the preceding section (4.3 – 4.5), the findings between verb meaning and the tense-aspect constructions, as well as lexical semantic features that are derived from the argument of the verbs were analyzed and presented. The analyses largely focus on the lexical rules perspective with few instances of constructional analysis perspective. Below are the responses to Research Question four and the findings that relate to the constructional analysis that justify the meanings of the sentences constructed by the subjects of this study and the linguistic constraints that are found in the constructions. It is important to note that the findings and analysis underneath are categorized into two: interpretable constructions and un-interpretable constructions, which consist of the linguistic constraints found in the constructions.

4.6.1 Interpretable English Constructions and their Meanings.

Using the SSC corpus, a large proportion of the sentences constructed by the subjects of this study and by implication the English constructions used in this research, as demonstrated in sentences (73 – 82), are deemed to have meaning and be interpretable. Some examples of such constructions are repeated below to prove our finding that a large proportion of these constructions have meaning.

(83) Examples of constructions and their interpretations

- | | |
|-----------------------------------------------|----------------|
| a. Oscar <i>scored</i> . | (intransitive) |
| b. Eto'o <i>kicked</i> the ball. | (transitive) |
| c. Eto'o <i>kicked</i> the ball into the net. | (ditransitive) |
| d. Gibbs <i>was</i> red carded. | (intransitive) |
| e. The referee <i>red carded</i> Gibbs. | (transitive) |
| f. The referee <i>gave</i> Gibbs a red card. | (ditransitive) |

In the constructions above, three aspects convey the contentful meaning of the sentences: the verbal predicate, the overall form (construction) and the context where both the verbal predicate and construction are referred to. In sentence (83a), the main verb “scored” is assumed to determine the meaning of the sentence and the agent or subject “Oscar” naturally corresponds as the actor in the scene. In addition, the construction is deemed as intransitive because of the unexpressed object. But in actual usage, something is missing in this construction and that is the context. What Oscar scored is not known. Is it a point in an examination or a point in a Scrabble game or a goal in a football match? Even though, the sentence clearly shows that there is natural correspondence between the subject and the associated verb and the intransitive construction, the context where the construction is used, i.e. actual usage, serves as the cementing force that provides the complete sense of the sentence even if the object is unexpressed, as in the case above. Therefore, the use of the football event to elicit the sentences above supports the use of context as another aspect that contributes to the complete meaning of constructions.

In the sentences (83a and c), *kick*'s meaning evokes the notion of using force that involves a “caused motion”. The argument structure constructions provide a straight forward link between the form or structure of the sentence (transitive) and the meaning of the construction, which is interpreted as “someone acting on something (82b) and someone’s action moving somewhere (83c). In addition, the contexts in which these sentences are referred to reveal a formal pattern that treats both 83(b) and (c) as near paraphrases and caused-motion construction though there is a “locative” phrase (into the net) in (83c). Thus, the presence of verb in the sentence and the constructional meaning of the sentence plus the context that the constructions are formed and used explain the overall meaning that is derived from usage-based constructions.

There is evidence indicating that the constructions of our subjects’ do have a meaning, especially if it is associated with the context. We can analyze from (83d) that the construction itself does not entail the meaning of the sending someone off the field, unless the coined construction is associated with the context that it is used. Notice that (83d) entails that Gibbs receives something. The sentences cannot be

understood simply as an intransitive construction unless the context in which it is used is specified or known. Thus, in the context of a football event, someone can be shown a red-card which means “sent-off” the field. The action must be performed by someone (e.g. the referee). Therefore, the construction above is in the passive and (83e), which is a transitive construction, provides the agent or the subject (the referee) that acted on the beneficiary (Gibbs). The verb “red-carded” is simply a “creation” that fits into the construction and proves further as an example of a coined intransitive verb (see 83d) and yet it can be used transitively in (83e) and ditransitively in (83f). However, the ditransitive construction instantiated by the verb “give” in (83f) can best be analyzed using the notation of Goldberg (1995), as in figure (fig) I.

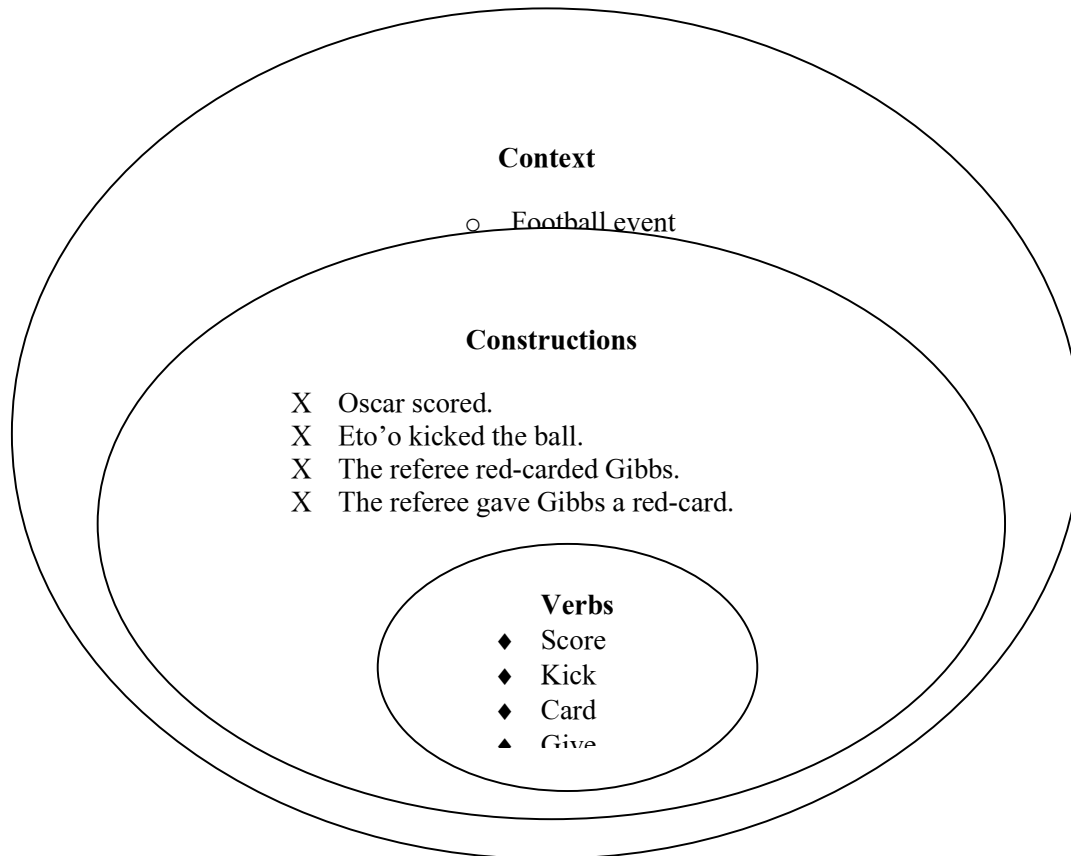
Sem	Intended – CAUSE – RECEIVE	(agt	rec	theme)
R instance	<i>Give</i>	(giver	give-ee	give-en)
Syn	Verb	Sub	Obj 1	Obj 2

Fig. 1 The Ditransitive Construction (Goldberg 2006:20)

In the figure above, the first line stipulates the semantic of the construction. The main predicate is intended-CAUSE-RECEIVE. The ditransitive construction consists of three (semantic) arguments: “agent (agt)”; “recipient (rec)” and “theme”. The second line provides the relation of the verb “give” and the three argument roles of the verb in question. The third line arranges the syntactic component in the construction, which consists of the Subject, Object1 and Object2. However, a careful look of the sentence (83f) i.e. “*The referee gave Gibbs a red card*” proves that the form and the associated meaning is not attributed to the main verb, but the overall construction and the context it is used. In this case, the main predicate is “intend-CAUSE-RECEIVE”, which means something happened which causes someone to receive something and the three argument roles that involve the giver (the referee), the give-ee (Gibbs) and the give-en (red-card). This can be translated into the formal syntactic pattern of Sub + V Obj1 + Obj2. But generally, this construction is best understood when the action of the recipient is identified or noticed. In this case, Gibbs’s action of going out of the field indicates that the “red-card”, which is the instrument used to sent him off the field, is viewed as object2. This result, therefore, confirms the meaning of intended-cause receive (“X causes Y to move Z loc”) which is associated with the Subject Verb Object1 Object2 pattern, as exemplified in figure 1 above.

Considering the result above, the intransitive sentences used by our subjects have meaning that indicates “X ACT” and transitive constructions have a meaning that suggests “X ACT ON Y” and a Ditransitive construction has a meaning that shows (“X ACT ON Y TO MOVE Z”). But essentially, the obvious meaning of the verb and the meaning of the construction become richer when the sentences are

associated with the football event context, thus leading to an inter-related relationship between the verbs, other lexical words in the construction, the construction and the context. Figure 2 below shows some examples and such relationships.



- The meaning of the lexical verb is associated to syntactic structure.
- X The meaning of each lexical word and the verb inclusive is determined by the construction.
- The integration of the context with the construction provides more explicit meaning.

Figure 2: The integrated relationship between the verbs, constructions and context.

For the current study, the results shows that our subjects' English constructions have meaning, as verbs in English constitute a core role in the meaning of a construction and the context where the verbs and lexical words are used provide an explicit meaning of the overall construction. Thus, intransitive, transitive and ditransitive sentences with semantic classes of verbs can be used to express an event even if such verbs are viewed as coined verbs. More specifically, as shown in figure 2, the verb “card” can be

used as “carded” and the expression: *the referee red-carded Gibbs* can be accepted in everyday usage but not in the grammar of English. Though coining or neologism forms part of language data and where they occur, as Kay (2010:2) argues they become part of “any set of expressions of the language: each expression that exemplifies one of these patterns has to be learned and remembered on its own”.

4.6.2 Un-interpretable English Constructions and their Linguistic Constraints in the SSC

In the SSC corpus, a small proportion of the sentences constructed by our Subjects are deemed un-interpretable and as such these constructions are viewed to have no meaning. Also, a number of these sentences are viewed as unclear and, therefore, the analyses reveal some of the linguistic constraints found in the English constructions of our subjects. Thus, the results below show two categories of un-interpretable constructions: “uninterpretable construction” and “unclear construction” alongside their linguistic constraints. In this research, “uninterpretable constructions” refer to sentences or clauses or phrases that do not have meaning despite the presence of an assumed subject + verb in the construction. On the other hand, “unclear construction” is referred to as expressions that are not understood as a result of the linguistic errors in the construction despite the presence of the subject + verb in the constructions. The examples in (84) illustrate some of our un-interpretable constructions and the subjects that constructed such sentences.

(84). Examples of un-interpretable constructions and their linguistic constructions.

- a. Oscer is was goal to arsenal. (SSC 12).
- b. fe gate throung. (SSC 17).
- c. the plays keck the bALL in the next. (SSC30).
- d. the players players hard. (SSC 91).
- e. the rapary gived the Rockski yellow card for size the chalsea player. (SSC 120).
- f. Whole match scorede Arsenal. (SSC 129).
- g. Chel goalkeeper chaching the ball when shoot him. (SSC 146).
- h. anger by the coach. (SSC 162).

- i. and the oscar is scored the four goal. (SSC 171).
- j. He rell we the ball. (SSC 184)

In the constructions above, we notice facts about spelling errors in the written expression of our subjects, incomplete sentences or utterances; tense-aspect error, unspecified subject; phrase errors of verbal usage and unpredictable object phrase, just to mention a few. In sentences (84a), we observe a spelling error as in “Oscer” instead of “Oscar” and double verbal usage (is and was) in the same construction with un-match complement “goal” and a prepositional phrase “to arsenal”. These complex linguistic errors prove that this construction is un-interpretable and has no meaning.

In sentences (84b and j), the constructions appear meaningless. The lexical words “fe” and “throung” that appear in the subject and object positions in (84b) are unknown both in the football event context used in this research and the English vocabulary. While the identification of the subject phrase in (84j) presents difficulties (i.e He and we), the assumed verb used “rell” cannot explain its relationship with the expression “we the ball”. Thus, the expression “*He rell we the ball*” is meaningless and a proof of linguistic constraint associated with written usages by ESL learners.

The examples in (84c, d and e) illustrate cases of error in verb-noun relationship and spelling error associated to the verb in the construction in (84c), the absence of verb in the construction and a double subject entry in (84d) and phonological, spelling and tense-aspect errors in (84e), respectively. In (84c) the verb “play”, which can also be used as a noun, e.g. “Player” or “Players”, is misrepresented as “*the plays*” and the verb “kick” is spelt wrongly as “*keck*” and therefore, the expression “*the plays keck the bALL in the next*” appears meaningless and the capitalization of the word “bALL” beginning with small-letter “b” and other letters in capital letters prove some of linguistic constraints associated with the written expressions of our subjects. The linguistic constraints noticed in (84c) represent the importance of a verb in a construction. Thus, the construction: “*the players players hard*”, which consists of a double subject (players) and an adjective/adverb “hard”, is meaningless without any verb in the construction. The presence of the word “rapary” which is assumed to be “referee” and “gived”, which suggests the tense

“gave” is an error phonological/spelling and in tense/aspectual usage that are found in some of our subject constructions.

In construction (84f, g, h and i), the linguistic errors that constrain the meaning of the sentences are attributed to the error in the verb “scored” in (84f), the subject “chel” and the verb “chaching” and the phrase “when shoot him” in (84g). While the construction in (84h) suggests an evidence of an incomplete sentence, the construction in (84i) is a clear manifestation of double-verbal usage and plurality challenges. Whichever linguistic errors are identified in the expressions above, the result indicates these constructions are meaningless and un-interpretable when we adopt the conservative approach analysis. This result, which reveals that a small proportion of the subjects of this study do not have the linguistic knowledge of the English verbs and are likely to produce uninterpretable expressions, confirms our earlier findings in the BGK test, which predicts an interesting result when it comes to actual language usage.

The examples in (85), taken from our corpus, illustrate a variety of “unclear constructions” whose meaning are marred by the subject phrases, i.e. the agent role or the verbal phrase that consists of the verb itself and the object that is viewed in some semantic role categorization as patient.

(85). Examples of unclear constructions and their linguistic constraints.

- a. The corner ball was kicked by the Shure.
- b. The goalkeeper ply to kick the ball.
- c. Arsenal defend kicking the ball.
- d. Gibbs was giving a red-go.
- e. Before give the red card to Gibbs for pushing player.
- f. The coach he was angry arsenal.
- g. The coche of Arsenal was angry in order beat his player
- h. The Lampard score ball.
- i. The score celebrated.
- j. Chelsea her scored two.
- k. Players are greeting shaking hand.

The constructions above reveal that within the variety of the sentences constructed by our subjects, there exists a small proportion of unclear constructions in the SSC corpus. These unclear constructions are marred by linguistic constraints that consist of “un-matched subject/object” or “un-matched agent/patient”; two different semantic classes of verb; understood agent but associated with wrong infinitive or –ing form of the verb; wrong collocation, i.e. adjective/verb relationship, incomplete construction, double subject and unnecessary object construction, spelling and unwanted oblique or phrase, the wrong insertion of a closed-class word (determiner)/tense and object; the absence of auxiliary verb; the wrong insertion of pronoun and error in the use of double verbs.

As can be readily seen in (85a), there is a clear use of an un-matched object in the subject’s position “The corner ball”. The expression is assumed to be “The corner” or “The ball”. The agent or subject “Shure” that is placed in the object’s position and preceded with the lexical word “by” describes the construction as passive. It is marred by the insertion of a definite article “the Shure”. Therefore, this expression proves to be unclear as a result of the underlined object that is wrongly expressed in the subject’s position and the underlined subject that is wrongly expressed in the object’s position with a definite article (the).

In construction (85b), not only were the two verbs being used with the wrong tense, they belong to two semantic different classes. On the one hand, the verb “ply” is not only indicating movement or travelling from one place to another, it is also an “equip verb” (Levin 1995: 141), whose meaning is similar to verbs of fulfilling and their property are not found in the “NP V NP to NP” frame. On the other hand, the verb “kick” suggests a force being exerted in a motion. Its property can be found in the “NP V NP PP NP” frame. The incidence of using two verbs by our subjects in their constructions was less in the corpus and mostly found in the unclear expressions. The two verbs even if isolated when accepted as used in the construction would still render the construction as unclear because of two reasons: tense and meaning. For example, “The goalkeeper ply the ball” or “The goalkeeper to kick the ball”. All these are unclear and fuzzy constructions.

The sentence in (85c) describes the agent “Arsenal” but the infinitive or –ing form added to the verb “kick” shows that the construction is not clear even if the other verb “defend” is removed from the construction, e.g. “Arsenal kicking the ball”. Thus, while the agent is understood, the verbs “defend” and “kicking” render the construction fuzzy. Therefore, the discrepancies in the nature of the two verbs and the fact that even if one verb is to be accepted in the construction, proves that a verb is not the only lexical word that determines the meaning of a sentence or construction. Thus, constructional meaning is also very vital in the understanding of verb meaning and argument structure. This view is based on Goldberg’s (1995) view on the concept of “construction”.

The instances of –ing form for the verb “give” instead of the participle “given” and the relation between red and go (adjective/verb relationship) in (85d) show that some of our subjects’ constructions are unclear and their meanings cannot be clearly identified. While an adjective like “red” collocates with the noun “card”, as in “red-card”, the phrase “red-go” in the construction above is wrong and does not fit in the relationship between the adjective “red” and the verb “go”. Therefore, the expression “Gibbs was giving a red-go” is certainly un-clear and captures the perception and linguistic knowledge of our subjects.

The expression in (85e) signifies an incomplete construction that does not have a specified subject. It is possible to relate this construction to a subject or person referred to as “the referee” in the sentences used elsewhere or the football event context used in this research. But it is not possible to identify the subject when we treat this construction in isolation. Therefore, this incomplete expression is viewed as one of the linguistic problems associated to verb meaning and argument structure, as used by the subjects of this study. As such, this construction is marred by unspecified subject, as well as incomplete references.

The two constructions in (85f and g) include the use of double subject (Noun and Pronoun) and unnecessary object construction in (85f) and a spelling mistake for the agent and un-wanted oblique in

(85g). In (85f), the construction “he was angry” could have been accepted and interpreted as consisting of a complete meaning without the insertion of the NP “the coach” as additional subject and the oblique “arsenal” inserted at the right side of the construction. These insertions of additional subject and oblique describe the construction as unclear and meaningless. For the expression in (85g), the spelling mistake “the coche” instead of “the coach” could be interpreted only if the oblique phrase: “in order beat is player” is not included in the construction. Thus, the expression: “the coach of Arsenal was angry” fits the argument of the verb and the construction. But the unwanted oblique phrase: “in order beat his player” proves the construction as unclear and without meaning.

Sentences (85h) and (85i) are cases that describe the wrong insertion of a determiner “the” tense/object errors and the absence of the auxiliary verb, respectively. The expression “The Lampard score ball” in (85h) is relevant if the article “the” is not included as in “Lampard score ball”. But even this latter expression is void because the patient: “ball” does not relate properly with the verb “score”. The lexical word “goal” best relates to or collocates with the verb “score”. In (85i), the absence of the auxiliary “is” or “was” proves the unpredictability of the construction: “The score celebrated”.

In the last two sentences (85j) and (85k), the pronoun “her”, which stands for “Chelsea”, provokes a double subject or an agent role and the object or patient “two” is viewed as an incomplete phrase. Even though the expression “Chelsea score” is accepted as intransitive, the inclusion of “two” after the verb makes the sentence transitive and “two”, only that it does not satisfy the requirement of the expressed object that is found in the transitive construction. Therefore, “Chelsea her scored two” is unclear and reveals some of the linguistic problems associated with some of our subjects’ English sentence constructions. In the case of (85k), we notice the double usage of the verb both in the –ing forms: “greeting and shaking”. Looking at the relation between the lexical words and the verbs in the construction, the verb “shaking” is best related to or collocates better with “hand” and as such, the insertion of “greeting” is redundant and the absence of the definite article “the” preceding the subject “player” further describes the construction as unclear and without meaning.

In summary, the difference in the linguistic constraints of the un-interpretable and unclear constructions is noteworthy. There are proportionately more verbal errors in unclear constructions, which appear more interpretable than they are found in the un-interpretable constructions, though the un-interpretable constructions specify individual subject's linguistic knowledge as against the unclear constructions retrieved from the SSC corpus, which describe the collective verbal and sentence construction usages.

Finally, many of the verbs and constructions retrieved from our database, i.e corpus, are similar to those found in the literature with a difference of actual usage. In addition, the context of the verbs constructions analysed above provides evidence of language usage, which many cognitive linguists uphold as the basic form that shows application of linguistic knowledge and practices. The differences that are revealed in the verbs and constructions provided by the subjects of this study, as well as the integrated approach of using the football event context to elicit these constructions show that verb meaning and argument structure can best present explicit results that significantly show how language users perceive and use the same verb to produce novel constructions that can be regarded as special usage by a certain community of people outside the native English speakers' environment. As Taylor (2002) points out, the context is a factor in the interpretation of any expression or utterance, especially as it affects the relation between verb and construction meanings.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.1 Introduction

This chapter summarises the arguments of the entire thesis and presents the conclusions deduced from the findings in this dissertation. It presents the core arguments in the analysis of verb meaning and argument structure that were identified in the SSC corpus of this research. The chapter first summarises the research findings and highlights the summary of the entire research and conclusion. At the end of the chapter, areas of further research are proposed. Below are the summary of the findings:

1. The Subjects' Linguistic knowledge on the English verb is significantly very good and the errors identified in some of the constructions, at the written usage stage, were deemed un-interpretable.
2. Actual or Zero-derived verbs that are related to nouns or related verbs, i.e. having two lexical categories are found in the subjects' sentence constructions with a preponderance of verb of psychological state over verbs of motion, change of possession, change of state, and other verb semantic classes.
3. There are the incidence of greater transitive usages of the verb than in the case of intransitive usages and the past tense constructions receives greater usages than the present tense and the present continuous tense in the tense-aspect argument realisation.
4. There exist various kinds of lexical semantic features, e.g. semantic roles, argument structure, collocations and senses in the sentence constructions of some ESL learners.
5. A large proportion of the sentences constructed by the subjects of this study are interpretable and small proportions are deemed un-interpretable, resulting to un-

interpretable constructions and un-clear constructions alongside their linguistic constraints.

6. The English Constructions of our subjects have meaning, as a verb and a construction have meaning, especially if the context in which they are used is known. The distinction between the role of a verb in determining the meaning of the syntactic structure and the meaning of the construction is found to be stark, and the fact of understanding the grammar of the sentence lies between a verb and a construction, as well as the context, where the sentence is used.

5.2 Summary of the Thesis

The main goal of this thesis is to investigate verb meaning and argument structure within a particular context, using a group of non-native speakers of English as the subjects. Natural languages across the globe, especially English offers interesting tasks when it relates the meaning derived from a sentence or an expression from the lexical verb in a construction or the overall meaning of the construction itself. This statement holds from both the projectionist theories, e.g. Levin (1995); Levin and Rappaport Hovav (1995) and Pinker (1989) and the constructionist theories research led by Goldberg (1995); Pustejovsky (1995) and Jackendoff (1997) and from findings yielding to practical applications when the use of corpus evidence is adopted to address some of the arguments found in these two broad theories. For the Projectionists, on the one hand, an expressive language in the form of a sentence can best be understood when a verb in that given construction is given a prominence. They argue that a verb best provides useful information for studying paraphrases, synonyms, polysemy and other lexical semantic features like collocations, semantic roles and argument structure. On the other hand, the Constructionists uphold the meaning of the overall construction, underspecifying the representation or meaning of a verb in the construction and proposes the meaning of a construction existing independently, and as the best option that proves similarities and differences of information that describe paraphrases, and other lexical

semantic issue raised above. And for “practical usages” or “real world” applications, corpus-based approach has to prove that it can retrieve plethora of expressions or sentences that lead to discoveries of patterns and meanings which are beyond text book examples or common practices available in “armchair” judgements. The strength of generating such expressions or examples can only be tailored through a particular context and language users. Using the football event, as the context, and some adult ESL learners in a College of Education, verb meaning and argument structure were investigated.

Crucially, the issue of language usage extends both the theoretical rules attach to sentences and linguistic knowledge of the user. Therefore, in English, users’ knowledge of verb and other syntactic components of a sentence are not sufficient indices for linguistic evidence but rather a corresponding application of this knowledge, which is evidenced in the language usage are best found in the use of the corpus evidence. So, the finding in our subjects’ BGK test on the verb English verb and the kind of expressions in chapter four, i.e. the SSC corpus of this study, represent the knowledge of the subjects on verb semantics, as well as, guide us on how English is used by a particular community or language users that operate outside the native users’ environment. An important goal for the study of verb meaning and argument structure is to share the divergent knowledge of a verb in a construction and its representations in the captured or identified sentences constructed by our subjects and its general meaning within and outside the scope of the construction. To achieve this, chapter four in this study provided these evidences via the 4,000 written sentences by our subjects.

Before we achieved the divergent knowledge expressed above, different perspectives on the concepts of verb meaning and argument structure were reviewed through the studies made by different scholars. It emerged from the literature, that most of the sentences and expressions were mainly native speakers’ expressions and textbook examples. Few cases were cited as expressions outside the native speakers’ environment. It was noted, however, that the literature on verb meaning could not be completed, if other expressions outside the non-speakers of English are not explored. In addition, empirical literature and corpus-based approaches to the study of verb meaning and argument structure

were presented and examined. To analyse and support the analysis of our data, the cognitive linguistics and lexical conceptual theories were used. It was also noted, that to justify a quantitative corpus-based approach that produces cognitive linguistic relevant results like this type of research, the method of investigation must produce empirical evidences. To achieve this, a case study design, representing a sample of 200 adult ESL learners was used. The data was approach through quantitative analysis and compared with existing data in the BNC. Therefore, the frequencies and the percentages of the lexical verbs, morphological form and verb semantic classes were calculated.

Consequently, from the view point of cognitive semantic approach, it is noted, that verb meaning and argument structure of sentences can best be mirrored through the sentences produced and constructed by language users themselves. This can best be presented, if a corpus based approach is used. These sentences then become useful and necessary input evidence for linguistic research and knowledge/practical application as in the case of this thesis.

5.3 Conclusions

A connected spread conclusions can be drawn from the corpus-based approach used in this study to investigate verb meaning and argument structure, as disclosed by the sentence constructions of some ESL learners of English. First and foremost, this thesis, entirely concur with Croft and Cruise (2004) and Gries (2006) that knowledge of language emerges from language use and linguistic knowledge is conceived by how language is put to use, respectively. This is evident in the BGK test on verb's knowledge that provided evidence that the subjects' linguistic knowledge of verb in the given sentences is significantly very good. However, in the actual usage, which is proved in the written sentences, it was found out that many linguistic errors were found in some of the individuals' constructions. These errors, as Bourker (2003: 5) observes, is a reflection that "the knowledge of formal rules help only to a very

slight degree. Furthermore, the verbal errors and the un-interpretable nature of some of the constructions are reflections of the difficulties or problems associated to English language usage by ESL learners. Therefore, linguistic constraints or errors should not be construed as problems to the understanding of verb semantics but as problems that do occur when users put their linguistic knowledge into use, i.e. from pattern of usage.

There is a growing realization among cognitive linguists that there are abundance of verbs in the English lexical inventory, and, identification of these verbs and their semantic classes are best done when language is put to use. A total of 177 lexical verbs were found in the written sentence constructions of some adults ESL learners in SRCOE Kumbotso, Kano. Based on the role of frequency in language acquisition and usage, 36 lexical verbs were identified as the most frequently used among the 177 verbs retrieved. These verbs were grouped into two categories: Actual and Zero-derived related to noun or verb categories. The actual verbs are: celebrate, give, annoy, enjoy, complain and get. Others that are verbs but also related to nouns are kick; pass; push; shoot; shake; throw; shout; blow; play; catch; run; hit; make; fall; win; clap; go; lose; save; start; miss; bounce; walk; and send. The zero-derived from nouns are: score; card; anger; attempt; and dance. This finding indicates that verbs are capable of presenting more linguistic distribution. This thesis argues that the distribution of verbs, as used in the constructions, reveals how human beings perceive and conceive different scenes and express them in written sentences (language usage). In relation to morphological distribution identified in these verbs, we conclude that the inflected forms: -ed; d; s; and -ing revealing a morphological forms of past tense, simple tense and present continuous tense, respectively do play a major role in verb meaning and argument structure of the constructions. Moreover, the vigorously usage of verb of psychological state, verbs of motion and others prove that verb semantic classes also contribute to the arguments of verb meaning and argument realization.

In the same vein, we conclude that transitivity is found in most of the sentence constructions of ESL learners, when describing the scenes for events. This transitivity reveals that verb's transitivity

features are broad and so, it appears in transitive, intransitive and ditransitive forms. This conclusion concurs with Hopper and Thompson's (1980) view that transitivity is broad and that a verb's transitivity profile can vary, Newman and Rice (2006). However, greater transitive usages of the verbs found in the constructions of our subjects indicate that senses of the past-tense constructions focus more on directed activity. This conclusion, suggests that semantic properties also avail themselves in TA constructions.

Some case studies have classified the arguments of the predicates into semantics or thematic roles. Wong (1999) and Khumalo (2007) show that semantic roles are used overwhelmingly to interpret participants involved in different event structure and their semantic properties add valuable information to the arguments of a verb, as well as the argument of a construction. For Levin and Rappaport Hovav (2005), semantic roles are analysable, despite the problems associated to "theme" and "patient". They conclude that semantic roles are the most appropriate basis for a lexical semantic representation. In line with this, this research also concludes that even though, the interpretation reveals greater presence of "theme" and "agent" roles, other semantic roles in the sentences are insightful to the semantic range of arguments expressed by the overall constructions.

In terms of collocation and senses, we conclude that lexical verbs together with their co-occurring collocates words are just a desirable starting point for the analysis of argument structure. This is in conformity with the position of Newman and Rice (2006) that suggest similar conclusion. However, in this research, most of the collocates that co-occur with the verbs in question; make reference to human entity, personified referent, and concrete objects. Here, the specific verbs *score*, *card* and *give* help describe two separated constructions: a human entity and a personified entity. While verbs like *kick*, *pass* and *shoot*, as well as psych-verbs like *shake* show three separate construction, involving a human referent, a personified referent and a concrete object referent. Therefore, the presence of lexical word(s) around these verbs is an important element that forms part of the argument structure of these constructions. They also report how their meanings affect the verbs and the meaning of the constructions per se. Above all, they show how crucial it is to recognize the role of lexical words in the analysis of sentences, i.e.

syntactic/semantic level of analysis. That is why Thompson and Hopper (2001: 44) note that it is important to build our analysis around a specific verb and its collocational forms. Thus, they opine:

...among the things speakers know about verbs is the range of forms they collocate with according to the different senses they have... [T]he more different types of language speakers are exposed to and participate in, the wider the range of options for a given verb sense they are likely to have entered and stored... [S]ome collocations involving specific verb senses develop lives of their own.

In this research, we would add that some of the collocations identified and analysed were derived from the relationship between the context (football event) and the verbs meaning and the constructions' meaning that the ESL learners were exposed to.

The main message this research wants to impart is that a verb meaning and its role in a given syntactic construct and a meaning of a construction per se which involves all the lexical items in the construction are not the only properties that make up an explicit meaning of a construction. To that end, this study proposes the idea of integration of context, taking Croft's (2001) and Croft & Cruises' (2004) semantic and discourse meaning approach a step further. Therefore, this research further submits that the crucial role of a verb in determining the meaning of a sentence is accepted and the relationship between a verb and other component parts within a construction and the construction also play a role in determining the meaning of the sentence and the whole construction (itself) has a meaning. But a well formed expression or construction that its meaning is very explicit must be accompanied with a context, especially in a language usage environment, and in the field of cognitive linguistics.

5.4 Suggested Areas of Further Research

Verb meaning and argument structure constitute a set of insightful, interactive and mutually interchangeable linguistic phenomenon. Therefore, it is possible to come up with different analysis using semantic explications. To this end, further studies on auxiliary verbs should be conducted to expand the

findings on verb semantics. To be precise, the scope of this research was restricted to transitive and intransitive constructions. However, further studies on passive constructions or passive sentences are also minefield to future researchers. Admittedly, the study also focussed on users of English, i.e. some ESL learners in a College of Education, and consequently, the examination was centred on the English language. However, more researches on verb meaning and argument structure, using indigenous language is required to expand the findings on lexical semantic-syntactic interface.

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