CLASSIFICATION OF THAI SENTENCE STRUCTURES
BASED ON PHASE STRUCTURE GRAMMAR FOR TEACHING THAI
AS A FOREIGN LANGUAGE IN CHINA

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Abstract

The objectives of this study were to examine the phrase structure rules for Thai sentence structures (simple, complex, compound) using Phrase Structure Grammar (PSG) and to categorize Thai sentence structures (simple, complex, compound) using PSG. The study methodology used a qualitative approach based on content analysis. A total of 88 Thai sentences were collected from the section on "Types of Sentences" in the basic materials for Thai Language Learning "*The Thai Language Norms Volume 3.*"

The results provide valuable insights into the underlying structure of Thai sentences, offering pedagogical resources for teaching the Thai language to foreign learners in China. Additionally, it has been determined that the Thai language consists of three primary types of sentence structure, including simple, complicated, and compound, which can be distinguished by the phrase structure rule in each case, as analyzed by PSG. Both educators and students will benefit from acquiring a more comprehensive understanding of Thai sentence forms. In this way, the development of excellent Thai language skills and the promotion of cultural exchange between Thailand and China are both facilitated. The collection is a comprehensive compilation of Thai sentence categories, and its primary objective is to provide standards for the presentation of Thai grammar at educational institutions located throughout Thailand. In the same vein, it can be of assistance to students in comprehending and evaluating

the sentence structures of the Thai language, and it can also be of use to Thai learners in developing a more profound understanding of the Thai language.

Keywords: Thai sentence structures, Phase Structure Grammar,

Teaching Thai as a Foreign Language.

Introduction

The Thai language belongs to the Tai language group within the Tai-Kadai language family (Reynolds, 2002). The Thai language that this study examined is the dialect spoken in the central part of Thailand, where the capital city Bangkok is located. This language is used in educational settings and in conducting national affairs, and it is officially recognized as the national language of Thailand, also known as "Standard Thai" (Sudmuk, 2005). As the international economic and cultural exchanges between China and Southeast Asian countries become more and more frequent, the Thai language is becoming one of the most popular foreign languages among Chinese students, especially students from southwestern China (Hou, 2019).

Thai language teaching as a foreign language involves a thorough interchange of Thai culture, language, and society. In an era of globalization and international exchange, non-Western languages like Thai have garnered global attention among language learners. Foreigners learn Thai as a second language for two primary reasons, according to Hiranpradit (2002). First, it's the desire to work with Thai people and learn Thai language and culture. Second, it's communicating with Thais in their culture (Singhapreecha, 2007).

Sentence structures are the building blocks of language, enabling learners to convey meaning effectively. According to Pinker (2014), sentence construction plays a vital role in conveying meaning as he gives practical advice on how to write with clarity and precision. Sentence structures also play a significant role in comprehending sentences and texts. It is important for higher-level processing of language learning, especially in writing (Ghazzoul, 2023). Therefore, understanding the structure of sentences is crucial for building a coherent memory that represents the events and concepts described in the text (Lasnik & Uriagereka, 2022).

In the process of learning a foreign language, some difficulties often appear in many aspects because of the differences between the mother tongue and the learning language. For example, Chinese students learning Thai encounter differences in the order of words in sentences between Chinese and Thai. Although both languages have the same basic word order of sentences, subject + verb + object (SVO), not every constituent in sentences is arranged in the same order. The inconsistency in the constituent order between Chinese and Thai causes Chinese students to make mistakes when they study Thai sentence structures.

In linguistics, Phrase Structure Grammar (PSG), a model that represents the hierarchical structure of sentences in human languages, is widely used to analyze the internal structure of sentences (Williams, 2022). PSG offers a structured and systematic approach to learning sentence structure, allowing learners to understand the hierarchical organization of sentences, generate grammatically correct sentences, and apply linguistic principles across different languages (Sukhahuta, 2002). It breaks down sentences into constituents such as phrases and clauses, making it easier for learners to understand how sentences are constructed. Thus, PSG is used in this study to analyze and classify Thai sentence structures, and consequently, it provides pedagogical content for teaching Thai sentence structures to foreign students.

This study aims to analyze and classify Thai sentence structures based on PSG for teaching Thai as a foreign language to help Thai language learners better understand the structural aspects of Thai sentences. The importance of Thai sentence structures in learning the Thai language is crucial, as it not only affects sentence structure and meaning but also determines the accuracy and fluency of expression. Mastering Thai sentence structures helps learners understand and use complex sentence patterns, enhancing their language proficiency.

Research Objectives

1. To analyze the phrase structure rules of the Thai sentence structures (simple, complex, compound) based on PSG.

2. To classify the Thai sentence structures (simple, complex, compound) based on PSG.

Literature Review

Thai language

The official language of Thailand is Thai. Diller (2001) classifies it as Southwestern Tai. It includes the nation's history, culture, society, and identity. It promotes understanding and healthy connections via communication. Thai is a tonal language with a minimum vowel and a maximum cluster of two consonants, one beginning and one final. Every syllable has toned vowels. Thai diphthongs and monophthongs contrast short and long vowels. Thai has monomorphic Thai terms and multimorphemic Pali and Sanskrit borrowed words. Compounding and reduplication create Thai or borrowed words. Thai, like other Tai languages, lacks inflection, hence only Pali and Sanskrit foreign words can be affixated. Thai clauses lack tense and agreement markers. Time adverbs and discourse contexts allude to time.Thai, like other pro-drop languages, utilizes null pronouns. Null pronouns can be main or embedded clause subjects or objects. However, they cannot complement prepositions (Phimsawat, 2011).

Thai language teaching research in China

The China-ASEAN Free Trade Area has increased emphasis on Thailand in China, driving demand for Thai-speaking applied expertise, leading colleges to improve Thai language programs. The flipped classroom paradigm (Ya, 2023) and multimedia resource integration (Tang, 2023) boost language skills and student engagement, according to several research. Overall, educational changes aim to educate students for regional economic demands and improve Thai proficiency. Thai grammar instruction, especially sentence form, has received minimal investigation.

Thai Sentence Structure

The most basic structure of a Thai sentence is subject, verb, and object or SVO word order. The subject is the person or thing the sentence is about, followed by the action and the object. The phrase structure rule of the Thai language is S $\longrightarrow$ NP VP (Sudmuk, 2005). For example,

(1) kaandaa nɔɔn   (2) kaandaa kin khâaw

    Kanda   sleep   Kanda   eat   rice

    'Kanda sleeps.'   'Kanda eats rice.'

(Sudmuk, 2005)

Thai sentences in (1) and (2) are simple sentences that have only one verb. In example (1), the verb " nɔɔn " meaning "sleep" takes only one argument, which is "kaandaa" meaning "Kanda". On the other hand, in example (2), the word "kin" meaning "eat" takes two arguments, which are "kaandaa" meaning "Kanda" and "khâɑw" meaning "rice". The preverbal arguments, such as the NP "Kanda" in (1) and (2), function as subjects. On the other hand, the postverbal argument, the NP "rice," functions as an object.

However, some sentences allow more than one verb in Thai sentences in which the phrase structure rule S ⟶ NP VP cannot generate, called Serial Verb Constructions (hereafter SVCs), which is a single serial verb complex that describes what is conceptualized as a single event (Sudmuk, 2005). The example is illustrated in (3).

(3) Kaandaa yiin rɔ́ɔŋpleŋ

　 Kanda   stand sing

　'Kanda sang, while standing.'

(Sudmuk, 2005)

All SVCs in Thai consist of at least two verbs or two verb phrases (VPs) in a series. There are no overt conjunctions between these two verbs, and all verbs in the series share at least one argument, which can be either the subject or the object. An example (3) is called simultaneous SCV (Sudmuk, 2005), in which two verbs show simultaneous action: the first verb "yɨɨn" means "stand" indicating a particular position of the subject "kaandaa" while carrying the action of the second verb "rɔ́ɔŋpleŋ" means "sing".

Phase Structure Grammar

Phrase Structure Grammar (PSG) deconstructs sentences into phrases and constituents to explain their hierarchical arrangement. When evaluated in context, Chomsky (1956) equated PSG with constituency grammar. PSG analyzes natural language sentence syntactic structure. It helps divide sentences into tiny parts or phrases to comprehend their order. The goal of PSG is to accurately represent the hierarchical structure of these elements and their connections within a sentence (Haegeman, 1994). In the context of PSG, a sentence is perceived as including many phrases, such as noun phrases (NP), verb phrases (VP), prepositional phrases (PP), and other similar constructions. These phrases are further deconstructed into smaller components until the fundamental structural elements of the language, such as nouns, verbs, adjectives,

and prepositions, are attained. Chomsky (1956) illustrated some examples of these rules in English as follows:

(1) S $\longrightarrow$ NP AUX VP

(2) NP $\longrightarrow$ Det (AdjP) N (PP)

(3) VP $\longrightarrow$ V (NP) (AdvP)

(4) AdjP $\longrightarrow$ Adj

(5) PP $\longrightarrow$ P NP

(6) AdvP $\longrightarrow$ Adv

PSG formalizes natural language sentences and phrase hierarchies. It explains sentence structure and links. Therefore, PSG can precisely represent any sentence's structure.

Abbreviations in the study

S = sentence, C = clause, MC = main clause, SC = subordinate clause, NP = noun phrase, AUX = auxiliary, VP = verb phrase, PP = prepositional phrase, N = noun, V = verb, Adj = adjective, Adv = adverb, P= preposition, n = number, Conj = conjunction, Det=determiner, cl=classifier, PossP=possessive pronoun, NC=noun clause, AdjP=adjective phrase, AdvP= adverb phrase.

Conceptual Framework
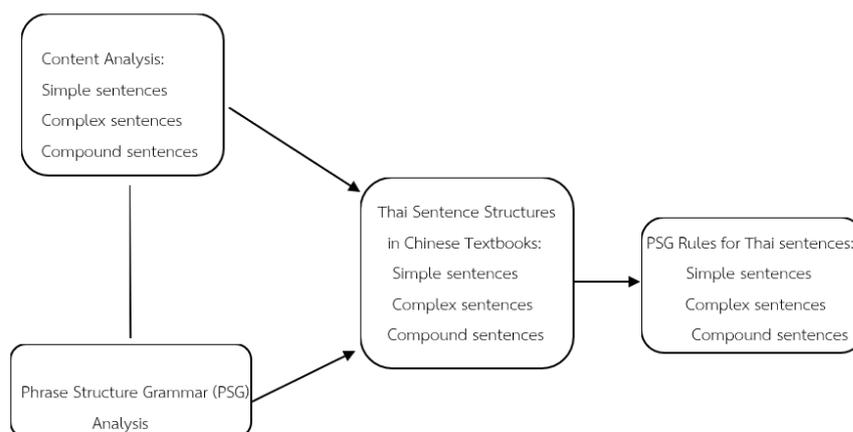
The conceptual framework was formed as below:

Figure 1: Conceptual Framework of this research

The conceptual framework of this study integrates content analysis and PSG. This holistic approach aims to enhance the understanding of Thai sentence structures. The

study begins with a thorough content analysis of Thai sentence structures, focusing on the types of sentences: simple, complex, and compound. This analysis serves as the foundation for understanding the grammatical rules and patterns inherent in the Thai language. PSG is the primary analytical tool employed in this study. It provides a structured approach to understanding the hierarchical organization of sentences. By breaking down sentences into their constituent parts (such as phrases and clauses), PSG allows for a detailed examination of the internal structure of Thai sentences. This model is crucial for identifying the phrase structure rules that govern different types of Thai sentences.

Research Methodology

Syntactic analysis in the framework of Linguistics was applied in this study. The PSG was selected for analyzing the internal structure of Thai sentences and their classification.

Population and Sampling

In this study, there are a total of 88 examples in the section on "Types of Sentences" in the *Thai Language Norms Volume 3* (Office of the Basic Education Commission, 2018). Those 88 sentences were the population. Those 88 sentences can be divided into three categories according to the textbook content, which are 33 simple sentences, 37 complex sentences, and 18 compound sentences. All of them were the data of sampling.

Research Instruments

There are 2 research instruments in this study: an Excel spreadsheet for collecting the data, and the X-Bar tree diagram for analyzing the internal structure of the sentences in a hierarchy.

Data Analysis

The Thai simple, compound, and complex sentences from *Thai Language Norms Volume 3* (Office of the Basic Education Commission, 2018) were analyzed by PSG in the following steps: 1) Collect the Thai sentences of each type from Thai Language Norms Volume 3 (Office of the Basic Education Commission, 2018), 2) Analyze the phrase

structure rule of each type of Thai sentence data by the PSG, 3) Classify the Thai sentence structures based on PSG, and 4) Conclude the results.

Results

Through the Syntactic analysis of Thai sentence's internal structures based on PSG, the phase structure rules of Thai sentences can be summarized as follows:

The phrase structure rules of Thai Simple sentences:

S $\longrightarrow$ NP VP

NP $\longrightarrow$ Nn (DetP) (PossP) (AdjP) (PP) (NC) (C)

VP $\longrightarrow$ VPn

The phrase structure rule of a Thai Simple sentence is written as NP VP, meaning there is only one independent clause. However, it can consist of more than one verb phrase (VPn), known as a serial verb construction. The phrases, which are in the parentheses, are optional. The tree diagram in Figure 1 shows the internal structure of the Thai simple sentence in (4).

(4) bâan síi   khriim lâaŋ nân saǔy

     house color cream   Cl   that beautiful

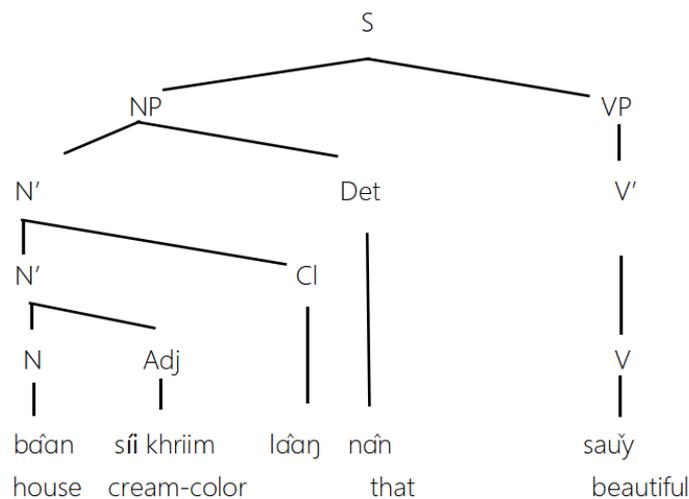   "That cream-color house is beautiful."

Figure 2: The internal structure of a Thai simple sentence

More examples are shown below:

- Simple sentence with one independent clause:

(5) Laksanaa hây   khɔ̂ɔŋ khwǎɑn suwannee thúk   pii

      Lasana give   present   Suwanee every year

   "Lasana gives a present to Suwanee every year."

- Simple sentence with a serial verb construction:

(6) Těew wîiŋ pay pə̀t pratuu bâɑn

      Teew run go open door   house

   "Teew runs away to open the door of the house."

Both sentences (4) and (5) have only one verb, saǔy "beautiful" and hâ̯y "give" respectively while sentence (6) has three verbs, wî̯ŋ "run", pay "go", and pə̀t "open". A sentence (6) is an example of directional and aspect serial verb construction (Sudmuk 2005), which has the flat recursive VP structure form (VPn). In this sentence, a directional verb pay "go" signals a directional meaning of action verbs wî̯ŋ "run" and pə̀t "open".

The phrase structure rules of Thai Complex Sentences:

S   →   MC   SC

MC   →   NP   VP

SC   →   Conj   C

C   →   NP   VP

VP   →   VPn

The phrase structure rule of Thai complex sentences consists of a main clause (MC), which is a clause that contains a subject and verb expressing a complete thought, and a subordinate clause (SC), which is a clause that contains a subject and verb but does not express a complete thought. These two clauses are connected with a subordinate conjunction, such as thî̯i, si̯̇ŋ, ʔan, which means "that" at the beginning of the SC. The tree diagram in Figure 2 shows the internal structure of the Thai complex sentence in (7).

(7) khǎw pháyaayaam thamŋaan con   sèt   táŋthî̯i   khǎw pùay

      He   try   work   until   finish   although   he   sick

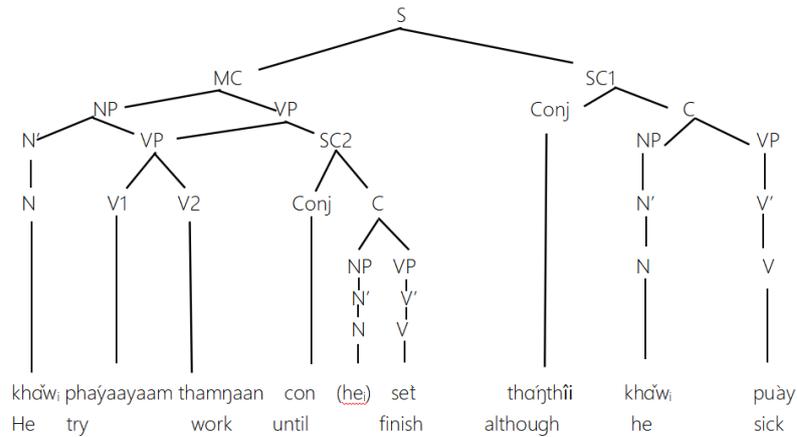"He tried to finish his work although he was sick."

Figure 3: The internal structure of a Thai complex sentence

The tree diagram in Figure 2 shows the complex structure of an MC, that is, there is also an SC2 "con (he$_i$) sèt" within that MC. The co-indexation at the null subject (he$_i$) shows that the subject of the SC2 is the same as the subject of the MC "khǎw". The subject pronoun of the SC2 "he", which refers to the subject of the MC, is dropped. This kind of null pronoun in Thai is called "Referential null pronoun" (Phimsawat, 2011), which is a third-person null pronoun that requires a discourse referent previously introduced in the discourse. Furthermore, the subject of the SC1 "khǎw" is also the same person as the subject of the MC as indicated by the co-indexation.

In a complex sentence, an MC is known as an independent clause while an SC is known as a dependent clause. They can be arranged in either way: main clause + subordinate clause or subordinate clause + main clause. The example of the latter is shown in (8).

- a complex sentence with a subordinate clause and a main clause

(8) tháŋthîi mây hěnduây kàp hǔanâa khǎw kɔ̂ɔ patibàt taam khamsàŋ

Although not agree with boss he still do follow order

"Although he did not agree with his boss, he still followed his order."

A sentence (7) is a complex sentence that is made up of a main clause khǎw pháyaayaam thamŋaan con sèt "He tried to finish his work" and a subordinate clause tháŋthîî khǎw pùay "although he was sick". On the other hand, a sentence (8) is a complex sentence that is made up of a subordinate clause tháŋthîî mây hěnduây kàp huǎnâa "although he did not agree with his boss" and a main clause khǎw kɔ̂ɔ patìbàt taam khamsàŋ "he still followed his order".

The structure rules of Thai Compound Sentences:

S ⟶ C conj C

C ⟶ NP   VP

VP ⟶ VPn

The phrase structure rule of Thai compound sentences consists of two independent clauses, typically with a coordinating conjunction. There are four kinds of coordinating conjunctions in Thai compound sentences, which are additional conjunction: lɛ́, kàp, "and", contrastive conjunction: tɛ̂ɛ, tɛ̂ɛwâa, tháŋthîî, "but", reasoning conjunction: phrɔ, phrɔwâa, "because, because of", and selective conjunction: rɯ̌ɯ "or". The examples are illustrated below:

- a compound sentence with an additional conjunction

(9) khruu   sàŋ   hây nákrian ʔàan bòtthîîsaam   lɛ́

Teacher instruct give student read chapther3   and

tham bɛ̀ɛpfɯ̀khàt   tháɑy bòt

do   exercise   end   chapter

"A teacher instructed the students to read chapter 3 and practice an exercise at the end of the chapter."

- a compound sentence with a contrastive conjunction

(10) chǎn khəəy ʔàɑn rɯ̂əŋ mɯɑŋ ùuthɔɔŋ   tɛ̀ɛ mây khəəy pay ləəy

I   already read story city   Uthong   but not already go already

"I have read the story about Uthong city but never gone to that city before."

- a compound sentence with a reasoning conjunction

(11) nákrian maa rooŋrian sǎɑy phrɔ́ fǒn tòk nàk

Student come school late because rain fall hard

"Students came to school late because it rained so hard."

- a compound sentence with a selective conjunction

(12) mɔ̌ɔ   cà   pay hǎa khonkhây rɯ̌ɯ cà hây khonkhây pay hǎa mɔ̌ɔ

   Doctor will go   visit patient   or   will give   patient   go visit doctor

   "The doctors will visit the patients or let the patients come to see the

   doctors."

As shown in examples (9) – (12), Thai compound sentences combine two independent clauses with a coordinate conjunction. No matter the kind of coordinating conjunctions in Thai compound sentences, their structures are the same. The tree diagram in Figure 3 shows the internal structure of the Thai compound sentence in (11).
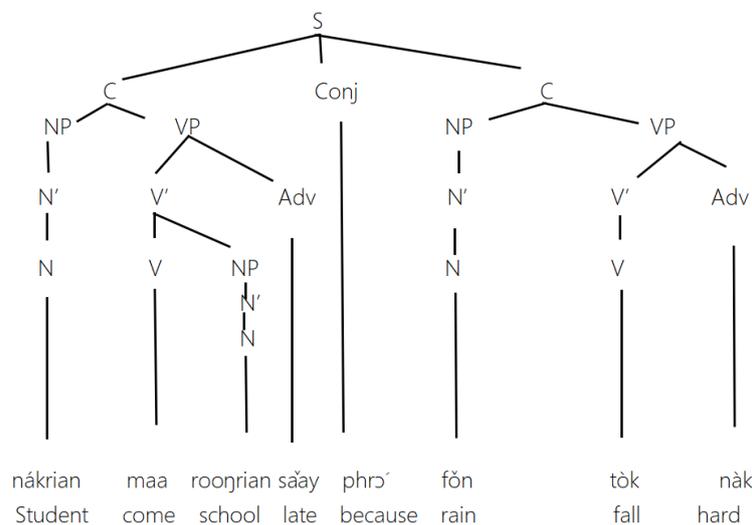

Figure 4: The internal structure of a Thai compound sentence

Classification of Thai sentence structure

According to the phrase structure rules of Thai sentences from the section on "Thai sentence structure" in the *Thai Language Norms Volume 3* (Office of the Basic Education Commission, 2018) analyzed by PSG, the structures of Thai sentences can be classified into three structures as follows:

Simple sentence structure: S ⟶ NP VP

Complex sentence structure: S ⟶ MC SC

Compound sentence structure: S ⟶ C conj C

Discussion

This study shows that PSG provides an accurate internal sentence structure analysis, enabling foreign learners to understand the fundamental framework of the Thai language. In the process of teaching Thai as a foreign language, Wiangin (2017) also found that Thai sentence structures can be analyzed using the Government and Binding Theory (GB), which is based on PSG.

PSG focuses on syntactic rules that enhance students' understanding of the internal structure of Thai sentences. It is universally applicable to any language, providing insight into sentence structures. By comparing Thai sentence structures with their mother tongue, students gain a deeper understanding of similarities and differences, thereby facilitating their acquisition of the Thai language. Ultimately, PSG offers significant advantages in teaching Thai as a foreign language in any country.

Body of Knowledge

This study contributes to the knowledge concerning Thai language teaching by systematically analyzing and classifying Thai sentence structures through the lens of PSG.

The internal structure of each type of Thai sentence was shown as below:

Thai Simple sentence   Thai Complex sentence   Thai Compound sentence

NP   VP   MC   SC   C   Conj   C
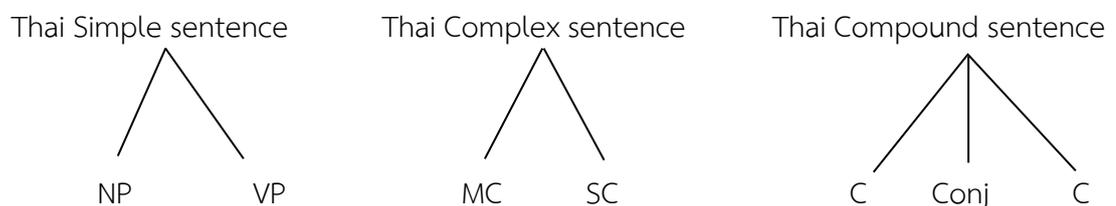
The insights gained from this research enhance the understanding of Thai syntax and serve as a valuable resource for teaching Thai as a foreign language, ultimately fostering better communication skills among learners. The findings of this study have significant pedagogical implications for teaching Thai as a foreign language. By providing a clear framework for understanding Thai sentence structures, educators can better equip students—especially those from different linguistic backgrounds—with the tools necessary for mastering the language. The study highlights the challenges faced by Chinese students, particularly regarding word order discrepancies between Chinese and Thai, and offers strategies for overcoming these obstacles.

Conclusion

This study utilizes PSG to analyze and classify Thai sentence structures from the *Thai Language Norms Volume 3* (Office of the Basic Education Commission, 2018). It is found that there are three main kinds of sentence structure in the Thai language, simple, complex, and compound since the phrase structure rule of each kind is differentiated by the PSG analysis.

The significance of Thai sentence structures in the acquisition of the Thai language is paramount, as they not only influence the structure and meaning of sentences but also influence the fluency and accuracy of expression. By mastering Thai sentence structures, learners can improve their language proficiency by comprehending and employing intricate sentence patterns.

Suggestion

Based on the results of this study, the researcher proposed that future research on Thai sentence patterns use data from the current Thai language, which has more sophisticated sentence structures than the Thai textbooks. These recommendations aim to improve Thai grammar, education, and foreign-Thai communication. Future Thai language training can benefit from phrase structures, linguistic comparisons, technology, long-term research, and cultural factors. These programs increase language acquisition techniques and materials faster. Future research may focus on tech-assisted language learning (such as online platforms or apps) to teach Thai sentence patterns.

This study provides various Thai sentence pattern research options for language instruction. Examples include modern Thai sentence patterns, cross-linguistic influences, contextual language usage, digital communication, longitudinal language acquisition studies, cultural effects on language learning, and diverse learner groups. These recommendations emphasize Thai language's dynamic nature, cross-linguistic effects, digital communication, longitudinal language acquisition studies, and cultural factors to improve Thai language learners' experiences. Research on teaching methods and resources can improve Thai language students' learning.

References

Chomsky, N. (1956). Three models for the description of language. *IRE Transactions on information theory*, *2*(3), 113-124.

Diller, A. (2001). Grammaticalization and Tai syntactic change. *Essays in Tai linguistics*, 139-175.

Ghazzoul, N. (2023). The Role of Linguistic Structure in Sentence and Text Comprehension: A Comparative Analysis of Depth-First Versus Breadth-First Models. *Theory and Practice in Language Studies, 13*(2), 267-275.

Haegeman, L. (1994). Introduction to Government & Binding Theory. *Sintagma: revista de lingüística, 7*, 85-87.

Hiranpradit, P. (2002). *State of learning and teaching Thai languages to foreigners in Thailand.* Nonthaburi: Sukhothai Thammathirat Open University.

Hou, P. (2019). Spelling errors in Thai made by Chinese students learning Thai as a foreign language. *Manusya*, *22*(3), 358-374.

Lasnik, H., & Uriagereka, J. (2022). *Structure.* USA: MIT Press.

Office of the Basic Education Commission. (2018). Thai Language Norms Volume 3. Bangkok: Office of the Basic Education Commission.

Phimsawat, O. (2011). The syntax of pro-drop in Thai. (Doctoral dissertation). Newcastle: The University of Newcastle.

Pinker, S. (2014). *The Sense of Style.* USA: Penguin Books.

Reynolds, C. J. (2002). *National identity and its defenders: Thailand today*. Silkworm Books.

Singhapreecha, S. (2007). A reference grammar of Thai. *Lingua, 117*(8), 1497-1512.

Sudmuk, C. (2005). *The syntax and semantics of serial verb constructions in Thai*. The University of Texas at Austin.

Sukhahuta, R. (2002). Phrase Structure Grammar and Thai Natural Language Search. *Chiang Mai Journal of Science, 29*(2), 117-127.

Tang, Q. (2023). Research on the Similarities and Differences and Effects of Information Media Technology Used by Chinese and Thai Teachers in Thai Language Teaching under the New Normal. *Proceedings of the 5th Life Education Academic Forum 2023,* 421-424.

Wiangin, N. (2017). The Phrase Structure Rules of Thai Sentences. *Suan Sunandha Academic & Research Review, 11*(1), 69-84.

Williams, H. A. (2022). Phrase and Sentence Structure. *Research Anthology on Applied Linguistics and Language Practices,* 79-118.

Ya, M. (2023). Research on the application of flipped classroom teaching model in Thai language major course teaching. Proceed*ings of the 5th Life Education Academic Forum 2023,* 583-586.