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THE EFFECTS OF FORMULAIC SEQUENCES
INSTRUCTION ON ORAL ENGLISH FLUENCY
AMONG ENGINEERING COLLEGE
STUDENTS IN HUBEI CHINA



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WANG YINGCHEN

SULTAN IDRIS EDUCATION UNIVERSITY

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WANG YINGCHEN

THESIS PRESENTED TO QUALIFY FOR A DOCTOR OF PHILOSOPHY

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2025



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ABSTRACT

This study examines the effects of Formulaic Sequence Instruction (FSI) in enhancing the oral English fluency of first-year engineering students at Hubei Engineering University, China. Employing a quasi-experimental design, 41 participants were assigned to either an experimental group receiving explicit FSI or a control group experiencing conventional instruction. Data were triangulated through pre- and post-tests measuring fluency, checklists capturing students' recognition of formulaic sequences and dysfluency indicators, and semi-structured interviews yielding qualitative insights. Findings from the statistical analyses indicated that while both instructional approaches positively influenced fluency, the experimental group demonstrated significant gains ($p < 0.05$). The qualitative findings revealed enhanced student awareness and utilisation of formulaic sequences. These facilitated smoother oral production. Findings from the interview data further indicated broad consensus among participants regarding the efficacy and practicality of FSI. This study underscores the pedagogical value of systematically integrating FSI (Formulaic Sequence Instruction) into curricula for non-English majors, highlighting its potential to enhance language learning outcomes and foster greater linguistic competence. The implication of the study is that integrating FSI into language curricula can effectively improve fluency and oral communication, offering practical benefits for learners.





KESAN FORMULAIC SEQUENCE INSTRUCTION TERHADAP KEFASIHAN LISAN BAHASA INGGERIS DALAM KALANGAN PELAJAR KOLEJ KEJURUTERAAN DI HUBEI CHINA

ABSTRAK

Kajian ini meneliti kesan pengajaran rangkaian formulaik (Formulaic Sequence Instruction, FSI) dalam meningkatkan kefasihan lisan Bahasa Inggeris dalam kalangan pelajar tahun pertama kejuruteraan di Kolej Kejuruteraan Hubei, China. Berdasarkan cabaran ketidakfasihan lisan dalam kalangan pelajar bukan jurusan Bahasa Inggeris di institusi pengajian tinggi di China, kajian ini secara langsung mengisi kelompangan empirikal tentang penggunaan FSI dalam konteks ini. Kajian ini berpandukan tiga objektif iaitu pertama, mengkaji kesan FSI terhadap kefasihan lisan pelajar; kedua, menyelidik bagaimana FSI mempengaruhi perkembangan kefasihan; dan ketiga, meneroka persepsi pelajar serta guru mereka mengenai penggunaan praktikal FSI dalam pengajaran Bahasa Inggeris secara lisan. Kajian ini menggunakan reka bentuk kuasi eksperimen dengan seramai 41 pelajar diagihkan kepada dua kumpulan iaitu kumpulan eksperimen yang menerima FSI secara eksplisit dan kumpulan kawalan yang mengikuti kaedah pengajaran konvensional. Data dikumpul melalui ujian pra dan pasca bagi mengukur tahap kefasihan, senarai semak bagi mengenal pasti penguasaan pelajar terhadap rangkaian formulaik serta penanda ketidakfasihan dalam monolog, dan temu bual separa struktur untuk mendapatkan pemahaman secara kualitatif. Analisis statistik menunjukkan kedua-dua pendekatan pengajaran meningkatkan kefasihan pelajar, namun kumpulan eksperimen mencatat peningkatan yang lebih signifikan ($p < 0.05$). Hasil kualitatif pula mendapati peningkatan kesedaran serta penggunaan rangkaian formulaik yang berkesan oleh pelajar, seterusnya melancarkan penghasilan ujaran lisan mereka. Analisis tematik temu bual turut menyerlahkan tentang keberkesanan dan praktikaliti pendekatan FSI. Kajian ini memperlihatkan nilai pedagogi FSI dalam kurikulum pelajar bukan jurusan Bahasa Inggeris dan mencadangkan strategi bagi menangani cabaran kefasihan.



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LIST OF ABBREVIATIONS

CEFR	The Common European Framework of Reference for Languages
EFL	English as a Foreign Language
ESL	English as a Second Language
FS	Formulaic Sequence
FSs	Formulaic Sequences
FSI	Formulaic Sequence Instruction
IELTS	International English Language Testing System
L2	Second Language
SPSS	Statistical Product and Service Solutions
TOEFL	Test of English as Foreign Language



APPENDIX LIST

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CHAPTER 1

INTRODUCTION



This chapter explores the educational milieu concerning the teaching and learning of the English language within the context of higher education in mainland China. The primary focus of the research presented in this chapter is formulaic sequence instruction (FSI) and its multifaceted effects on students' oral fluency. Oral fluency, as a critical component of language proficiency, plays a pivotal role in shaping learners' communicative competence and their ability to function effectively in both academic and professional environments where English is used. In particular, this chapter addresses the widespread issues related to oral fluency that are commonly faced by non-native learners, especially Chinese students in higher education. Furthermore, the role that formulaic sequences (FSs) play in helping students achieve fluency and improve





language proficiency will be thoroughly explored. FSs, by their nature, offer linguistic shortcuts and mental templates that simplify language use, especially in spontaneous conversation. The aim of this chapter is to provide a comprehensive and nuanced understanding of the challenges associated with improving oral fluency and to explore how targeted instruction using FSs can help overcome these barriers, ultimately leading to better academic performance and career success in a globalized workforce.

1.2 Background of the Study

The study of language learning, particularly in relation to second language acquisition (SLA), has been a subject of intense scholarly interest for several decades, with diverse perspectives contributing to a richer understanding of how people acquire and use language in practical contexts. As early as the 1980s, numerous linguists began to critique and challenge Noam Chomsky's generative grammar theory, which posits that any natural language consists of an infinite set of utterances that can be generated from a finite set of grammatical rules (Pawley & Syder, 1983). Chomsky's theory emphasized the abstract, rule-governed nature of language, suggesting that human beings are born with an innate ability to generate novel sentence. While this theory contributed greatly to understanding the structure of language, it fell short of addressing the practical, everyday use of language in real-world communication.

Scholars such as Barlow (2000), Liu and Huo (2011) , and Wray (2000) have since argued that, in practice, language users tend to favour specific utterances in their language production, reusing established and familiar expressions rather than creating





novel sentences each time. This phenomenon underscores the role of formulaicity, where fixed expressions or formulaic sequences (FSs) are used to communicate more effectively and effortlessly. Such formulaic sequences, which are often multi-word expressions stored as whole units, allow speakers to bypass the cognitive load of constantly generating grammatically novel sentences.

In China, English is learned as a foreign language (EFL) rather than a second language (ESL), meaning that learners acquire English in a context where it is not widely spoken in daily life. Unlike second-language learners who acquire English through immersion in English-speaking environments, EFL learners in China predominantly learn English in formal classroom settings, with limited exposure to authentic communication scenarios. This lack of real-world practice poses challenges for oral proficiency development, as students have fewer opportunities to engage in natural, spontaneous conversations in English.

Over the past few decades, English education in China has undergone significant reforms to align with global trends and improve overall language proficiency. However, despite the increasing emphasis on communicative competence in educational policies, the traditional emphasis on written exams and grammar-focused instruction persists. As a result, many Chinese EFL learners struggle with oral fluency, as their learning experiences are often dominated by passive input (e.g., reading and listening) rather than active production (e.g., speaking and writing).

Formulaic sequences (FSs) generally refer to preconstructed multiword units that are stored and retrieved as wholes from memory during language use. Over the past





few decades, growing research efforts in second language acquisition (SLA) have gradually brought these FSs into the spotlight, shifting them from the periphery to the core of language research. The true nature of FSs has slowly emerged, revealing their central role in language learning and proficiency. Scholars have identified formulaic sequences as crucial elements in language production, both in native speakers and in second language learners. These units provide predictable, reliable building blocks for communication, significantly reducing the mental processing effort required during speech production.

Existing evidence shows that native speakers' language processing and production are facilitated by their extensive knowledge of multiword expressions, which allow them to speak more fluently and with less hesitation (Pawley & Syder, 1983; Wray, 2002; Hoey, 2005; Conklin & Schmitt, 2012). FSs serve as stable and accessible stepping stones in speech, helping speakers quickly retrieve and produce familiar phrases. Additionally, well-entrenched knowledge of FSs has been shown to aid not only in speaking but also in reading comprehension, as FSs make it easier to predict and understand upcoming words and meanings in a text (Conklin & Schmitt, 2008; Ellis & Simpson-vlach, 2008; Siyanova-Chanturia, Conklin, & van Heuven, 2011). In speaking, these sequences help smoothen speech flow, allowing foreign language learners to focus on more creative stretches of speech without becoming bogged down by complex grammatical formulations (Skehan, 1998; Wood, 2010).

In the process of learning the English language, particular emphasis is always placed on the four main skills: listening, speaking, reading, and writing. While all of these skills are integral to developing comprehensive language proficiency, speaking





stands out as particularly important due to its role in face-to-face communication. A study by the American linguist Wilga M. Rivers (as cited in Wan, 2019) pointed out that listening comprises about 45% of daily communication, speaking accounts for 30%, reading 16%, and writing 9%. This distribution highlights that speaking is a central part of language use, representing nearly one-third of daily communication activities. Thus, speaking proficiency is vital for foreign language learners, especially as oral fluency is considered one of the key goals for English learners in terms of developing communication skills (Kormos & Déne, 2004).

Fluency, in particular, is critical for effective communication. Fluency refers to how well and smoothly a learner can convey meaning without unnecessary hesitation or frequent pauses. It contrasts with accuracy, which concerns the correctness of grammar, pronunciation, and vocabulary. Although both fluency and accuracy are important, fluency is often prioritized in real-world communication, where the emphasis is placed on conveying meaning rather than linguistic perfection. Oral fluency reflects a learner's ability to maintain speech flow by using familiar language sequences, which help reduce the cognitive burden of sentence construction. Fluency also plays a key role in social and professional settings, where speakers are expected to communicate quickly and efficiently without being slowed down by gaps in knowledge or hesitation in expression.

However, achieving oral fluency remains a significant challenge for EFL learners in China. A survey conducted by the National College Foreign Language Supervision Committee in 2003 revealed that many employers expressed dissatisfaction with the newly graduated college students, citing their lack of





comprehensive competence, particularly in oral English fluency. Although many students performed well in written tasks, they struggled to communicate effectively in spoken English. A subsequent investigation carried out in 2016, which focused on the needs of freshmen and college English teachers, found that students considered oral fluency one of the most difficult aspects of their English language learning (Zhao, 2016). The challenge of developing fluency persists because it requires more than grammatical knowledge—it demands the ability to retrieve and produce familiar language sequences in real-time communication. Furthermore, a survey by Cai (2012), which involved 6,625 freshmen from 21 provinces and cities across China, revealed that oral fluency is the skill that students most want to improve (86.2%). Many students encounter difficulties when attempting to express their thoughts and ideas fluently in actual communication settings (Qiu, 2019). These findings highlight a persistent issue: while many students have sufficient grammatical knowledge, they struggle to retrieve and produce language in real-time communication, which is crucial for fluency development.

In addition, despite considerable attention being paid to research in English teaching, much of it remains concentrated on top-tier universities such as the "Double First Class" institutions, with a focus on elite students. According to the Ministry of Education (2024), out of 3117 higher education institutions in China, only 147 are recognized as "Double First Class" universities, which amounts to just 4.7% of the total. This highlights the fact that the majority of Chinese universities are ordinary institutions, where students face greater challenges in developing their oral English skills. Research in these universities is still limited, particularly in terms of oral fluency and effective teaching strategies (Pei & Pamintuan, 2024). Many of these institutions still have





inadequate resources, insufficient training for teachers, and a lack of classroom opportunities for students to practice speaking English, all of which contribute to the fluency gap between students from ordinary and top-tier universities (Botha, 2014).

As China's international presence expands due to its reform and opening-up policies, the ability to communicate fluently in English has become even more critical. International communication and cooperation are becoming more widespread, and students with higher levels of oral fluency are better equipped for future work and academic opportunities. The Belt and Road Initiative (Liu, 2019) further emphasizes the importance of English fluency, as it necessitates stronger global partnerships. Today, many companies set English fluency as a prerequisite for hiring new graduates, and those who demonstrate strong speaking skills are more competitive in the job market. Consequently, there is an urgent need for talent who can use English fluently and effectively in diverse, globalized contexts.

Given the importance of oral fluency for both academic success and professional competence, there has been growing interest in how formulaic sequences (FSs) can be leveraged to enhance fluency. Research has shown that native speakers hold a clear advantage over second-language (L2) learners in terms of both the breadth and depth of their FS knowledge (Boers & Lindstromberg, 2012). As for this research, this discrepancy likely explains why EFL speech tends to be less fluent than that of native speakers, as non-native learners often lack the extensive repertoire of FSs that native speakers draw on for smooth and efficient communication. Thus, the question arises as to whether targeted instruction in FSs can help EFL learners improve their fluency more effectively.





Recent research has further highlighted the critical role that FSs play in enhancing oral fluency. Yu (2022), for instance, conducted a study examining the psycholinguistic aspects of FS use among Chinese EFL learners. The study found a strong positive correlation between the frequency of FS use and improvements in both speed fluency and breakdown fluency. According to Yu (2022), learners who frequently used FSs were able to communicate more fluidly, although the inappropriate use of FSs could potentially hinder fluency by leading to awkward or unnatural speech. This finding underscores the importance of carefully designed instruction that not only teaches FSs but also provides learners with the tools to use them appropriately in context. Similarly, Maawali (2023) provided valuable insights, showing that teaching FSs to Omani EFL learners not only improved their fluency but also enhanced their listening skills and communicative competence. Liang (2017) also emphasized the benefits of integrating computer-corpus-based instruction in teaching FSs, as this approach helped learners better understand and internalize these sequences, leading to substantial gains in oral fluency.

The Ministry of Education in China has stressed the necessity of improving students' oral English proficiency more than ever, implementing the new Standard of English Curriculum, which places a stronger emphasis on the cultivation of oral English proficiency (AEE, 2018). Oral English fluency has become one of the essential skills for college students. Education, as the key avenue for fostering students' integrated language competence, bears the heavy responsibility of achieving this goal. In addition, teaching remains a core facilitator for foreign language learning.





In mainland China, English teaching primarily focuses on test scores, and oral English is not a compulsory component of most English language exams. In provinces such as Hubei and Jiangsu, only students who aim to become English majors are required to take an oral English test in the National College Entrance Examination. This situation results in many students having relatively low fluency in speaking.

Some Chinese scholars and teachers have investigated Chinese students' oral English fluency over the past few years, including Wu (1996, 1997), Zhang (1999, 2000), and Miao and Sun (2006). They have provided insights and conducted research on oral English fluency development in foreign language classrooms. However, it should be noted that the inquiry into oral English fluency, particularly among foreign language learners, is still in its infancy. Oral fluency is inherently transient, and learners' oral activities are not easy to sample or represent as valid data (Qi, Jiang, & Zhu, 2015). As a result, much basic research is still needed in China, especially on improving oral fluency (Qi et al., 2015). Since oral fluency is a primary goal for many language learners, this raises the question of whether fostering knowledge of formulaic sequences can help foreign language learners achieve this goal. One of the tasks for language educators and researchers, therefore, is to discover effective ways to teach and give learners practice in using FSs so that they can benefit from the fluency gains associated with their use (Lewis, 1993, 1997; Wood, 2010).

A review of literature on FS teaching published in CNKI (China National Knowledge Infrastructure) reveals that empirical studies on this topic are scarce. Most of the existing research focuses either on top-ranking universities in more developed areas of China or on English majors (Jiang & Zhang, 2013; Ding & Qi, 2016). However,





the majority of universities in China are average, and most college students are non-English majors. Hubei province is not a highly developed area, and most engineering college students there are average students. Therefore, more studies should be conducted from these perspectives. Hence, the present study aims to investigate the effects of formulaic sequence instruction (FSI) in improving oral English fluency among engineering college students in Hubei, China.

1.3 Problem Statement

Based on a nationwide survey covering various educational stages and the job market, Zhang et al. (2017) investigated the status quo and reform needs of high school and college English education across 23 provinces in China. The study highlighted that English language oral fluency among college students, including those in Hubei province, requires significant improvement, with engineering college students demonstrating particularly low oral fluency compared to their peers in other disciplines (J. Li et al., 2018). According to Huang (2021), many college graduates in Hubei province possess adequate reading and writing skills in English but struggle to communicate fluently in everyday conversations, which presents challenges for their academic and professional success.

The students targeted in this study are first-year undergraduates from an engineering university in Hubei Province. These students are non-English majors enrolled in general English courses administered by the university's School of Languages and Literature. Upon entry into the university, all freshmen are required to





take a standardized English placement test organized by the school, designed to support differentiated instruction based on students' language proficiency. According to the test results, students are grouped into three levels—A, B, and C. The target participants in this study are from the B-level classes, with placement scores ranging from 60 to 79, indicating moderate proficiency. However, despite having a foundational knowledge of English, these students have limited exposure to authentic communicative use both in and beyond the classroom. As a result, their spoken English is often limited to rehearsed responses or exam-oriented expressions, with little fluency in spontaneous interaction.

For most students entering engineering colleges in Hubei, their primary goal during secondary education is to pass standardized written exams, which often results in a strong focus on test preparation rather than communicative competence. English teachers prioritize vocabulary, grammar, and reading comprehension skills over speaking skills, leading to an instructional gap where oral fluency receives insufficient attention (Qi, 2019). Consequently, engineering students often find themselves unable to retrieve appropriate expressions quickly, making it difficult for them to articulate their thoughts fluently in speaking classes. This issue is further exacerbated by time constraints in college English courses, where teachers tend to continue prioritizing reading, writing, translation, and grammar instruction at the expense of oral proficiency. The long-standing perception that college English education is time-consuming yet inefficient in fostering communicative competence (Qi, 2019) remains a pressing concern.

Beyond pedagogical priorities, the low fluency of oral English among Chinese engineering students in Hubei is also linked to broader structural issues in English





education. Research indicates that outdated teaching methodologies, limited exposure to authentic communication contexts, and low adoption of modern educational technologies contribute to students' struggles with oral fluency (Qi, 2019). A study by Jiang and Han (2023) found that non-English major college students in applied universities, including science and engineering majors, generally fail to meet the China Standards of English (CSE) Level 5 for oral expression, particularly in pronunciation, fluency, and appropriateness. Additionally, Hu (2024) examined the effectiveness of blended learning environments in Wuhan universities and found that while students performed well in technological proficiency and social collaboration, they struggled with self-directed learning, including oral vocabulary development and fluency. These studies indicate that engineering students in Hubei are particularly disadvantaged in oral English development due to curriculum limitations and learning autonomy challenges.



In response to these challenges, various methods have been proposed to enhance oral fluency among college students, including incorporating authentic English videos for imitation, leveraging information technology to engage students, and adopting a task-based language teaching approach to create more speaking opportunities (Bao, 2018; Tang et al., 2021). However, there remains a lack of empirical research focusing specifically on engineering students in Hubei, making it difficult to determine which instructional strategies are most effective for improving oral fluency in this demographic.

Given the importance of formulaic sequences (FSs) in foreign language acquisition, Formulaic Sequence Instruction (FSI) has drawn increasing attention from





researchers and educators. FSI focuses on both grammatical accuracy and communicative competence, viewing language as grammaticalized lexis rather than lexicalized grammar, thereby enhancing fluency by expanding students' use of prefabricated language chunks (Ma, 2020). Empirical studies have demonstrated that FSI-based teaching can be particularly effective in improving listening, writing, and translation skills (Jia, 2019). Additionally, various FSI-related teaching activities have been found to expand lexical knowledge and significantly enhance oral fluency (Boers et al. 2006; Wood, 2009; Yu, 2008; Feng & Shen, 2016), suggesting the potential benefits of FSI on spoken language development.

However, despite its potential, FSI does not always yield significant improvements. For example, an investigation by Huang (2019) reported that after 10 weeks of FSI-based instruction, students' formulaic sequence knowledge did not improve significantly, raising questions about the practical effectiveness of FSI in different teaching contexts. Similarly, Liang (2017) conducted an empirical study using a computer-corpus approach to teach formulaic sequences to college students and found that, while this method improved exposure and comprehension, it did not lead to significant oral fluency gains. Additionally, Baleghizadeh and Shafeie (2019) found that the impact of FSI on oral fluency varied depending on the retrieval method used, and emphasized that learner engagement and instructional design were key mediating factors. These studies underscore the need to investigate the actual effects of FSI on oral fluency in specific learning contexts, particularly in under-researched populations such as engineering students in Hubei.



Moreover, although researchers have examined students' learning outcomes, less is known about how students perceive and experience FSI in the classroom, including their awareness, confidence, and motivation in using formulaic expressions. Similarly, teachers' beliefs about the effectiveness and feasibility of using FSI—which influence classroom implementation—remain underexplored, especially in engineering-focused colleges where oral English instruction is often marginalized. Understanding both student and teacher perspectives is crucial to ensure that instructional innovations like FSI are both pedagogically sound and contextually appropriate.

Given the pressing need to improve oral fluency among engineering students in Hubei and the limited empirical research on the use of FSI in this setting, this study seeks to investigate the effects of FSI on engineering students' oral English fluency, explore the influence of FSI on students' awareness and use of formulaic sequences, and discover the teacher's beliefs regarding the role and impact of FSI in oral English instruction. By addressing these dimensions, the study aims to generate insights that are theoretically grounded, pedagogically practical, and locally relevant.

1.4 Objectives of the Research

The research objectives, which form the focus of the research, are as follows:

1.4.1 To investigate the effects of formulaic sequence instruction (FSI) on engineering college students' oral English fluency in Hubei, China,

1.4.2 To explore the influence of FSI on oral English fluency among engineering

college students in Hubei China.

1.4.3 To discover the engineering college students' and the teacher's beliefs in using FSI in oral classes in Hubei, China.

By addressing the research gaps, this study will contribute to the growing body of research on oral fluency development in non-English major contexts, particularly for students with restricted English usage outside the classroom. Furthermore, it will provide pedagogical insights into how FSI can be effectively adapted to enhance fluency in learning environments where communicative English is not emphasized.

1.5 Research Questions

This research is carried out to answer the following research questions:

1.5.1 To what extent does FSI effect engineering college students' oral English fluency in Hubei, China?

1.5.1a Is there any significant difference on engineering college students' oral English fluency between the classes with and without using FSI in Hubei, China?

1.5.2 How does using FSI influence oral English fluency among engineering college students in Hubei China?

1.5.3 What are the engineering college students' and the teacher's beliefs in using FSI in oral English classes in Hubei, China?



1.6 Hypotheses of Research

Based on the research and review of the existing literature and information available, it is understood that engineering college students who are in Hubei, China, are weak in their oral English fluency. Due to the significant role of formulaic sequences in language acquisition led the researcher to apply FSI into oral English class and investigate the effects of FSI on students' oral fluency.

Therefore, the null hypotheses formulated are:

H₀₁: There is no significant improvement in the mean scores in the pre-test and post-test on the participants' oral fluency gained by the experimental class.

H₀₂: There is no significant difference between the mean scores in the pre-test on the participants' oral fluency received by the experimental class as compared to the control class.

H₀₃: There is no significant difference between the mean scores in the post-test on the participants' oral fluency received by the experimental class as compared to the control class.



1.7 Theoretical Framework

This study is guided by two essential theories : Levelt's speech production model (as cited in Kormos, 2006; Zhang, 2015), noticing hypothesis (Schmidt, 1992) chunking theory by Chase and Simon (as cited in Miao & Sun, 2006) and output hypothesis (Swain, 1985).

Figure 1.1

Theoretical Framework

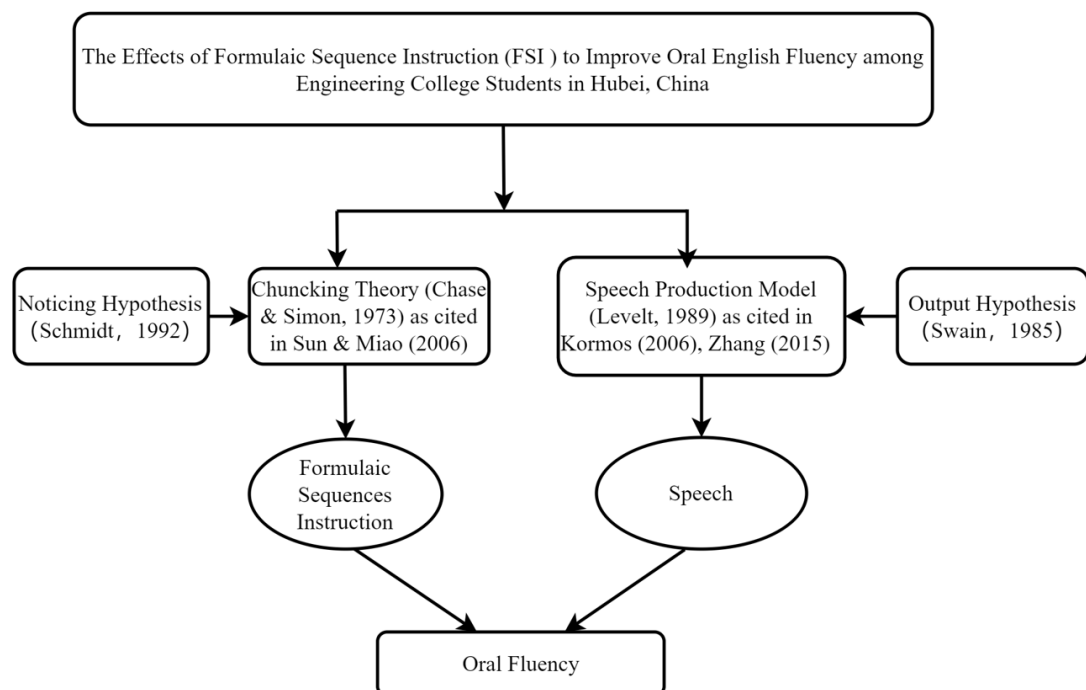
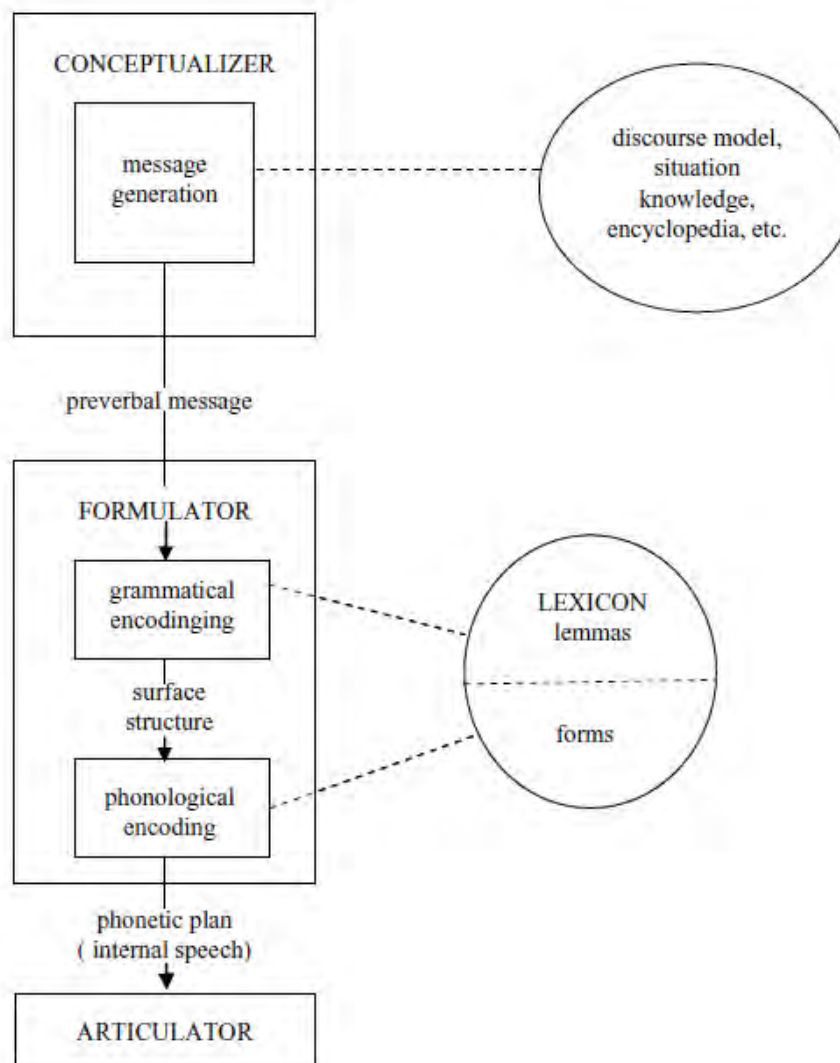


Figure 1.2*Part of Simplified Blueprint of Levelt's (1993, p. 9) Production Model*

According to Levelt (1993), speech production is made of three processing components: the Conceptualizer, the Formulator, and the Articulator (Ushigusa, 2008; Wood, 2005). In the Conceptualizer component, the speaker conceives of an intention,

selects for relevant information, and orders the information for generating messages. At this phase, a speaker pays attention to what and how he or she is going to say, and the product of this stage is a preverbal message serving as input to the formulation stage.

In the component of the Formulator, the speaker converts what he or she has conceptualized into a speech plan. That is, the Formulator turns a conceptual structure into a linguistic one through two major processes: grammatical encoding and phonological encoding. The grammatical encoder is composed of procedures for accessing lemmas and of grammatical building procedures. Lemmas are the combination of a lexical item's meaning and its syntactic information. According to Levelt (1989), lemma information belongs to the speaker's declarative knowledge and is stored in his or her mental lexicon. Levelt (1989) stated that a lemma will be activated when its meaning fits part of the preverbal message. For example, the lemma "give" is activated because its meaning meets the need of the preverbal message. The activation simultaneously makes available the syntax for the lemma "give". "Give" is subsumed to the syntactic category Verb, which will activate the verb-phrase-building procedure. The procedural knowledge which is stored in the Grammatical Encoder is then used to put together the verb phrase (e.g., gave John the book). When the appropriate lemmas are accessed, the speaker produces a surface syntactic form, which is "an ordered string of lemmas grouped in phrases and subphrases of various kinds" (Levelt, 1989, p. 11).

The second process that takes place in the Formulator is phonological encoding, which builds a phonetic plan for lemmas and produces the whole utterance. The Phonological Encoder has access to the lexical form of an item's internal composition. For instance, besides the lemma information, a lexical item in the lexicon consists of



its morphological and phonological information (e.g. childhood is made of a root “child” and a suffix “hood”, and its stress falls on the first syllable). Therefore, the form information can be retrieved based on the specified and selected lemma information in the grammatical encoding. The product of phonological encoding is called a phonetic plan. The Articulator component executes the phonetic plan and turns it into speech (Kormos, 2014). Swain's (1985) Output Hypothesis supports output practice under the condition that when the practice gives learners ample opportunities to produce output, which will trigger the process successfully by transforming the declarative knowledge into procedural knowledge and facilitate the development of oral fluency (Muranoi, 2007).



As is mentioned, the surface structure, which is “an ordered string of lemmas grouped into phrases and sub phrases” is output of grammatical encoding and the input of phonological encoding. Pawley and Syder (1983) convincingly argued that most of the utterances that L1 speakers produce are not composed of sentences constructed word by word with the help of syntactic rules, but of sequences of words or phrases retrieved from memory as one unit. Such sequences of words or phrases that could be stored and retrieved as single units, which bypass the process of grammatical encoding will speed up the processing time facilitating their oral fluency. Such sequences of words or phrases are referred to as formulaic sequences in this research. This term is developed from “chunk” which was first proposed by Miller in 1956 (Qi et al., 2015).

It was mentioned that once chunks are stored in long-term memory as declarative knowledge, then they can be extracted and used in independent units through accumulated reorganization. Each chunk only occupies the space of one slot in





working memory, and the slot acts as a label pointing to the information in long-term memory, therefore, the extraction of the chunk is mainly the label in the short-term memory that points to the long-term memory, to maximize the short-term memory capacity and make full use of the large amount of information stored in the long-term memory. In this way, the load of real-time speech processing could be reduced, and learners have more time to organize the rest part of speech, which is beneficial for them to improve oral fluency (Miao & Sun, 2006)).

Though the chunking theory (Chase & Simon, 1973a) is initially a term in cognitive psychology, it shed light on language acquisition. Many researchers accept the chunking theory and propose to apply it into language teaching (Niu & Lv, 2005). There are more than 40 terms proposed by researchers from different perspectives and purposes, such as “formula”, “lexical phrases”, “fixed expressions” and so forth (Wray, 2002). Nevertheless, Pu (as cited in Duan, 2008) explained that the kaleidoscope of terms is devoted to an inclusive phenomenon. Wray (2002) reviewed different items and established the larger pattern into which they all fit. He proposed the term “formulaic sequence”, which does not carry the previous baggage and is clearly defined (Wray, 2002).

As described by Wray (2002), a formulaic sequence could be retrieved whole from memory at the time of use without the need of generation or analysis by the language grammar. As a result, this process could meet the needs for the limited capacity of the working memory, which will potentially facilitate fluent speech.





Given the importance of formulaic sequences in development of oral fluency, how to incorporate them in EFL teaching and learning is of great importance. According to Schmidt's (1992) Noticing Hypothesis, only input that is noticed by the learners will become available for intake for further effective processing. Nevertheless, Schmidt (1992) stressed that noticing only serves as a necessary basis for second language acquisition and in order to make effective processing take place; noticing is not sufficient due to many factors operating upon noticing such as individual differences in memory and attention holding capacity both affecting the extent of noticing, thereby directly influencing second language learning. Taking this into consideration, the activities should be chosen appropriately by teachers in the classes to improve students' knowledge of formulaic sequences.



Therefore, this study will utilize speech production model (Levelt, 1989) integrated with output hypothesis to explain how oral English fluency can be developed. Noticing hypothesis and chunking theory (Chase & Simon, 1973) explain that FSI could facilitate automaticity or the psychological process of assembling items into larger units to meet the needs for the limited time of processing, hence improve oral fluency.





1.8 Operational Definition

The terms which are used in this research are defined as follows:

1.8.1 Formulaic Language

This research will follow Schmitt's (2010) convention of using formulaic language as the cover term for the phenomenon that encompasses various types of word string which appear to be stored and retrieved whole from memory and formulaic sequence for each individual instance of it.



1.8.2 Formulaic Sequences

In this study, a formulaic sequence is continuous or discontinuous, of words or other elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar (Wray, 2002).

1.8.3 Instruction

Instruction was defined previously as “the purposeful direction of the learning process” and is one of the major teacher class activities (William, 2003). In this study, instruction





is defined as “any intentional effort to stimulate learning by the deliberate arrangement of experiences to help learners achieve a desirable change in capability” (Smaldino et al., 2015).

1.8.4 Formulaic Sequence Instruction (FSI)

In this study, formulaic sequence instruction (FSI) refers to explicit instruction on formulaic sequences through exercises and activities to help students notice, comprehend, practise and use them. The basic concept on which this instruction rests is the idea that an important part of learning a language consists of being able to understand and produce formulaic sequences as chunks. Students are taught to be able to perceive patterns of language (grammar) as well as have meaningful set uses of words at their disposal when they are taught in this way.

1.8.5 Oral English Proficiency

Oral English proficiency is used to describe the level of speaker's ability to communicate orally in English in a certain communicative situation (Bachman & S.Palmer, 1996). In this study, oral English proficiency refers to the level of the ability of a language user/learner to deliver his/her message verbally to one or more audiences in English during the speaking practice and activities in classroom.





1.8.6 Speaking

In this study, speaking refers to the action of conveying information or expressing one's feelings in speech. In EFL context in China, speaking also equates speaking skills which refers to speaker's ability to communicate orally in English in a certain communicative situation (Bachman & S.Palmer, 1996). It is regarded one of the four main skills including listening, speaking, reading and writing focused in EFL teaching and learning. English oral fluency and English oral accuracy are usually considered as two essential components of speaking in EFL context.

1.8.7 Oral English Fluency



In this study, oral English fluency is used in its narrow sense. Skehan states that it mainly concerns the learner's capacity to produce language in real time without undue pausing or hesitation (as cited in Yuan & Ellis, 2003). It refers to how well a learner communicates meaning rather than how many mistakes they make in grammar, pronunciation and vocabulary. Fluency is often compared with accuracy, which is concerned with the type, amount and seriousness of mistake made.

1.8.8 Declarative Knowledge

In this study, declarative knowledge refers to factual information that can be verbally described. It is the information composed of the fact concepts or concepts stored in the





brain in the way of propositions. It is also called descriptive knowledge (as cited in He, 2019).

1.8.9 Procedural Knowledge

In this study, according to the speech production model (Levelt, 1989), procedural knowledge, known as “knowledge how”, relates to knowledge of how to do things and is associated with the performance of skilled behaviours, such as language skills (listening, reading, speaking, and writing). An example might be the knowledge most native speakers have about forming correct grammatical constructions in their L1 (Segalowitz, 2010).



1.8.10 Proceduralization

In this study, proceduralization is a process by which declarative knowledge may be transformed into procedural knowledge through repeated practice and use (Wood, 2010). Thus, L2 learners can apply consciously learned rules without attending to the forms (Kormos, 2006).





1.8.11 English as a Second Language (ESL)

English as a Second Language is learning English in a country where English is dominantly spoken or where English is the official language. For example, students from non-native English-speaking countries who come to the U.S. and Canada for an extended period to learn English as a Second Language. They acquire English to communicate in the dominant language spoken in the community where they reside. English as a Second Language corresponds roughly to the Outer Circle described by linguist Braj Kachru as cited in Mair, C (2016).

1.8.12 English as a Foreign Language (EFL)



English as a Foreign Language (EFL) is a traditional term for the use or study of the English language by non-native speakers in countries where English is generally not a local medium of communication. English as a Foreign Language (EFL) corresponds roughly to the Expanding Circle described by Braj Kachru as cited in Mair, C. (2016) “The English Language in the Outer Circle”.

1.8.13 Belief

In this study, belief refers to a mental attitude where someone accepts a particular proposition, statement, or idea as being true or valid without requiring immediate evidence or proof. It encompasses individual perceptions, assumptions, and





expectations about specific phenomena, such as the effectiveness of learning strategies, the role of effort in success, or the value of education (Camina, Bernacer & Guell, 2021).

1.9 Limitations of the Study

The primary limitations of the present study have been identified to guide future improvements.

Firstly, the instructional period is set to last for 15 weeks, with participants receiving only 90 minutes of instruction per week. It is acknowledged that language processing and acquisition require ample practice time to transform comprehensible input into output. For example, under the framework of formulaic sequence instruction (FSI), participants engage in activities such as raising awareness of formulaic sequences, rehearsing or repeating them, and then practicing output using these sequences to promote fluent speech. However, given the limited instructional time, students will only have the opportunity to practice a small selection of formulaic sequences. Therefore, the study's outcomes might be impacted by the restricted time available for FSI practice.

Secondly, the study is limited to just two classes, rather than involving the entire student body of the engineering college in Hubei, China. As a result, the findings are only representative of the specific group of engineering students at the college where the study is conducted, rather than being generalizable to all students in the province.



Lastly, the participants in this study exhibit relatively consistent language proficiency levels, which could further constrain the generalizability of the results. Consequently, the study's outcomes may not reflect the broader population of students with varying language proficiency levels.

1.10 Significance of the Study

This study is significant as it addresses a critical gap in the application of Formulaic Sequence Instruction (FSI) in oral English fluency development, particularly for engineering students in Hubei, China, who have limited opportunities for spoken English practice. Unlike English majors or students in language-intensive programs, engineering students often lack consistent exposure to spoken English, leading to difficulties in fluency, retrieval of expressions, and confidence in communication. This deficiency not only affects their academic performance in English courses but may also hinder their ability to engage effectively in professional and international settings, where English proficiency is an increasingly valuable skill. Fluency issues may impact their ability to participate in academic discussions, collaborate on research projects, or communicate effectively in technical fields where English is widely used. By examining how FSI can be integrated into oral English instruction for this specific group, this research provides valuable insights into improving fluency among students with minimal daily English interaction.

From a pedagogical perspective, this study contributes to evidence-based English language instruction by evaluating whether FSI is an effective method for



overcoming fluency barriers in non-English major students. While existing research has established the theoretical benefits of FSs in reducing cognitive load and enhancing speech fluency, empirical investigations into how structured FSI can be applied in real classroom settings, particularly for students with limited oral practice, remain scarce. This study bridges that gap by providing data-driven insights into the practical effectiveness of FSI in improving spoken English among engineering students, demonstrating how formulaic sequences function in both structured learning activities and spontaneous speaking tasks. Additionally, by assessing students' ability to incorporate FSs into real communication over time, this research extends the discussion beyond FS awareness and recognition to focus on actual fluency development and communicative competence.



Furthermore, the findings of this research have broader implications for English language teachers and curriculum designers. Engineering students' coursework is heavily technical, and as a result, their language learning is often deprioritized, leaving them with fewer structured opportunities for oral English practice. Traditional English instruction in engineering programs often prioritizes reading comprehension, grammar, and writing over spoken fluency, which contributes to a growing disconnect between students' passive knowledge of English and their ability to use it effectively in spoken contexts. By exploring students' and teachers' perspectives on FSI, this study sheds light on how language instruction can be adapted to better serve learners in similar educational settings. Understanding how FSI can be implemented efficiently without requiring major curricular overhauls will help educational institutions provide more effective language instruction tailored to the realities of students who are not English majors. Additionally, this study informs future curriculum development by identifying





practical strategies that can enhance oral fluency even in learning environments where English is not the primary focus.

Beyond its immediate educational impact, this study is also relevant to the broader discourse on foreign language acquisition and formulaic language use. Formulaic sequences are fundamental to fluent speech production, but much of the existing research has focused on English majors or learners in general EFL programs. There is still limited understanding of how students who rarely use spoken English can integrate FSs into their speech and whether explicit instruction facilitates their ability to do so effectively. As globalization increases the demand for communicative English skills, engineering students—who may later engage in international academic or professional collaborations—require better fluency strategies to navigate cross-cultural interactions. Without strong oral fluency skills, these students may face communication barriers when working in multinational teams, attending international conferences, or engaging in professional exchanges where English is the primary mode of interaction. This study contributes to the growing body of research on practical fluency instruction methods by examining FSI's effectiveness in a real-world educational context, rather than in isolated linguistic studies, and exploring how engineering students adapt FSs into their spoken repertoire over time.

By addressing these gaps, this study not only enhances the understanding of FSI's role in fluency development but also provides practical recommendations for improving oral English instruction. The findings will serve as a foundation for future research in both FSI-based pedagogy and oral fluency acquisition in non-English major students, ensuring that fluency-focused teaching methodologies are better suited to





diverse learner populations. By employing a content analysis of students' oral English output in the classroom, this study provides an in-depth understanding of how FSI influences spoken fluency in structured learning environments. Moreover, through interviews with both students and the teacher, this study offers additional insight into their experiences, attitudes, and challenges in implementing FSI, ensuring that both quantitative fluency assessments and qualitative perspectives contribute to a comprehensive analysis of FSI's role in language learning. This research has the potential to inform better practices in foreign language instruction, supporting the development of more engaging, communicative, and fluency-oriented curricula in engineering programs and beyond.



1.11 Summary

This chapter discussed the significance of English as a global language and highlighted the importance of oral English fluency for engineering students in Hubei, China. It emphasized how crucial English fluency is for these students' future careers, particularly in a globalized context where effective communication in English is essential. The chapter also introduced Formulaic Sequence Instruction (FSI) as a key method used to improve oral English fluency. FSI focuses on teaching pre-constructed chunks of language, helping learners speak more fluently by reducing cognitive load. Additionally, the chapter provided the background of the study, explaining the objectives, research questions, and statement of the problem. The research aims to assess the impact of FSI on the oral fluency of engineering students, addressing a gap in studies related to FSI in this context. The significance of the study lies in its potential





to inform more effective language teaching practices, particularly for students in technical discipline. The chapter also acknowledged the study's limitations, such as the short instructional period and the relatively small sample size, which may impact the generalizability of the findings. Despite these constraints, the study aims to offer valuable insights into improving oral English fluency among engineering students through FSI.

