

Extended Classification of Complement Clause Possibilities for Thinking Verbs

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ABSTRACT

This paper investigates further elaboration of syntactic properties of Thinking verb. All data required for this study are taken in Corpus of Contemporary American English. This paper aims to analyse the complement clause possibilities in Thinking verbs and the sentence structure based on the data found in COCA. The research is conducted through qualitative procedures by categorizing a certain construction of the sentences and interpreting certain context related to the data. The feature of complement clause in Thinking verb has special properties; the 'That' is constituted in all verb types. 'WH' and 'ING' exist in Thinking verbs (except Conclude), Solve and Believe subtypes. 'Judgment TO' is found in Think, Assume, Remember, Know (except teach), Conclude and Believe (except Doubt) subtypes. 'Modal (FOR) TO' is generally formed in Think subtype (except Consider), Assume subtype (except Suppose), Ponder subtype, Remember subtype, Know subtype (except Sense), Conclude subtype (except Infer), Solve and Believe subtypes. The extended classification of Complement Clause possibilities in Thinking verbs resulted the expand of sentence classification as constituent part, Complement clause possibilities are enriched into some verb types and the data are mostly found in complex sentence.

ARTICLE HISTORY

Published March 17th 2022



KEYWORDS

Thinking verbs, Complement Clause, Sentence

ARTICLE LICENCE

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1. Introduction

Syntax and semantic elaborate the extended of lexical classification. Syntactic structure consists of two simplistic theories: grammar and lexical categories (Carnie, 2006) that function as the elements and constituent structure. In lexical categories, the allocation of words to lexical categories is undertaken by grammatical behaviour (Morley, 2000) can be viewed as abstractions over sets of words displaying some common properties (Hegeman, 2006; Leech, 2006). Syntactic properties have been enlarged by the study of meaning that encoded in the vocabulary of the language and in its patterns for building more elaborate meanings, up to the level of sentence meanings, (Griffits, 2006). Meaning is also associated with the way in which words are combined to make phrases, clauses and sentences.

The study of extended syntactic properties and corpus verb analysis have been contributed to the enlargement of functional semantic field i.e., WordNet, FrameNet and VerbNet (e.g., Shi & Mihalcea, 2005; Korhonen & Brisco, 2016; Leseva et.al, 2018; Suherman, 2018) and a mixed-method in determining grammatical class (e.g., Fonteyn & Hartman 2016). The result released the progressive verb category, and the system of verbs enrich and develop not only in lexical-semantic aspect, but also in formal-grammatical categories. However, the description and verb classification are only devised in general without any subtype's features.

Syntactic analysis in grammar is that phrases and sentences are built up of a series of constituents (Radford, 2009); phrase and sentences are formed by the component of words words and grammatical operations, (Radford, 2004; Tahir, et al., 2018). Recently, syntax analysis has been explored in diverse language; a phrasal category and properties of the noun phrase in Hungarian, verb domain of subject agreement in Turkish (Gunes, 2021) and syntax of radically truncated clauses in colloquial Hungarian (Halm, 2021). As analysed in these three studies, the element structure of the sentence advanced within larger category at the level of phrases, clauses, sentences and endorses new tools of syntactic analysis.

Investigating the sense verbs through the data provided in Corpus Linguistic has received less attention from previous studies. Corpus linguistic approaches have been being taken to many research questions in linguistics (McEnery and Wilson 2001), and it is increasingly multilingual. This present analysis figures out the complement clause possibilities

for Thinking verbs. Dixon (2005) divided verbal concepts into two sorts: primary and secondary. Those types are grouped into very specific subtypes which included in some particular verbs which has similar meaning in common.

Dixon (2005) specified Thinking verbs are basically transitive, with Cogitator in A and thought in O syntactic relation. The Thought may be released by an NP, or by one of variety of complement clauses; the syntactic possibilities vary across subtypes. Therefore, this study focuses on more comprehensive verb analysis in the level of complement clause in the sentences in which the verb is exist. this study aims to analyse the complement clause possibilities in Thinking verbs and the sentence structure based on the data found in COCA.

This research is expected to contribute to the extensive theory in syntactic properties and lexical semantic in linguistic. The procedures of data analysing are structured into measured stages: (1) discussing the verb classification based on Dixon's theory and provide samples, (2) subcategorizing the data contains Thinking verb subtypes from COCA, (3) analysing all classified data to extend the complement clause possibilities through the semantic principles (4) drawing brief conclusion and suggest for further work.

2. Methodology

The research is organized through qualitative procedures by categorizing the complement clause construction based on Dixon's theory (2005) and interpreting certain context related to the data. To extend the syntactic analysis that refer to complement clause in Thinking verbs, this research adopts deep syntactic analysis at the level of clause and sentence based on Morley (2000), Aarts (2001) and Miller (2002). All data are taken from Corpus of Contemporary American English (COCA). All selected texts are presented both in data sample and its clause construction.

3. Data analysis

The data analysis is marked and interpreted to gain the focus of the problem to be answered. Techniques of data analysis are taken as follows: 1) implementation of deep understanding of the text; 2) Providing code for each subtype in analyzing the complement clauses possibilities and the data that is placed as an example is be marked by (1), (2), (3), (4) etc., in each verb; 3) The data is classified based on the syntactic properties of complement clause under Dixon's theory; 4) All classified data is elaborated to extend the complement clause possibilities in Thinking verbs at the level of simple, compound, complex and compound-complex sentence.

4. Result

4.1 Complement Clause Possibilities for Thinking Verbs

a. THAT Complement

That complement refers to some definite event or state and in **Thinking** verb, it is used to refer to indirect knowledge and may take a *That* complement in O (object transitive) slot except perhaps some from ponder subtype. The data found in COCA released similar constructions in all verb types in *That* complement.

b. WH Complement

All Thinking are allowed filling the O slot in *WH* and *WH-TO* complement. Only the **Assume** and **Believe** subtypes and certain member of **Solve** do not accept some instance of *WH-* or *WH-TO* complement. The date found in COCA shows that *WH* complement is able to be implemented in **Assume** Subtype.

Subtype 1

Assume

- | | |
|-----|-------------------------------------------------------------------------------------------------------------|
| (1) | I assume <i>what</i> they're saying an impeachment the process finished in the House by the end of the year |
| (2) | I assume <i>what</i> you mean by skin turning orange you at one time |

Subtype 2

Suppose

- | | |
|-----|-------------------------------------------------------------------------------------------------------|
| (3) | I suppose <i>why</i> shouldn't man contribute to their own demise |
| (4) | There were at least two good reasons to suppose <i>why</i> the bishops wanted Stein declared a martyr |

c. ING Complement

The suffix *-Ing* has a wide range of uses. It is a part of imperpective aspect and it is used to mark adjective derived from verb and also noun derived from verb. It is used to mark verb in two kinds of complement clause the *ING*. In **Thinking** verb, **Think**, **Ponder** and **Remember** verb types may have an *ING* clause for the Thought role; **Understand** from the **Know** subtype may also have an *ING* clause in O slot. *ING* Complement is not allowed in **Assume** subtype, **Know** subtype (*know, learn, sense, realise, teach*), **Conclude** subtype, **Solve** subtype and **Believe** subtype. However, this will be taken into deliberation, considering the data on COCA shows that the *ING* complement is also present in **Assume, Suppose, Know, Sense, Realise, Learn** and **Teach** verb types.

Subtype 1	
Assume	
(5)	I assume <i>starting</i> the late 60's to early 70's when vodka took over as the top spirit
Subtype 2	
Suppose	
(6)	I suppose <i>doing</i> the exact opposite couldn't hurt
Subtype 3	
Know	
(7)	I just know <i>playing</i> basketball
(8)	I know <i>making</i> this decision wasn't an easy one
Subtype 4	
Learn	
(9)	They learn <i>writing</i> by adults and peers
(10)	I wish also to learn <i>writing</i> of English too
Subtype 5	
Sense	
(11)	Avoidance leads to sense of <i>having</i> little worth and value and seriously undermines development of goals and the strength to take steps towards those goals
Subtype 6	
Realise	
(12)	I was horrified to realise <i>reading</i> your post,
Subtype 7	
Teach	
(13)	You might teach <i>making</i> shoes by lectures!
(14)	he knows how to teach <i>having</i> not been taught

d. Judgment TO

Judgment TO complement has a rather different meaning. The subject of the main clause verb ventures a judgment or opinion about the subject of the complement clause predicate. The judgment is some state or property which is either transitory or else a matter of opinion. A *Judgment TO* construction is improbable to be used to describe some permanent, objective property and most often the subject of the *Judgment TO* is human. *Judgment TO* is allowed in **Think, Assume, Remember, Know** (except *teach*), **Conclude** and **Believe** (except *doubt*) subtypes. This is evidenced by the absence of related data existed in COCA

e. Modal (For) TO

Modal (For) TO complement associate to the subject of the complement clause becoming involved in the activity or state referred to by that clause, or to the potentially of such involvement and it is allowed in **Think, Remember** and **Know** Subtypes (*know, learn, teach*). **Assume, Ponder, Know** (*sense, realise, understand*), **Conclude, Solve**, and **Believe** subtypes are not allowed *Modal (For) TO* to fill the O slot. The Data shows that *Modal (For) TO* according to the description and characteristics of the **Thinking** verb is also allowed in some verb types i.e., **Imagine, Assume, Ponder, Realise, Understand** and **Conclude** verb types.

Subtype 1

Imagine

- (15) We imagine *for us sitting down to write a new*
- (16) you could imagine *for the last three months, to put together my annual Holiday Techno-Buying Guide*
- (17) you can imagine *for providing them with the resources to make that transition work*

Subtype 2

Assume

- (18) I assume *for him to decide not to come back to Washington in advance in order to participate in this event*

Subtype 3

Ponder

- (19) posing questions for the rest of us to ponder *for a long time to come*

Subtype 4

Realise

- (20) I realise *for the time being to have look after number 1*

Subtype 5

Understand

- (21) I can understand *for a' books to read' check list, you might want to reference what you have completed, but most lists you just want to check it to remove it*
- (22) I understand *for people to not like this game is that there isn't much to do after level 50*

Subtype 6

Conclude

- (23) we have to wait for an investigation to conclude *for an investigation to conclude before the university can take any action against the accused*

5. Discussion

5.1 Complement Clause

a. WH Complement

a *WH-clause* is a subordinate clause that's introduced by one of the *wh-words* (*what, who, which, when, where, why, how*). *Wh*-clauses can function as subjects, objects, or complements. In **Thinking** verbs, *What* functions as a complement clause in (1), (4) and as an object complement in (2), (3). Both are placed directly after verb **Assume** and **Suppose**.

b. ING Complement

ING complement in (5), (6), (7), (8), (9), (10), (11), (12), (13) occur in the subordinate clause. All the constructions have unique structure which ING complement function as an object directly appear after the verb without any complementiser.

c. Modal FOR TO

In Thinking verb, *Modal (For) TO* complements relates to direct perceptions of the complement clause subject becoming involved in the activity. As found in (14), (15), (16), (17), (18), (19), (20), (21), (22), the main verb is followed by an NP that involved the second O slot that is link by *to*. All constructions in *Modal FOR TO*; main and subordinate clause are linked by *to*.

5.2 Clause and Sentence:

a. The Function – Form Interface

The function of the constituent parts of sentences and the form of how the different elements in sentences combine into larger units are various components that make up sentences. Function refers to Subject, Object, Adjunct, etc, and form refers to word and word classes; phrase (NP, AP, VP, etc.), clauses (main and subordinate clause). The major properties of main clauses are.

1. Each clause includes a finite verb; that is, a verb marked for tense, person and number. Tense has to do with whether the speaker or writer uses a past-tense verb and places a given event in past time or a present-tense verb and places the event in present time, (Miller.J, 2000). There is normally at least one verb that has both a subject and a tense. In **Thinking** verb, the structure of a sentence is generally formed by finite verb in the main clause such as in **Assume**: (1), (2), (5), (18); **Suppose**: (3), (4), (6); **Know**: (7), (8); **Learn**: (9), (10); **Sense**: (11); **Realis**: (12), (20); **Teach**: (12), (13); **Imagine** (15), (16), (17); **Ponder**: (19); **Understand**: (21), (22) and **Conclude**: (23). In each clause, the finite verb is accompanied by its complements and adjunct.
2. Each clause is marked for aspect and the aspect can be changed the situation can be in the past, present, or future time as well as the situation in time relative to other situations in a fairly subtle fashion. Whether a situation is ongoing, completed, repeated or habitual comes under the heading of aspect in particular situation while the location of a situation in past, present, or future time or two situations relative to each other in time, comes under the heading of tense. Sentences can be built by two clauses with different aspects e.g., **Assume** (1), (5); **Suppose**: (6); and **Know**: (8).
3. Each clause has mood. Mood has to do with two sets of distinctions. First, there are the distinctions between making statement, asking questions, and issuing commands. The second set of distinctions has to do with whether the speaker or writer presents an event as possible. Mood is used to refer to a verb category or form which indicates whether the verb express a fact (indicative mood) e.g., **Know**: (7), (8); **Learn**: (9), (10); **Teach**: (14); a command (imperative mood), a question (interrogative mood) e.g. **Assume**: (1), (2), (5); **Suppose**: (2) and a condition (conditional mood) e.g., **Realise**: (12); **Teach**: (13), **Imagine**: (16), (17); **Assume**: (18).

b. Main clause and Subordinate clause

A main clause or independent clause combines a subject and a predicate to form a thought. They can stand alone or be linked by a conjunction to express a complete concept. Subordinate clause is derived from main clauses which are put into subordinate positions in sentences. Sentences can be either compound or complex depending on the clauses are combined together. All data in Thinking verb are mostly formed in complex sentences which the main clause is placed at the first of the sentences and it is followed by one or two subordinate clauses.

Verb in the **Thinking** type have special properties that set them off-semantically and syntactically from other types. Firstly, they are used to describe the Cogitator (who is generally human) has in mind some Thought. The subject of a complement clause is different from the main clause subject. Secondly, one becomes mindful of some activity using Thought either directly or indirectly.

However, due to the complement clause is not only utilized in the context of conversations or statements in general, but the complement clause is also utilized in a wider context of its purposes, starting from academic writing, broadcasting on media and also in fiction and non-fiction works. As what have been defined in complement varieties allowed in O slot, it can be summarised as follow:

Table 1. Extended Complement Clause Possibilities for Thinking Verbs

Verb Subtypes	Complement Clause Allowed in O slot				
	THAT	WH-	ING	Judgement TO	Modal (FOR) TO
THINK Subtype					
Think	√	√	√	√	√
Consider	√	√	√	√	-
Imagine	√	√	√	√	√
ASSUME subtype					
Assume	√	√	√	√	√
Suppose	√	√	√	√	-
PONDER subtype					
Ponder	√	√	√	-	√
REMEMBER subtype					
Remember	√	√	√	√	√
Forget	√	√	√	√	√
KNOW subtype					
Know	√	√	√	√	√
Learn	√	√	√	√	√
Sense	√	√	√	√	-
Realise	√	√	√	√	√
Understand	√	√	√	√	√
Teach	√	√	√	-	√
CONCLUDE Subtype					
Conclude	√	-	-	√	√
Infer	√	-	-	√	-
SOLVE Subtype					
Solve	√	-	-	-	-
Work Out	√	-	-	-	-
BELIEVE Subtype					
Believe	√	-	-	√	-
Suspect	√	-	-	√	-
Doubt	√	-	-	-	-

(√) : allowed in O slot

(-) : not allowed in O slot

Complement clause with Thinking verbs have special properties. the *That* is constituted in all verb types. *WH* and *ING* exist in **Thinking** verbs (except *conclude*, *solve*) and **Believe** subtypes. *Judgment TO* is found in **Think**, **Assume**, **Remember**, **Know** (except *teach*), **Conclude** and **Believe** (except *doubt*) subtypes. *Modal FOR TO* is generally formed

in **Think** subtype (except *consider*), **Assume** subtype (except *suppose*), **Ponder** subtype, **Remember** subtype, **Know** subtype (except *sense*), **Conclude** subtype (except *infer*), **Solve** and **Believe** subtype

6. Conclusion

In the present paper, it has been argued that verbal system consists of primary and secondary grouped into some very specific subtype which included into some particular verbs which has similar meaning in common. **Thinking** verb that is one of Primary-B verb types has special syntactic properties and it characterized into certain subtypes.

The feature of complement clause in Thinking verb has special properties; Complement clause with **Thinking** verbs have special properties. the *That* is constituted in all verb types. *WH* and *ING* exist in **Thinking** verbs (except *conclude*), **Solve** and **Believe** subtypes. *Judgment TO* is found in **Think**, **Assume**, **Remember**, **Know** (except *teach*), **Conclude** and **Believe** (except *doubt*) subtypes. *Modal FOR TO* is generally formed in **Think** subtype (except *consider*), **Assume** subtype (except *suppose*), **Ponder** subtype, **Remember** subtype, **Know** subtype (except *sense*), **Conclude** subtype (except *infer*), **Solve** and **Believe** subtypes.

By approaching the data in COCA from a variety deep syntactic analysis at the at the level of clause and sentence (Morley, 2000; Aarts, 2001; Miller (2002), the extended classification of Complement Clause possibilities in **Thinking** verbs resulted the expand of sentence classification as constituent part, Complement Clause possibilities are enriched into some verb types and the data are mostly found in complex sentence.

References

- Aarts, B. (2001). *English Syntax and argumentation; 2nd Ed.* New York: PALGRAVE
- Carnie, A. (2006). *Syntax: A Generative Introduction.* Oxford: Blackwell Publishing Ltd.
- den Dikken, M., & Dékány, É. (2018). A Restriction on Recursion. *Syntax*, 21(1), 37–71. <https://doi.org/10.1111/synt.12149>
- Dixon, R.M.W. (2005). *A Semantic Approach to English Grammar.* New York: Oxford University Press.
- Fonteyn, L., & Hartmann, S. (2016). Usage-based perspectives on diachronic morphology: A mixed-methods approach towards English ing-nominals. *Linguistics Vanguard*, 2(1).
- Griffiths, P. (2006). *An Introduction to English Semantics and Pragmatics.* Edinburgh: Edinburgh University Press.
- Güneş, G. (2021). Morphosyntax and Phonology of Agreement in Turkish. *Syntax*, 24(2), 143–190. <https://doi.org/10.1111/synt.12210>
- Halm, T. (2021). Radically Truncated Clauses in Hungarian and Beyond: Evidence for the Fine Structure of the Minimal VP. *Syntax*, 24(3), 376–416. <https://doi.org/10.1111/synt.12214>
- Hegeman, L. (2006). *English Word Classes and Phrases. The Handbook of English Linguistic.* Oxford: Blackwell Publishing Ltd.
- Korhonen, A., & Briscoe, T. (2004). Extended lexical-semantic classification of English verbs. In *Proceedings of the Computational Lexical Semantics Workshop at HLT-NAACL 2004* (pp. 38-45).
- Leech, G. (2006). *A Glossary of English Grammar.* Edinburgh: Edinburgh University Press.
- Leseva, S., Stoyanova, I., & Todorova, M. (2018). Classifying Verbs in WordNet by Harnessing Semantic Resources. *Proceedings of CLIB*, 115-125.
- McEnery, T., & Wilson, A. (2001). *Corpus Linguistic: An Introduction second edition.* Edinburgh: Edinburgh University Press.
- Miller, J. (2002). *An Introduction to English Syntax.* Edinburgh: Edinburgh University Press:
- Morley, G.D. (2000). *Syntax in Functionl Grammar: An Introduction to Lexicogrammar in systemic Linguistic.* London: Continium Wellington House.
- Radford, A. (2004). *English Syntax: An Introduction.* Cambridge: Cambridge University Press, (paperback).
- Radford, A. (2009). *Analysing English Sentences: A minimalist Approach.* Cambridge: Cambridge University Press.

- Shi, L., & Mihalcea, R. (2005, February). Putting pieces together: Combining FrameNet, VerbNet and WordNet for robust semantic parsing. In *International conference on intelligent text processing and computational linguistics* (pp. 100-111). Springer, Berlin, Heidelberg.
- Suherman, L. A. (2018). The Analysis of Metaphorical Domain on English "Stab Verb" in Corpora. *ELS Journal on Interdisciplinary Studies in Humanities*, 1(1), 52-58. <https://doi.org/10.34050/els-ijsh.v1i1.4190>
- Tahir, D., Rahman, F., & Rahman, A. (2018). The Study of Buginese Reciprocal Verb in the Boegineesche Chrestomathies Manuscript. *Am. J. Humanit. Soc. Sci. Res*, 2(08), 48-5
- Van Valin, R.JR. (2004). *An Introduction to Syntax*. Cambridge: Cambridge University Press.
- Vinson, D. P., & Vigliocco, G. (2002). A semantic analysis of grammatical class impairments: semantic representations of object nouns, action nouns and action verbs. *Journal of Neurolinguistics*, 15(3-5), 317-351.