



The Acquisition of English Verb Morphology by Chinese Adolescents and the Role of the Learners' First Language

Xin Liao

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List of Abbreviations

L1	First language
L2	Second language
SLA	Second Language Acquisition
IH	The Interpretability Hypothesis
MSIH	The Missing Surface Inflection Hypothesis
GJT	Grammaticality Judgement Task
OPT	Oral Production Task
UG	Universal Grammar

Abstract

The English inflectional morphology has been considered one of the most difficult aspects to acquire for ESL learners. This study focuses on Chinese adolescent learners' acquisition of three English features: 3SG-agreement, simple past tense, and progressive aspect. Due to the significant differences between the verb morphological configuration of English and Chinese, these three features have been revealed to pose great challenges for Chinese learners. This study explores whether Chinese learners have successfully acquired these three features after several years of instruction and investigates whether the interpretability of features affects their learning outcome. The participants were 39 Chinese high school students (aged 16-18) who have been learning English for about 10 years as part of a unified English education following the national curriculum. To assess their acquisition, an oral production task and a grammaticality judgment task were utilised. The results revealed that the learners had not fully acquired any of the three features, with accuracy rates in both tasks well below the 90% threshold of acquisition. Meanwhile, interpretability of the features indeed affects their acquisition in L2. Specifically, feature with the lowest interpretability, the 3SG-agreement, which also does not exist in Chinese grammar, was found to have shown the lowest accuracy. In contrast, the progressive aspect, which has relatively higher interpretability, exhibited the highest accuracy among all three features.

The Acquisition of English Verb Morphology by Chinese Adolescents and the Role of the Learners' First Language

Chapter 1 Introduction

1.1 Research Background

Verb morphology is considered one of the most difficult parts of grammar to master in second language (L2) acquisition (Slabakova, 2018). As a key element in linguistic communication, verb morphology has been widely studied. Research results show that L2 learners generally have problems of variability in verb inflection, prone to errors such as omitting inflections and commission errors (Hopp, 2013). Several factors are suggested to influence learners' acquisition outcomes, among which the learner's age of onset, their native language and the environment that they are immersed in play an important role (Li, 2010). Specifically, the presence or absence of grammatical features in L1 grammar will have significant impact on the acquisition of the corresponding features in L2 (Li & Yang, 2022; Newberry-Payton & Mochizuki, 2020).

A large number of studies have pointed out that since Mandarin-Chinese does not inflect verbs, native Chinese English learners often omit inflections when using English (Bloom, 2012, Li & Yang, 2022). In the Generative Grammar, there exists two main theoretical approaches regarding the non-target-like behaviours. One supports Partial Access to Universal Grammar (UG), suggesting that learners' non-target language behaviours are due to absence or different configuration of specific features in their L1, which may lead to their mental language become fixed after their L1 has been fully developed, resulting in those features extremely hard, or even cannot be fully acquired in L2 grammar. Under this theoretical approach, the Interpretability Hypothesis (henceforth IH) proposes that features have different level of difficulty to acquire depending on their interpretability, and that if an uninterpretable feature does not exist in the learner's native language, it will be difficult to acquire in L2 (Tsimplici & Dimitrakopoulou, 2007). In contrast, proponents of the Full Access to UG approach, argue that learners are not limited by language ability in their acquisition of L2 (White, 2003). Under this theory, the Missing Surface Inflection Hypothesis (MSIH) proposes that non-target-language behaviours are

due to problems in applying grammatical knowledge to the conjugation of L2 morphological inflection, implying that the learner in fact has acquired the corresponding feature (Prévost & White, 2000).

Under this theoretical framework, a large number of studies have explored the acquisition of verb morphology by Chinese English as second language (ESL) learners in naturalistic environments. Many studies have found that even in naturalistic language environments, learners still exhibited persistent omission and commission errors (e.g., Goad et al., 2003; Li & Yang, 2022; Newbery-Payton & Mochizuki, 2020; Yeh et al., 2015). These results show that even with increased proficiency, certain types of L1-featured errors remain. Other studies show that as proficiency increases, learners' non-target language errors are gradually eliminated (e.g. Li, 2010; Zhang & Widyastuti, 2010). These results reveal that appropriate teaching and language input can help learners overcome the deficiencies, regardless of whether the corresponding features exist in their L1.

In comparison to the ample research on ESL Chinese learners, there are few studies on the performance of Chinese English as a foreign language (EFL) learners in instructed settings. Most of these studies have found that adults learners who had started learning English at a young age exhibited persistent problems (e.g. Hsieh, 2009; Men, 2015). Moreover, most of the existing research focuses on Chinese child and adult learners. There is little research on adolescents who receive long-term instruction in EFL settings. Chinese adolescent learners are a relatively special learner group of English. Compared with child learners in naturalistic environments, they start learning English in later ages and lack sufficient natural language input. Compared with adult learners, they have experienced a uniform and long period of systematic English learning at school. In their English learning process, explicit instruction plays the main role in providing language input.

Against this background, this study explores the acquisition of verb morphology by Chinese adolescent learners. Studying this group will help reveal whether long-term instruction in EFL learning environments can enable acquisition of basic English morphological features and their inflectional rules. This study focuses on three basic features: 3SG agreement, simple past tense, and progressive aspect. The aims are to investigate whether Chinese adolescent learners have mastered these features after

many years of instruction, and whether there are differences in their accuracy on different features regarding their presence or absence in Mandarin-Chinese considering also their interpretability status. The research results can reveal the existing challenges of Chinese adolescent learners as well as have implications for targeted improvements in language teaching strategies.

1.2 Linguistic Background

Among the three English features, both aspect and tense belong to syntactic features with semantic content (Muroya, 2008). Comrie (1976) defines aspect as a way of describing an event's internal development. For example, in the sentence 'he is eating an apple', the verb 'eat' is inflected into 'is eating' to show that the action of eating an apple is ongoing. In contrast, tense focuses on the time external to an event, telling whether the event occurred in the past, present, or future (Salaberry, 2003). For example, in the sentence 'he ate an apple', the verb 'eat' is inflected for past to indicate that the action of eating an apple occurred in the past. On the other hand, agreement is considered as a rule used to maintain the formal grammatical correctness of a sentence, which does not carry semantic meaning (Chomsky, 2014). In this rule, the verb in a sentence of present tense needs to inflect its form according to the person and number of the subject. For example, in the sentence 'he eats an apple', the subject 'he' is a third person pronoun with singular number. As a result, the verb 'eat' is inflected into 'eats' to match the subject. However, it does not contribute to the semantic meaning of the sentence.

While English uses verb inflections to express grammatical and semantic meanings, Mandarin-Chinese does not inflect its verbs (Slabakova, 2015). Thus, the two languages differ significantly in the three grammatical features under the focus of this study. For the sake of simplicity, this paper uses 'Chinese' to refer to 'Mandarin-Chinese' from now on.

1.2.1 3SG-agreement Marking

In English, when the subject is the third person singular, i.e., 'he, she, it'/other names or pronouns, the finite verb needs to be inflected to agree with the subject by adding a suffix -s or -es. For example:

[1] She walks to school.

In this sentence, the subject 'she' is in the third person singular. As a result, the finite verb 'walk' needs to be marked with the 3SG agreement marker -s.

However, in Mandarin, there is no concept of agreement, and consequently there does not exist an agreement marking system. Below are some examples with the English counterpart provided below each Chinese word for comparison:

[3] Ta **zou lu** qu xue xiao.

She walks to school.

[4] Wo **zou lu** qu xue xiao.

I walk to school.

[5] Ta men **zou lu** qu xue xiao.

They walk to school.

In sentence [3] [4] [5], it can be seen clearly that the verb does not change, always being 'zou lu' (walk) regardless of whether the subject is first or third person, plural or singular number.

1.2.2 Simple Past Tense Marking

In English, past tense is usually marked on verb by adding -ed to the verb stem. For example:

[6] He walked to school yesterday.

The addition of morpheme -ed to the end of the main verb 'walk' indicates that the action of 'walking to school' took place in the past. This way of conveying specific grammatical meaning through morphological changes in the verb allows the inflected verb itself to express the tense meaning even when temporal adverbs such as 'yesterday' are absent (Hawkins & Liszka, 2003). For example, even if the sentence [6] is reduced to 'He walked to school', it is still clear that this action took place in the past.

This rule of adding -ed applies to most verbs (i.e. regular verb inflection). However, there are other verbs that do not follow this rule. These verbs require an overall change of verb forms (i.e. irregular verb inflection). For example:

[7] She ran to school yesterday because she was late.

In sentence [7], the irregular verb ‘run’ is inflected into ‘ran’ to indicate that the act of running occurred in the past. Such irregular inflections tend to rely on the memorisation of individual words rather than application of grammatical rules (Bybee, 1985).

In contrast, Mandarin-Chinese does not have morphological changes for tense in verbs (Lin, 2006). For example:

[8] Ta tong chang **zou lu** qu xue xiao.

He often walks to school

[9] Ta zuo tian **zou lu** qu xue xiao.

He yesterday walked to school

(he walked to school yesterday)

Sentences [8] [9] clearly show that the verb ‘zou lu (walk)’ remains unchanged no matter in the present and past tenses. With no verb inflections, Mandarin-Chinese usually convey temporal information through contextual information or adverbials. For example, ‘tong chang (often)’ in sentence [8] indicates that this is habitual behaviour. The adverbial ‘zuo tian (yesterday)’ in sentence [9] suggests that the act of walking to school took place in the past (yesterday).

1.2.3 Progressive Aspect Marking

Tense and aspect in English usually appear in a combined form (Muroya, 2008). In the English progressive aspectual ‘be + verb + -ing’ structure, the auxiliary ‘be’ denotes tense, with different inflections of ‘be’ indicating the time of the event. The -ing morpheme acts as an aspectual marker, indicating that the event is ongoing. For example:

[10] She is eating an apple when the phone rings.

[11] She was eating an apple when the phone rang.

In these two sentences, ‘is’ and ‘was’ denote that the action of eating an apple in sentence [10] and [11] occurred in the present and in the past respectively, while ‘eating’ indicates that the action is/was taking place when the phone rings/rang.

Mandarin-Chinese also has a rich system for marking aspect, not by inflecting verbs, but by separate morphemes (Li, 2006). For progressive aspect, the common use of the aspectual marker ‘zai’ or ‘zheng zai’ is placed before the verb to indicate that the action is taking place at the moment of speaking. For example:

[12] Ta **zheng zai** chi ping guo.

She is eating an apple.

Moreover, as elaborated earlier, tense meanings in Mandarin-Chinese are usually conveyed by contextual information or temporal adverbials instead of adding direct inflectional markers. For example:

[13] Ta **dang shi** zheng zai chi ping guo.

She at that time was eating an apple.

The temporal adverbial ‘dang shi (at that time / then) indicates that the whole event of eating an apple took place in the past, while the verb remains identical as in present tense.

1.3 Structure of This Paper

This thesis is organized as follows: Chapter 2 begins by outlining the theoretical framework of this study discussing the Generative Theory and two specific hypotheses within it: the Interpretability Hypothesis and the Missing Surface Inflection Hypothesis. Then, it reviews relevant research, including studies on learners’ acquisition of L2 grammar, acquisition of English verb morphology by L2 learners in general, and specifically Chinese learners. Following the review of literature, Chapter 3 states the study’s motivation, research questions, and hypotheses. After that, Chapter 4 details the design of this study and the methodology, including participant information, tasks utilised to collect data, methods for data coding and analysis, and ethical considerations.

Chapter 5 presents the results, followed by a thorough discussion in Chapter 6, which connects the results to the theories and previous studies to answer the research questions. Limitations are also pointed out. At last, Chapter 7 concludes the whole study.

Chapter 2 Literature review

2.1 Introduction

Since the emergence of morpheme acquisition studies in the 1970s, inflectional morphology has been at the center of research in L2 acquisition. Numerous studies examining L2 learners' language accuracy have revealed high variability in their use of verb morphology (Prévost, & White, 2000). More precisely, they often do not consistently apply correct grammatical rules when inflecting verbs. Past studies in this field have summarised learners' non-target-like language use into categories and explored the causes from both theoretical and practical levels.

This chapter establishes the theoretical foundations and provides the research backgrounds for the present study. First, it provides a comprehensive review on the background of Generative Grammar in language acquisition, including its development in L1 acquisition and application in research on L2 acquisition. Second, it elaborates the two theories under focus by the present study, namely, the Interpretability Hypothesis and the Missing Surface Inflection Hypothesis. Third, it summarises previous studies on acquisition of L2 inflectional morphology in the research field of SLA and discusses their findings. Studies about Chinese learners of English are examined in particular. At last, it provides a summary of past literature and identifies the gap that motivates the present study.

2.2 Background of Generative Grammar in Language Acquisition

2.2.1 Generative Grammar in First Language Acquisition

In the field of language acquisition, scholars have proposed various theories trying to explain how individuals acquire their L1. Among them, the Generative Grammar proposed by Noam Chomsky in the mid-20th century revolutionised our understanding by proposing that humans are born with an innate capacity for language. This capacity, in the view of generative grammarians, is endowed by a hypothetical brain mechanism called Faculty of Language (FL). The FL is proposed to contain cognitive and physiological mechanisms required to acquire and use any natural language (Chomsky, 2014; Sauerland & Gärtne, 2007), thus laying the theoretical foundation for the development of

Generative Grammar. The development of Generative Grammar has gone through several stages, evolving over time from earlier dominant Universal Grammar (UG) to the more present Minimalist Program (MP).

Proposed in the 1980s, the UG theory account for human's innate language capacity by suggesting a common underlying structure shared by all natural languages, guided by a set of universal principles and shaped by adjustable parameters (Adger, 2003). According to UG, the principles are abstract grammatical rules that apply to the structure of any language, representing a deep syntactic structure that remain consistent across languages (Chomsky, 2006; Pinker, 2007). While there are invariable principles, differences between specific languages are realised by parameters, which are adjustable parts that differ from one language to another (Ellis, 1995, 2015). For example, to convey a meaning of execution of an action, the English language typically follows a verb order of SVO, whereas Japanese is normally structured as SOV (Pinker, 2007). The principles here is the need to clarify who does what to whom in a sentence expressing execution of an action. The parameter is the word order, more precisely, the position of the verb relative to the subject and object. Based on the same underlying principle, English and Japanese set this parameter differently and therefore result in grammars differ from each other. With this framework, UG provides a systematic explanation to how different languages can have varying surface structures while adhering the same underlying syntactic rules.

Regarding L1 acquisition, UG suggests that children possess innate knowledge of the principles and set language parameters through exposure to language input. Thus, the development of L1 grammar is therefore the process of learning patterns for parameters setting in their native language (Hawkins, 2005; Pinker, 2007). However, this framework has grown increasingly complex with new parameters and setting patterns constantly added over time (Dąbrowska, 2015). The complexity involved in principles and parameter setting has led Chomsky to propose the MP.

The MP emphasises the principle of economisation, aiming for simplicity in syntactic structures. MP unifies linguistic features into a smaller set of functional categories based on their syntactic properties, such as NP (noun phrase that contains the main noun and its compliments), VP (verb phrase that contains the verb and its

complements), and TP (tense phrase that contains the subject and the main verb phrase), to structure sentences (Di Sciullo, 2019). While UG specifies numerous different parameters and their settings for each language, MP reduces this complexity by relying on a small set of operations on functional categories, namely, Merge, Move, and Agree (Chomsky, 2014). In the MP framework, syntactic elements are combined using Merge to form a new structure and repositioned by Move to satisfy syntactic requirements, with Agree (or feature checking) monitoring the process (Hornstein, 2018). Taking the verb order in English and Japanese as example again, in both languages, Merge combines the verb with the object (NP) to form a VP and then merges the subject with it to form a TP. The specific word order (SVO in English vs. SOV in Japanese) results from the operation of Move under the syntactic requirements for head-directionality in each language, checked by Agree. By employing a minimal set of functional categories and operations, MP has greatly simplified understanding of language acquisition.

In addition, MP centers the concept of interpretability of linguistic features. In this framework, sentences knowledge is divided into two levels: the Logical Form (LF) for final semantic interpretation and the Phonological Form (PF) for phonological and morphological representation (Chomsky, 2014). Linguistic features are dichotomised into interpretable features (which contribute to semantic meaning at LF) and uninterpretable features (which ensure grammaticality at PF). To keep the derivation process of a syntactic structure simple and economical, uninterpretable features are erased when reaching the LF level (Hornstein et al., 2005).

In summary, Generative Grammar, through its iterations from the UG to the MP, has provided profound insights into human language abilities. Despite its complexity, it remains a cornerstone for understanding the universality and particularities in language acquisition. As the theory evolves, it has been borrowed to the research field of SLA to explore how L2 learners acquire a new language. The next section will discuss how Generative Grammar is applied in SLA research and their significance for understanding L2 learning.

2.2.2 The Generative Grammar Approach to Second Language Acquisition

It is widely agreed that the language produced by L2 learners diverge from that by native speakers, yet the source of non-target-like L2 behaviours is poorly understood (Solaimani et al., 2023). Farahani, Mehrdad, and Ahghar (2014) have pointed out that a key to understand non-target-like behaviours is to determine the extent to which the grammar developed by L2 learners is akin to that used by native speakers.

Many researchers relate non-target-like behaviours to the availability of UG. Although the UG theory is originally proposed to explain L1 acquisition, the framework of universal principles and parameter setting provides a systematic framework for understanding the language acquisition, granting it great potential in explaining the variability in L2 grammar compared to the grammar used by native speakers. Under the UG framework, the debate on the source of non-target-like L2 behaviours primarily occur between two opposing stands of view: Full Access to UG and Partial Access to UG approaches.

The Full Access theory (White, 1989, 2003) advocates that L2 learners have full access to the principles and parameters in UG. According to this theory, the innate linguistic knowledge that guides L1 acquisition is also available to the learners when learning a new language, allowing them to potentially acquire a complete L2 grammar same as the grammar used by native speakers (Schwartz & Sprouse, 1996). After the introduction of MP, the traditional principles and parameters framework gradually fell into disuse as UG has been greatly simplified. Consequently, the understanding of Full Access hypothesis is renewed due to the traditional principles and parameters framework fell into disuse. Under the MP framework, foundational syntactic elements within different functional categories remain accessible. L2 learners are able to fully utilise them with basic operations to form new L2 grammatical structure (Chomsky, 2000).

Although the Full Access theory proposes that learners possess the innate capacity to potentially master any feature in L2 language at a native proficiency, external factors such as right conditions and sufficient input are still necessary (Prévost & White, 2000). In UG theory, innate linguistic knowledge alone is insufficient to ensure successful development of language. Input plays a crucial role as the data base from which learners extract linguistic rules and structures (Chomsky, 2002). Even with full access to UG, learners need exposure to the target language so that they can activate their innate

cognitive mechanism for language learning to facilitate identification and acquisition of corresponding grammatical rules (Gass & Mackey, 2014; Lightbown & Spada, 2021).

In contrast, the Partial Access theory (Epstein et al., 1996) upholds that L2 learners can only partially utilise their UG due to maturational effects. According to this theory, for late learners, there are certain features that cannot be fully activated or are no longer available if not present in the learner's L1. Under the minimalist framework, L2 learners are allowed selective access to their cognitive mechanism. While learners can engage with the basic operations, they may have limitations accessing, adjusting, or resetting specific syntactic elements in functional categories that are entrenched in their L1 (Hawkins & Chan, 1997; Tsimpli & Roussou, 1991). Some researchers suggest that when there are specific features missing or cannot be accessed from UG, learners tend to resort to other UG-based resources to compensate for their absence (Kahoul, 2014). This implies that due to internal constraints, L2 learners are likely to develop a grammar different from that used by native speakers (Farahani et al., 2014).

The dichotomy between these two theories reflects contrasting understanding of the cognitive mechanisms involved in L2 learning. In short, Full Access asserts that L2 learners have complete L2 grammatical competence as native speakers do, whereas Partial Access asserts that L2 learners have limited competence in L2 grammar and will end up acquiring a grammar that is different from that of native speakers. Based on these two theoretical stances, scholars have proposed a variety of theories and hypothesis. The present study discusses two of them: the Interpretability Hypothesis under the Partial Access theory and the Missing Surface Inflection Hypothesis under the Full Access theory. The following section will explain the core concepts, main content, and application in SLA research of these two hypotheses.

2.3 Theoretical Foundation

2.3.1 The Interpretability Hypothesis (IH)

The Interpretability Hypothesis (IH) arises from the MP framework, arguing that L2 learners encounter difficulties in feature checking during language acquisition. The varying interpretability of features at different language levels contributes to this challenge (Leal Méndez & Slabakova, 2014). Centering the concept of interpretability, it

further categorises linguistic features as interpretable and uninterpretable at the LF and PF level (see Section 2.2.1) respectively. Based on the four combinations, IH outlines a hierarchy indicating the relative ease with which features are learnable. This hierarchy, from easiest to hardest to acquire, is as follows:

- a. LF-interpretable / PF-interpretable
- b. LF-uninterpretable / PF-interpretable
- c. LF-interpretable / PF-uninterpretable
- d. LF-uninterpretable / PF-uninterpretable

(Tsimpli & Dimitrakopoulou, 2007)

In this hierarchy, features interpretable at both LF and PF levels are the easiest for learners, as they allow learners to access by relying on corresponding features in L1 and by tracing grammatical patterns in L2 input. An example is the English plural noun form, which directly influences both the sentence's meaning and its morphological structure.

Features interpretable only at the OF level are harder to acquire due to their lack of specific meaning at the LF level, making them less noticeable (Lardiere, 2009). An example is the 3SG agreement marker -s in English, which alters pronunciation but does not change semantic interpretation.

Conversely, features interpretable only at the LF level also pose challenges. Lacking explicit morphological markers, these features are conceptually abstract and may 'reflect a problem in mapping from abstract categories to their particular surface morphological manifestations (White, 2003, p.195). An example is the case features in English, in which they determine the roles and relationships of noun phrases in sentence meaning (e.g. nominative and accusative cases), but are not manifested explicitly in the phonological level. Instead, they are checked during syntactic derivation by the feature checking mechanism (Pesetsky & Torrego, 2007).

The most challenging features to acquire are those uninterpretable at both LF and PF levels, because learners can neither infer the rules from sentence meaning nor from

phonological cues. For example, the null pronouns in Chinese, which are not pronounced and can be selectively omitted without affecting semantic interpretation (Huang, 1995).

Notably, the presence of features in learners' L1 also significantly impacts their ease of acquisition. According to IH, uninterpretable features do not present in L1 are subject to critical period effects. Once L1 development is complete, uninterpretable features absent in L1 remain inactivated and become inaccessible in L2 learning (Tsimpli & Dimitrakopoulou, 2007). Learners may struggle greatly in learning these features, potentially even fail to fully master them (Hawkins & Hattori, 2006; Leal Méndez & Slabakova, 2014). In contrast, interpretable features are not affected by maturational constraints, regardless of whether they exist in L1. This is because these features are generally more easily perceived in L2, as they carry semantic meanings.

2.3.2 The Missing Surface Inflection Hypothesis (MSIH)

The Missing Surface Inflection Hypothesis (MSIH) emphasises separating syntactic and morphological knowledge when assessing L2 learners' language proficiency. It argues that L2 learners can fully access L2 grammar without constraints (Prévost & White, 2000). According to MSIH, non-target-like behaviours are not due to deficiencies in L2 grammar but rather result from difficulties in projecting internal syntactic knowledge onto the surface morphological form during language use (Bergeron-Matoba, 2007). In other words, errors in L2 performance stem from missing or improper application of morphological inflection at the PF level rather than problems with syntactic knowledge at the LF level (Lardiere, 1998).

MSIH suggests that L2 learners often use non-finite forms when they encounter problems in surface form realisation. This is evident in Lardiere's (1998) analysis of the performance on verbal agreement by Patty, a native Chinese adult learner of English who has immigrated to the United States. The results show that despite having a solid understanding of syntactic structures, Patty frequently omitted morphological inflections in obligatory contexts, with a rate of 96%. Prévost and White (2000) suggest that resorting to the default form is due to challenges in processing or mapping syntactic features to surface forms, as the base forms are the simplest.

2.3.3 Summary

The IH and MSIH differ in their views on persistent errors in L2 learners' production of specific grammatical features. The IH argues that there are differences in syntactic knowledge between L2 grammar and native speaker grammar. In addition, IH proposes that presence of uninterpretable features in L1 has profound impact on L2 acquisition. If not activated early in life through L1, these features become difficult to acquire later as there will be limitations in their accessibility in L2. By contrast, the MSIH insists that errors in L2 production stem from difficulties in applying morphological inflections, rather than a differing syntactic knowledge.

2.4 Related Studies

2.4.1 Studies on the Acquisition of UG theory in Second Language Acquisition

Empirical research on second language acquisition has extensively examined the two competing hypotheses: the Partial Access to UG hypothesis and the Full Access to UG hypothesis. Studies supporting Partial Access argues that even highly proficient learners fail to acquire certain grammatical features by pointing out persistent errors on certain features despite obvious developmental progress (Hawkins & Chan, 1997; Ionin & Wexler, 2002; Kong, 2020; Marefat & Abdollahnejad, 2014; Tsimpli & Dimitrakopoulou, 2007). In contrast, proponents of Full Access assert that non-target-like L2 behaviours is due to processing errors by revealing that these errors diminish with increased proficiency (Çakir, 2016; Hsieh, 2009; Leal Méndez & Slabakova, 2014; Nguyen & Newton, 2022; Solaimani et al., 2023; White and Genesee, 1996).

Most studies have highlighted a L1 transfer effect on L2 acquisition. For instance, Tsimpli and Dimitrakopoulou (2007), one of earliest and most influential studies proposing and validating IH, examined Greek learners and found that both two groups of learners, intermediate and advanced, had significantly lower accuracy (about 30% lower on average) than native speakers in rejecting English sentences containing resumptive pronouns, a feature allowed in Greek. Moreover, despite clear development between the two learner groups, advanced learners still performed significantly inferior to native speakers, revealing persistent errors on specific features. This led T&D to claim validation of IH, suggesting that features absent in L1 pose significant challenges in L2 acquisition.

Leal Méndez and Slabakova (2014) partially replicated T&D's study with Spanish learners who had varied dialects concerning resumptive pronouns, with some dialects accept its use while other reject. Their results showed no statistically significant difference between advanced learners and native speakers, challenging T&D's conclusion. However, despite no significant negative L1 transfer effect found, their results of intermediate learners showed that those from dialects accepting resumptive pronouns exhibited higher accuracy in all types of sentence judgment than those from dialects rejecting resumptive pronouns. L&S interpreted this as a transfer of 'native contrast' (p.551), suggesting a positive L1 influence where the divergence from L2 grammar can aid learners' understanding of new features.

In this regard, T&D and L&S share in common that both highlight significant influence of L1 grammar on L2 acquisition. However, they contradict to each other on whether uninterpretable features will pose problems for learners if not activated in L1. In other words, whether difference in L1 grammar causes negative transfer or leads to positive 'native contrast'.

Many factors may contribute to the opposing results. First and foremost, as L&S pointed out themselves, different linguistic backgrounds may influence learner performance. Learners of different native languages may face different levels of difficulty when learning the same specific features. Second, environment may also lead to different learner performances. The advanced learners in T&D's study were adult students at language schools and universities in Greece, which was instructed EFL setting, while advanced learners in L&S's study were adult immigrants who had lived in the United States for more than six years, which was naturalistic setting. Their results are consistent with the conclusions proposed by White (2003). For the same syntactic judgment questions involving presumptive pronouns, advanced learners in L&S showed native-level accuracy, while advanced learners in T&D exhibited significantly inferior performance than native speakers.

Moreover, methods to determine learners' acquisition may lead to different interpretations. Like Tsimpli and Dimitrakopoulou (2007), most existing studies determine learners' acquisition of features by comparing learners' performance with native speakers (e.g., Kong, 2020; Marefat & Abdollahnejad, 2014; Solaimani et al. 2023).

However, this interpretation methods should be treated cautiously. Differences in surface-level representation do not necessarily prove discrepancies in underlying grammatical knowledge. Likewise, even if learners exhibit a native level performance, it does not confirm that they operate an information processing mechanism with the same underlying grammatical logic as native speakers. Solaimani et al. (2023) noted that with sufficient working memory and substantial input, high proficiency L2 learners might display native-like processing behaviours, yet their underlying syntactic logic differs. For example, Yu (2021) found that while Chinese learners of English exhibited near-native morphological construction ability, they process certain verbs with the ‘-en’ suffix differently from native speakers.

Regarding interpretation methods, the key question is when non-target-like errors should be considered as surface-level performance issues and when they reflect deeper structural grammar deficit. In addition to the between-group comparing methods, there are other rigorous methods that may provide more comprehensive analysis. One robust method suggested by Leal Méndez and Slabakova (2014) is to compare learners’ performances between items to see if they have established a sense of contrast in their syntax between ungrammatical and grammatical sentences. With this methods, L&S validated their conclusions that advanced learners have successfully acquire the feature and established a contrast in their grammar (p-values less than 0.001 in all types of wh-interrogatives). Another rigorous method is to analyses learners’ usage patterns of target features. For instance, Prévost and White (2000) studied verb finiteness, finding that learners showed abstract knowledge of finiteness (using finite forms appropriately) but often substituted finite forms with non-finites. With this methods, P&W claimed validation of MSIH, suggesting that learners possess deep syntactic knowledge but face challenge in surface form performance. These two methods focus on the internal operational logic of learners’ language use. Compared with solely comparing learners’ surface performance, they are likely to reflect learners’ acquisition state more comprehensibly.

2.4.2 Studies on the Acquisition of English Verb Morphology

A large body of research has investigated English L2 learners’ acquisition of verb morphology, relating their results to the two opposing UG accounts. The debate centers

on whether improper inflection is due to surface form configuration difficulties or a lack of inflection knowledge in underlying syntax. This section summarises existing research by focusing on three aspects: overview, methods, and learner performance.

Overall, a large number of studies have shown that even with substantial input and high proficiency, learners of English continue to exhibit persistent inflectional errors in certain features, indicating deficiencies in underlying grammar (e.g., Alruwaili, 2014; Ayoun & Salaberry, 2008; Gabriele et al., 2005; Ninpanit & Pongpairoj, 2016). Yet, some studies find evidence that morphological errors can be eliminated with increased proficiency, implying successful acquisition of corresponding features and that errors stem from problems in surface form processing issues (e.g., Ionin & Wexler, 2002; Kahoul, 2014; Prévost & White, 2000).

Despite opposing conclusions, most studies highlight the influence of L1 grammar. Some attribute non-target-like morphological forms to L1 grammar constraints. For instance, Alruwaili (2014) found Arabic learners used English tense-aspect morphology correctly but failed to establish a contrast between tense and aspect temporal meanings due to different morphological configuration in Arabic. Other studies suggest a positive L1 transfer effect. For instance, Salaberry (2003) found Turkish learners performed significantly better in English morphological tasks than Chinese learners, even partially better than native English speakers. Salaberry attributed this to Turkish's complex morphology, highlighting the importance of L1 experience in L2 morphology acquisition.

In terms of design, research on acquisition of English morphology is mostly concerned with learners in ESL settings (e.g., Birdsong & Flege, 2001; Collins, 2002; Ionin & Wexler, 2002; Jia, 2003; Zhang & Widyastuti, 2010). Only a few have examined learners in EFL environment (Ayoun & Salaberry, 2008). White (2003) suggests that learners in an immersive learning environment are more likely to get rid of negative L1 influence and develop a more target-like language system. Although there is no direct data comparing learners' morphological performance in different setting (as far as the present study is concerned), more data from EFL learners is needed.

Regarding testing tools, most studies have used closed control tasks, such as cloze test and gap filling tasks (Alruwaili, 2014), grammaticality judgement task and

question formation task (White and Genesee, 1996), sentence completion task with picture prompts (Muroya, 2018), and sentence judgment interpretation task (Gabriele et al., 2005). Fewer studies employ free production tasks (e.g., Ionin & Wexler, 2002; Haznedar, 2003; Prévost & White, 2000). Notably, among the studies forementioned, those adopting closed control tasks have arrived conclusions supporting the Partial Access hypothesis, showing persistent errors in learners' performances, while those utilising free production tasks have obtained results supporting the Full Access hypothesis, showing successful acquisition of features in learners' L2 grammar. The only exception is White and Genesee (1996), which adopted control tasks but obtained results showing learners have reached native proficiency.

In terms of learner performance, research has identified two main characteristics in learners' use of English inflectional morphology: optionality and volatility. Learners were found to often omit inflections and resort to the base form of verb. Inconsistent use of morphological features were also frequently found, in which a specific morphological feature is sometimes present in a learner's production and sometime absent (Larsen-Freeman, 2010). Instances of this kind are collectively referred to as omission, the most frequently occurred learner error identified in past studies. For instance, Muroya (2018) found an omission rate over 90% for 3SG -s in obligatory contexts. Ionin and Wexler (2002) reported a 68% average omission rate for past tense and 3SG-agreement. Furthermore, in Lardiere's (1998) case study of Patty's language production, most of the inflectional forms were omitted.

Another common error is the 'be + base form verb' structure. Some researchers interpret it as partial omission of progressive -ing ending, attributing this to high variability of inflectional verbs, which may lead learners to use the base form (Salaberry, 2000). Others consider this as overgeneralisation of 'be', suggesting that this structure may not intend to be progressive but rather mean to express other verb tenses such as simple past or future tenses (Ionin & Wexler, 2002).

Other types of errors have also been identified but were reported to be not frequent. Among them, the conclusions regarding misuse of verb morphology are controversial. Some studies claim that misuse of verb morphology nearly does not exist in real learner performance (Ionin, 2013). For instance, Haznedar (2001) found only 3%

misuse errors while Ionin and Wexler (2002) found only about 5%. However, a more recent study, Muroya (2018), reported high rates of misuse alongside omission, high up to 92.3% in speech and 96.2% in writing.

Regarding the three features under focus by the present study (3SG-agreement, past tense, progressive aspect), studies reveal a hierarchy of acquisition difficulty. Learners are generally more accurate with past tense than 3SG-agreement (Geçkin & Haznedar, 2008; Goad et al., 2003; Ionin & Wexler, 2002; Muroya, 2018). Meanwhile, omission error is more likely to occur on 3SG-agreement. Evidence can be found in Ionin and Wexler (2002), where there was a 78% omission rate in learners' responses with 3SG -s and 58% with past tense. Muroya (2018) also found omission error with 3SG -s marker taking up to over 90% while omission of past tense -ed is 54.5%. Studies concerning aspect are fewer and are generally conducted alongside past tense. Results generally reported a higher difficulty with aspect than past tense. For instance, Gabriele et al. (2005) found that Japanese learners struggled significantly more with past progressive than simple past, with an accuracy around 30% lower.

2.4.3 Studies on the Acquisition of English Verb Morphology by Chinese Learners

Chinese learners generally face considerable challenges in mastering English verb inflections due to stark differences between Chinese and English in verb morphology (Yu, 2021). This section provides an overview of research on the acquisition of three features 3SG -s, simple past tense, and progressive aspect by Chinese learners

Research on Chinese learners' acquisition of English verb morphology flourishes in recent years. Overall, research primarily focus on the acquisition of 3SG -s and simple past tense -ed (e.g., Gardner et al., 2021; Hsieh, 2009; Li & Yang, 2022; Newbery-Payton & Mochizuki, 2020; Yang & Huang, 2004). Studies on progressive aspect are relatively rare (Zeng et al., 2021). Among them, most research investigates Chinese learners in ESL environments, such as university students in the UK (e.g., Gardner et al., 2021; Li & Yang, 2022; Yang & Huang, 2004; Yeh et al., 2015; Gardner et al., 2021). Little studies examine Chinese learners in EFL setting (e.g., Newbery-Payton & Mochizuki, 2020; Ntalli, 2021).

Regarding learner performance, omission is the most common issue for Chinese learners, particularly with 3SG -s. This difficulty seems to persist regardless of age or

proficiency level. For instance, Hsieh (2009) reported a 78% omission rate for 3SG -s among a group of Chinese adolescents who had been learning English for at least four years. Yang (2022) examined Chinese graduate students studying in the UK and found only 29.4% complement with 3SG -s, which means the -s marker was omitted 70.6% of the cases in obligatory contexts. Gardner et al. (2021) investigated Chinese adult learners who had been learning English for at least 11 years when tested and still found them omitting 44% 3SG -s marker in habitual singular context.

The regular past tense marker -ed is also reported to be frequently omitted. Hsieh (2009) reported a 95% omission rate for the past tense -ed marker among the same group of Chinese adolescents, higher than their 78% omission rate for 3SG -s. With simple past tense, Chinese learners also are found to rely more on contextual information to indicate temporal meaning rather than verb inflections. Yang and Huang (2004) analysed oral narrations produced by 5 groups of Chinese learners of varying proficiency (n=453), finding higher proportion of adverbial-marked past tense than inflections in all groups. Learners also exhibited a higher accuracy when a sentence was marked with adverbials. For example, the 16-year-old learner group showed a 15% higher accuracy in past tense marking when sentences included adverbials.

Regarding progressive aspect, omission errors are still prevalent. Zeng et al. (2021) examined Chinese learners' spoken narrative corpus data and found a 60.7% omission rate for the -ing marker. The results align with Chen et al. (2007), and Lardiere (2003), who also found high omission rate of -ing marker among Chinese learners. 'be + base verb' is found to be a frequent structure produced by Chinese learners. Ntalli (2021) reported on Chinese learners' performance in the TEGI past test. Nine-year-olds produced the 'be + base verb' structure with a 42.4% proportion of all -ing related items, account for 65.9% of the errors. With twelve-year-olds, this structure appeared in 22.1% of all -ing related items, making up 48.4% of the errors.

Studies consistently show that Chinese learners' errors in inflectional morphology are persistent and extremely difficult to eliminate. For example, Eng (2012) found that advanced Chinese learners, despite achieving 90% accuracy in controlled production tasks, struggled greatly with grammaticality judgment task, particularly with sentences omitting 3SG -s marker and misusing 3SG -s with plural subjects. They tended to accept

sentences with no -s marker for singular subject and with -s marker for plural subjects. This, according to Prévost and White's (2000) assumption, reflects an inconsistent grammar knowledge, suggesting that their high accuracy in the controlled task may result from memorising forms rather than genuinely mastering the grammar of agreement.

In a similar vein, the aforementioned study by Hsieh (2009) found that Chinese learners performed similarly to native speakers in using copula 'be', which was interpreted as evidence supporting MSIH. Hsieh reckons that since learners had acquired the grammar of copula 'be', the more basic grammar, issues with past tense -ed marker and 3SG agreement -s marker should be due to morphological processing difficulties rather than a lack of syntactic knowledge. However, this interpretation could be misleading, as it is explained in Section 2.4.1 that high accuracy does confirm full acquisition of the feature. Persistent problems with the -ed and -s markers can be reasonably interpreted as a failure to acquire and provide evidence for the IH.

L1 transfer effect are often cited as a reason for non-target-like production by Chinese learners. Li and Yang (2022) related Chinese learners' high omission rate for 3SG -s to the absence of agreement in Chinese grammar, suggesting that the lack of specific functional categories in L1 will impair the acquisition of corresponding features in L2. Yang and Huang (2004) attributed learners' preference for adverbials in marking past tense to the Chinese grammar, which uses lexical expressions such as adverbials (e.g. yesterday) and pragmatic devices, such as imperfective marker 'zai', instead of verb inflections. Newbery-Payton and Mochizuki (2020) found that Chinese learners tended to overuse past perfective on simple past, with a 21% overuse rate in obligatory contexts for simple past. The researchers linked this to the semantic overlaps and morphological differences between Chinese and English. Chinese does not distinguish between past perfective and past tense much as English does, often using markers like 'le' and 'guo' along with adverbs such as 'yi jin' (already). These conclusions also align with Li (2019), Yeh et al. (2015), Gardner et al. (2021), and Kong and Huang (2024).

Overall, past research proposes that differences in the functional categories and morphological configurations between Chinese and English pose significant challenges for Chinese learners in acquiring English inflectional morphology. This language-

bounded limitation is unlikely to be eliminated and can lead to L1-featured L2 performance.

2.5 Summary and the Gap

In the generative view of L2 acquisition, two conflicting explanations for non-target-like behaviours exist. Some studies support the Partial Access hypothesis by revealing persistent grammatical errors in L2 learners, suggesting an incomplete L2 grammar and long-lasting linguistic constraints from their L1. Conversely, others argue that errors diminish with increased proficiency, supporting the Full Access hypothesis that problems in supplying correct morphological forms arise from difficulties in applying morphological knowledge, rather than from a lack of acquisition.

In the context of English verb morphology, research shows that Chinese learners often struggle with verb inflections, particularly with the 3SG -s, past tense -ed, and progressive aspect -ing. Studies reported high frequency of omission errors, with even advanced learners continuing to exhibit high omission rates. Additionally, studies reveal a significant influence of L1 transfer. In addition to the common omission errors which are potentially due to the absence of inflectional morphology in Chinese, Chinese learners often rely on contexts for temporal meaning instead of verb inflections due to differences in morphological configurations between Chinese and English.

Despite the extensive research, several gaps remain in the study of L2 morphological acquisition. First, most studies are conducted with learners who have been immersed in ESL environments, where the natural input was abundant. Few studies have examined learners in EFL settings with limited English language contact. Comparative data from different environments could enhance our understanding of how external factors, such as instructional methods, influence L2 morphological acquisition. Second, there is a notable scarcity of research on Chinese learners' acquisition of progressive aspect, leading to a limited understanding to Chinese learners' acquisition with this feature compared to the 3SG-agreement and simple past tense. Involving a broader range of features and comparing between them could provide insights into the patterns of English morphology acquisition among Chinese learners. Third, a large number of existing research rely on controlled tasks to assess grammatical acquisition.

These tasks often have fixed answer formats, which can reflect learners' syntactic knowledge to some extent but may not fully capture their operational logic. This may potentially lead to a skewed conclusion. More research with a design combining comprehension and production would be beneficial for exploring learners' mastery of grammatical knowledge and application ability of the knowledge at the same time.

Chapter 3 The Present Study

3.1 Research Questions

This study aims to investigate the acquisition of verb morphology in Chinese adolescent learners after nearly 10 years of instruction in a school setting. Three English verb features were chosen, the 3SG-agreement, simple past tense, and progressive aspect, as they are among the basic grammatical features that are normally instructed in early stages. This helps prevent situations where learners have low task completion rates due to a lack of exposure to the required grammar for the tasks. To examine learners' acquisition of inflectional morphology and to explore the role of learners' native language in L2 acquisition, the following two questions were posed:

RQ1 Have Chinese adolescents acquired the English morphology of 3SG-agreement, simple past tense, and progressive aspect after several years of instruction?

RQ2 Will accuracy on morphological features differ as a result of presence or absence in L1 and their interpretability? Will some features be harder to acquire than others?

3.2 Hypotheses

3.2.1 Hypothesis to RQ1

To establish acquisition, both comprehension and production needs to be at ceiling or more than 90% following a threshold of acquisition commonly used in L2 literature (Ellis, 2015; Hawkins, 2019; Pienemann, 1998). Thus, if learners show more than 90% accuracy in oral production and comprehension, then this would constitute evidence of acquisition of the respective features.

If learners do not exhibit high accuracy regarding a specific feature in oral production but perform significantly better in comprehension, then it can be inferred that the learners have actually acquired the corresponding grammatical feature. Errors in morphological forms may then be due to application problems rather than a lack of grammar knowledge.

Conversely, if learners show similarly low performance in both comprehension and production, then this would suggest that learners did not actually acquire the feature. This would support the hypothesis that assumes age effects in inflectional morphology acquisition within the IH.

To address RQ1, learners' performance in a comprehension task and an oral production task will be compared while the types of errors accepted in a grammaticality task as well as the types of errors produced will be examined to get a comprehensive picture of learner's representations.

3.2.2 Hypothesis to RQ2

Previous literature has argued that L2 learners with a starting age later than 4 years old may have persistent difficulties with uninterpretable features if these are not existing in the learners' L1 (Li & Yang, 2022; Ntalli, 2021). According to the IH, features with different interpretability status will entail different levels of difficulty to acquire. In particular, uninterpretable features that do not exist in Chinese will be challenging for them to acquire while interpretable features may be easier to acquire.

As explained in the linguistic background (see Chapter 1), neither the notion of 3SG-agreement exists in Chinese grammar nor there is a -s marking system in the phonological and morphological expression in Chinese. Based on the IH, 3SG-agreement with the -s marker, as an uninterpretable feature that does not exist in Chinese, should be the most difficult feature for Chinese learners to acquire. Consequently, the lowest accuracy rate with this feature is expected.

Regarding the progressive aspect, the concept of aspect exists in Chinese, which has a rich system for marking aspect. Although it has a different morphological configuration in Chinese, it would be easier to understand because it is interpretable both the LF and PF level. Therefore, Chinese learners should exhibit higher accuracy on progressive aspect.

Regarding the simple past tense, although Chinese does not mark verbs for past tense, the meaning of temporality is still marked or denoted through context. Moreover, past tense is semantically interpretable, which makes it more accessible to Chinese

learners compared to 3SG-agreement -s. As a result, Chinese learners should exhibit higher accuracy on simple past tense than on 3SG-agreement -s.

In the meantime, past tense inflection involves two forms, regular and irregular. While the regular past is rule-based, following the rule of adding -ed at the end of the verb to mark past tense, the irregular past is considered more item-based, requiring memorisation of individual verbs, where rote learning may be required (Ellis, 2005). In this regard, learners are likely to allocate more attention to the memorisation of irregular past verb forms in the learning process. The English education in China also tends to focus more on the instruction of irregular past forms. Due to the higher salience and repetition frequency, Chinese learners generally are found to exhibit better performance in irregular past inflections (Yang & Lyster, 2010).

To summarise, following the IH, Chinese adolescent learners are expected to exhibit significantly lower accuracy on 3SG-agreement to the other two features. Progressive aspect is expected to be shown the highest performance as it is not only interpretable but also richly present in the Chinese grammar. Overall performance on simple past tense may be moderate, but there is expected to be significant differences between accuracy on regular and irregular forms. RQ2 will be answered by comparing learners' performances on the three features in both comprehension and production.

Chapter 4 Methodology

4.1 Design of the Study

To address the research questions and test the hypotheses, this study adopted an experimental design with a quantitative approach. This design allows for the comparison of various variables under controlled conditions (Berger et al., 2002). Therefore, an experimental design was chosen for this study because it enabled the controlled manipulation of tasks to assess linguistic performance on specific features.

A testing session consisting of three tasks was designed: a vocabulary finding task, an oral production task (OPT), and a timed grammaticality judgement task (GJT). All tasks were orally instructed and conducted individually with each participant. A language background questionnaire was also designed to collect information from participants about their English learning history. The following sections will explain the participant group and task designs in detail.

4.2 Participants

The participants were 39 adolescents aged between 16 to 18 years ($M = 16.69$, $SD = 0.52$), including 13 males and 26 females. All participants were Grade-11 students recruited from a private secondary school in mainland China. They share the same L1 background of Mandarin-Chinese. They had been learning English in a school setting for nearly 10 years ($M = 9.90$), with an average starting age of 6.79 years.

Chinese students attending general secondary schools receive education guided by the national curriculum, following the *General High School English Curriculum Standards (2017 Edition, Revised in 2020)* issued by the Ministry of Education (MoE, PRC, 2020). The *China's Standards of English Language Ability (CSE)* scales the English language ability of Chinese learners and users into 9 levels (MoE, PRC, 2018). By comparing the demands specified in the latest issued *General High School English Curriculum Standards (2017 Edition, Revised in 2020)* (p.117-118) with the descriptions of English language ability at each CSE level (p.6), Grade-11 students attending general high schools fall into CES 5, which corresponds to CEFR A2 (Coniam et al., 2022).

The school chosen as the site for data collection follows the national curriculum and guides its teaching in accordance. Therefore, these participants should have mastered basic English grammar, including the three features examined in this study, as they are among the first-instructed basic English grammatical features. They should also have developed sufficient communicative skills for task completion in accordance with curriculum requirements.

4.3 Design of the Tasks

4.3.1 Word Finding Vocabular Test

To quickly engage participants in speaking English, this study employed the Renfrew Word Finding Vocabular Test (Renfrew, 1995). The test consists of a series of pictures arranged by difficulty. In the test sessions, participants were shown pictures one at a time and asked to name each one. Each participant was tested on 10 to 15 pictures, depending on their response speed and the number of pictures named correctly. The primary purpose of utilising this task was to engage participants at the start of the session. Therefore, their performance was not included in the analysis addressing the research questions.

4.3.2 Oral Production Task (OPT)

The OPT was a picture-based speaking task adapted from an editing task in a PET workbook (May and Thomas, 2010, p.39). This task was designed to assess the accuracy of participants' oral production of the morphological features of 3SG-agreement, simple past tense, and progressive aspect.

In this task (see Figure 1), participants were asked to tell a story starting with a given sentence, which served as a prompt to situate the context and initiate the narrative smoothly. Two pictures were provided as visual aids to offer information and facilitate the narration. Three instruction questions were asked to specify the context for participants' responses, hence increasing the likelihood that they would need to use 3SG-agreement, simple past tense, and progressive aspect.

Figure 1: The picture-based speaking task

Look at the two pictures and tell a story. Your story must begin with the following sentence:

Henry's boss is angry at him right now because he lost an important file.

2

The figure originally presented here cannot be made freely available via ORA because of copyright.

In your story, you should address the questions below:

- When and how did Henry lose his file?
- What is the reaction of Henry's boss now right? What did the boss say?
- What is Henry going to do to make up for his mistake?

This task allowed participants one minute for planning. In oral production tasks, time for task preparation is nearly always necessary. Research to date has found substantial evidence supporting a positive effect of pre-task strategic planning on L2 oral production, particularly in terms of accuracy and fluency (Ellis, 2015; Johnson & Abdi Tabari, 2022; Yuan & Ellis, 2013). Regarding the length of preparation time, many studies support a length of one to three minutes, which are found to yield the best performance (Li et al., 2015). Given the task had a straightforward structure with few elements, the preparation time was set at one minute for need of data collection efficiency.

4.3.3 Grammaticality Judgement Task (GJT)

The GJT in the present study was design to test participants' awareness and sensitivity to the three morphological features: 3SG-agreement, simple past tense, and present progressive aspect. Since in the spontaneous narrative OPT, the participants could decide which tense to use and more than one option might be legitimate, the GJT ensured the same number of obligatory contexts would appear for all three

morphological features. This allowed for consistent assessment across participants and comparisons of their performance in the three features.

This task consisted of 48 items, 36 of them test items and 12 distractors. Within the 36 test items, 12 short sentences were created for each target feature. In the 12 sentences, 6 are grammatically formed while the other 6 are with ungrammatical forms. Table 1 shows the test items for the 3SG-agreement feature (For full task, please see Appendix B).

Table 1: GJT test items for 3SG-agreement

Well-formed	
1	The computer stands on the table.
2	It usually rains a lot in September.
3	He breaks the record in a competition.
4	He often does his homework with Jack.
5	The company holds a board meeting every month.
6	The artist creates a masterpiece.
Ungrammatical	
7	The birds flies north every summer.
8	The flowers blooms in the spring.
9	The cat usually sit on the mat.
10	Tom always finish his homework on time.
11	She eat a pizza for dinner every Sunday.
12	Judy's parents feels disappointed with her fail in exam.

The vocabulary used to construct items was selected from textbook¹ vocabulary lists and text context that participants had already learned (about CEFR A2 level, see detail explanation in Section 4.2). this selection aimed to prevent the negative impact of unfamiliar words on participants' judgements. Additionally, vocabulary was recycled across sections to ensure that participants' performance on each morphological feature was independent of the specific words used (Robinson, 2005). The three examples below

¹ General Senior High School Textbook for English, Optional Compulsory Course, Volume 1 (2019 Edition). *Foreign Language Reaching and research Press (FLTRP)*. Accessible from: https://www.sohu.com/a/520572083_121309973

(Table 2) show how recurring words were utilised. Errors are marked and correct forms are provided for illustrative purpose.

Table 2: How are the verbs recycled across items in each feature

13	Simple past tense	The cat sat on the mat.
14	Present progressive aspect	The cat is sit on the mat. (The cat is sitting on the mat.)
15	3SG-agreement	The cat usually sit on the mat. (The cat usually sits on the mat.)

Test items were short and simple, all in active voice. This was to avoid distractions due to complex structures and minimise the potential negative impact of limited working memory (Ellis, 2005). To capture a comprehensive view of participants' grammatical knowledge, each feature included test items of slightly varying length: 4 six-word sentences, 5 seven-word sentences, 2 eight-word sentences, and 1 nine-word sentence. To ensure a fair assessment of participants' accuracy in different grammatical features, item difficulty was balanced across features. Each segment of the test featured the same number of sentences in comparable length.

Table 3: How is the difficulty level balanced across items in each feature

3SG-agreement		
16	well-formed	He often does his homework with Jack. (7)
17	Ungrammatical	She eat a pizza for dinner every Sunday (8)
Simple past tense		
18	well-formed	She ate a pizza for dinner yesterday. (7)
19	Ungrammatical	He complete his homework with Jack last night. (8)
Progressive aspect		
20	well-formed	The students are taking exams at this moment. (8)
21	Ungrammatical	They eating pizzas for dinner tonight. (7)

A selection of test items is presented in Table 3, which demonstrate how the difficulty level was across blocks of sentences of each feature. two items were selected for each feature, one well-formed and one ungrammatically configured, with errors marked. The sentence length is indicated by the number in brackets.

Due to the task design which uses only simple structures, participants may work out the purpose of the task and focus specifically on verb inflections (Schmid, 2011). To avoid this, 12 distractors were created: 6 well-formed and 6 ungrammatical, all with different constructions. These sentences were also short and maintained approximately identical length with the test items. Here present two examples: one well-formed and one ungrammatical.

Table 4: Examples of distractors

22	well-formed	Can this type of bird fly?
23	ungrammatical	What time the girl sleep?

The task was delivered in an auditory form. Sentence audios were generated using Speechify², an online tool that provides services converting text to speech in an AI voice. The voice chosen in this study was Bella's. Two native English speakers and two EFL users confirmed that the generated audio sounded natural to them. The order of items was randomised using <https://www.random.org/> to avoid order and practice effects. During the test sessions, instructions were given orally. Participants were asked to judge the grammatical acceptability of each sentence after listening to the corresponding audio.

A 5-second time window was allowed between each item because the task hoped participants to respond as quickly as possible. As Loewen (2009) proposed, despite essentially testing explicit knowledge, the GJT can also tap on implicit knowledge if designed properly. It is suggested that orally delivered GJT with limited response time is likely to yield insights into implicit grammar knowledge (Schmid, 2011), which aligns with the purpose of this study. To determine the length of time window for response, the task was trialed with two EFL users. They were encouraged to respond as quickly as possible. The median response time of each sentence was about 4 seconds. Meanwhile, most studies employing timed GJT imposed a time limit for response ranging from 3 seconds to 10 seconds (Loewen, 2009). Han and Ellis (1998) particularly pointed out that GJT with a 3.5 second response time can indicate test takers' implicit knowledge. Considering the

² Accessible from: <https://studio.speechify.com/dashboard?returnTo=https%253A%252F%252Fvoiceover.speechify.com%252Feditor%252F0QipOujEW5Ufjw96CsRa>

sentence length and vocabulary difficulty (did not exceed CEFR A2), a 5-second time window for response was finally determined.

Before the test, two practice items were provided to the participants to familiarise them with the task. These 2 items were designed in addition to the 48 items in the formal test and did not overlap with them.

4.3.4 Language Background Questionnaire

The language background questionnaire aimed to gather information on participants' linguistic history and exposure to English. It comprises four main parts, soliciting details regarding participants' native language, proficiency in English and other languages, duration of English learning, and exposure to English in school setting and daily life (see Appendix C).

4.4 Procedure

4.4.1 Recruitment and Consent Form

This study obtained ethical approval from the Central University Research Ethics Committee Approval Reference [EDUC_C1A_24_075] (see Appendix A). Participants were recruited using a convenience sampling method. An English teacher known to the researcher works at the chosen school teaching two classes in the 11th Grade, which facilitated access to potential participants. Meanwhile, the chosen school is where the researcher graduated from. The familiar environment facilitated the conduct of research.

Before reaching out to the participants, permission for research was obtained from the school principal (see invitation letter in Appendix D). In discussion with the principal and the English teachers known to the researcher, the decision was that participants were to be recruited from two classes in the 11th Grade, one in the Science stream taught by the English teacher and the other in the Arts stream taught by another teacher in the Grade. Both teachers confirmed that no students were considered as non-competent youths. Therefore, this study was open to all students in the two Grade-11 classes.

A short introductory presentation was delivered in person by the researcher to each class to encourage participation. Students were also provided with a detailed

information sheet (see Appendix E), which contained basic information about this study such as what the participants needed to do, how would the data be protected, potential risks, etc. There was also time for students to ask questions. After all was communicated and clarified, students willing to participate signed an informed consent form (see Appendix F) and were enrolled in this study.

4.4.2 Data Collection and Storage

The language background questionnaire was completed prior to the individual testing sessions. Tasks were administered in a fixed order: first the vocabulary finding task, followed by the speaking task, and concluding with the GJT. After the instruction of each task, participants' understanding was checked to ensure they understood how the task worked and what they needed to do. Participants' responses were recorded using the Olympus Digital Voice Recorder WS-852.

To ensure confidentiality, all data from participants were anonymised by numeric names. Recordings of participants' responses were securely stored in Nexus 365 OneDrive for business file storage service on the researcher's university student account. The written informed consent and response sheets for the language background questionnaire were stored securely in a locked cabinet.

4.5 Data Analysis

4.5.1 Transcribing

For the GJT, all audio recordings were transcribed to scores, with a '1' denoting a correct response and a '0' for incorrect response. For the OPT, recordings were first converted into written scripts using the online transcribing tool *Luyin Zhushou*, available from: <https://www.luyinzhushou.com/voice2text/>. Then, each script was reviewed by the researcher to ensure accurate reflection of the original audios. Once verified, all main verbs in learners' productions were highlighted, preparing for further coding and scoring.

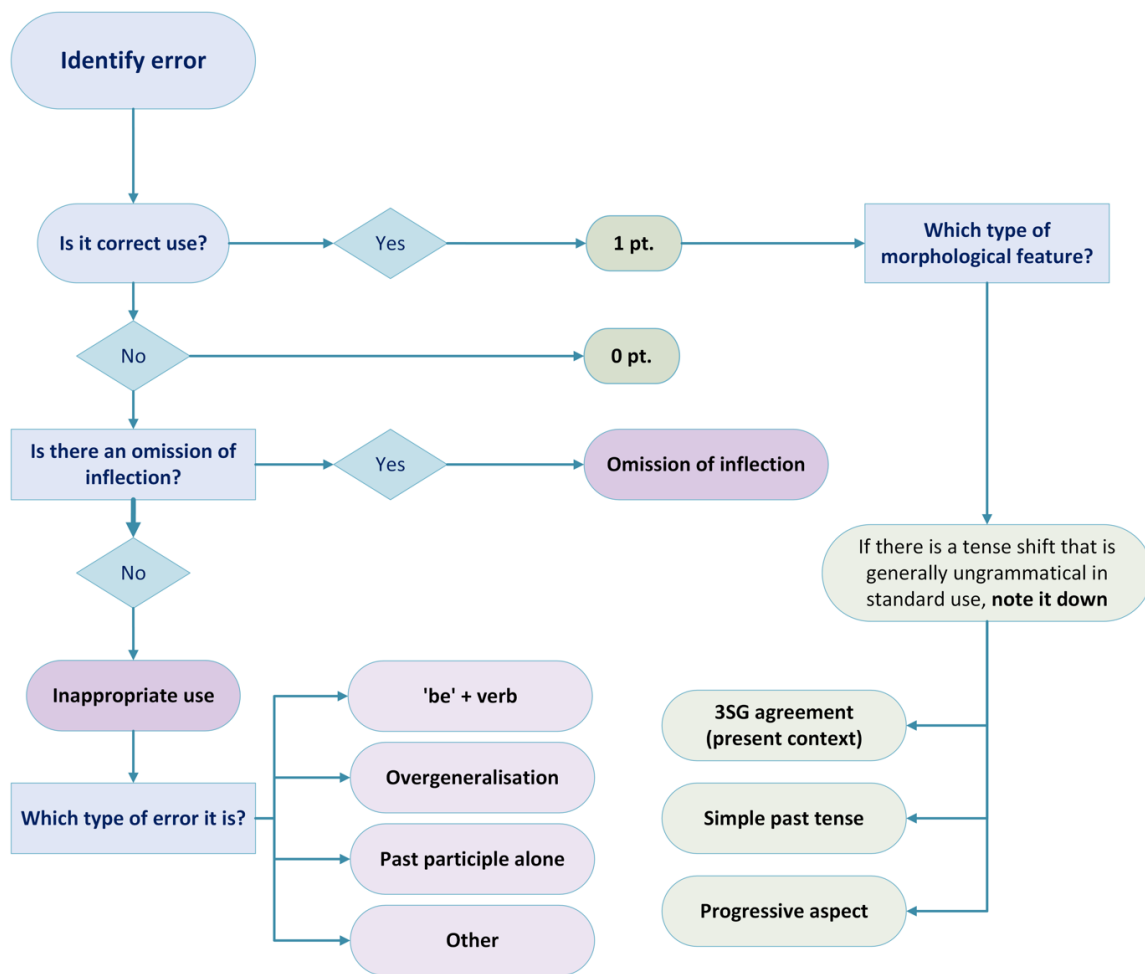
4.5.2 Coding and Scoring for the OPT

First, only the use of verbs with the three English features: 3SG agreement, simple past tense, and progressive aspect in third person singular context were examined. Under this criterion, other verbs forms, such as past perfect tense 'had done', future tense 'will

make up for’, and modal verbs such as ‘should do’ were coded separately and were excluded from the current analysis. Meanwhile, verbs following plural subjects or first- or second-person singular contexts were also excluded. For instance, usage such as ‘what are you doing’ was not computed due to its second-person context. In addition, only the immediate syntactic frame was considered. The OPT was designed to elicit natural oral output. Therefore, no mandatory tense requirements were given. As a result, it was difficult to determine obligatory contexts. However, instances of tense inconsistency were noted in learners’ oral production. These inconsistencies might appear grammatical when viewed within the immediate syntactic frame, but would be considered unacceptable in common grammatical contexts. Given the primary focus of this study on learners’ morphological inflection performance, cases of tense inconsistency were excluded from the commission error categories. Nevertheless, these instances were still recorded and analysed separately to assess their potential impact on learners’ overall task accuracy. Figure 2 below presents the process of coding and scoring the verb forms in the OPT.

The coding followed three main steps: each instance of verb form was firstly coded in terms of three types of performance: accurate verb use, omission of inflection, and inappropriate verb use. If it was categorised as an accurate verb inflection, then it was further classified in accordance with the three types of morphological features: 3SG agreement, simple past tense, progressive aspect. If it was inaccurate and the problem was not an omission of inflection, then it was coded as inappropriate verb use.

Figure 2: Coding and scoring system flow chart



After completing the above steps, all verb forms fallen into the inappropriate use category were further examined and categorised, resulting in three types of commission errors: the ‘be + base verb’ structure, overgeneralisation, and the use of past participle alone (e.g. ‘the thief stolen his bag’ [Participant no.15]). The remaining incorrect verb forms appeared quite random and were therefore group under the ‘Other’ label.

4.5.3 Data Analysis Tool

Data analysis was conducted using the IBM SPSS Statistics version 29.0.1.0 (171) was used. This software was chosen for its capabilities in generating comprehensive statistical analysis.

Chapter 5 Results

5.1 Oral Production Task (OPT) Results

A total of 705 verbs were collected from participants during the OPT. After excluding 83 verbs that did not occur in a 3SG context and 67 verbs that did not exhibit features of 3SG-agreement, simple past tense, or progressive aspect, 555 valid verbs remained for analysis.

5.1.1 Accurate Verb Inflections

Table 5 presents the number of accurate verb inflections produced by participants and the percentages of total accurately inflected verbs in the 3SG-agreement, simple past tense, and progressive aspect features respectively.

Table 5: Numbers of accurate verb inflections and percentages by feature (OPT)

Features	n	Percentage in total accurate verb inflection (%)	Percentage in total valid verbs (%)
3SG agreement	86	25.00	15.55
Simple past tense	247	71.80	44.50
Regular -ed	41	11.92	7.39
Irregular past	206	59.88	37.11
Progressive aspect	11	3.20	1.98
Total accurate	344	Total accurate percentage	61.98

As evident in Table 5, approximately 62% of all valid verbs are correctly conjugated. Specifically, accurate 3SG-agreement inflections account for 15.55% of all verbs, representing 25% of all correct verb inflections. Accurate simple past tense inflections make up 44.5% of all valid verbs, constituting 71.8% of all correct verb forms. To unpack it further, the regular -ed forms and irregular past forms represent 7.39% and 37.11% of all verbs respectively. Accurate progressive aspect inflections account for 1.98% of the valid verbs, making up 3.2% of all correct verb forms.

Since the total number of verbs inflected for each feature is unable to calculate (see Section 4.5.2), this study cannot measure learners' accuracy for each feature. Instead, the average usage rates of each feature were calculated to reflect their

frequency in learners' language. Table 6 shows the average percentage of correct inflections produced by the 39 learners for each feature relative to the total valid verbs.

Table 6: Average usage rates of correct inflections by feature produced by the 39 learners (OPT)

	N	Mean	SD
Accuracy rate	39	0.63	0.18
3SG-agreement	39	0.17	0.16
Simple past tense	39	0.44	0.23
Regular -ed form	39	0.07	0.10
Irregular past form	39	0.37	0.18
Progressive aspect	39	0.02	0.06
Valid N	39		

As clearly shown in Table 6, the learners' average task accuracy is 63%. For specific grammatical features, learners on average produced correct 3SG-agreement forms 17% relative to the total valid verbs. The average usage frequency rate for simple past tense is 44%, with correct regular -ed forms being 7% and irregular past forms being 37%. For the progressive aspect feature, the correct usage rate is the lowest, with only 2% on average.

5.1.2 Errors in Verb Inflections

Table 7 presents the number of errors made by learners during their narration, categorised by type, along with the proportions relative to the total number of errors and total valid verbs. Table 4 shows the average frequency of each type of error occurring in learners' narration.

Table 7: Numbers of different errors and percentages by error types (OPT)

Error Type	n	Percentage in total errors (%)	Percentage in total valid verbs (%)
Omission	173	81.99	31.17
be + base verb	12	5.69	2.16
Past participle alone	8	3.79	1.44
Overgeneralisation	4	1.90	0.72
Other	14	6.64	2.52
Total	211	Total percentage	38.02

Table 8: Average frequency of occurrence by error types (OPT)

	N	Mean	SD
Omission	39	0.29	0.19
be + base verb	39	0.03	0.06
Past participle used alone	39	0.02	0.07
Overgeneralisation	39	0.01	0.02
Other	39	0.02	0.04
Valid N	39		

As evident in Table 7 and 8, omission errors are the most common, accounting for about 31% of all verb forms produced and 82% of all morphological errors. Learners made omission errors with an average occurrence of 29%. The second most frequent error among the categorised types is the ‘be + base verb’ structure, which makes up 2% of all verb forms and 6% of all morphological errors, with occurrence averaging 3% per learner. Errors involving the use of past participle alone occurred less frequently, constituting slightly more than 1% of all verbs and near 4% of morphological errors, with an average occurrence of 2% among learners. Overgeneralisation is the least frequent error identified in this task, accounting for less than 1% of all verb forms and about 2% of morphological errors, with an average occurrence of about 1%. Errors that did not fit into these categories were grouped under ‘Other’, which comprises about 2.5% of all verb forms and 7% of all errors.

A regression analysis was conducted on the five types of error to compare their impact on learners' language accuracy. Table 9 presents the analysis results.

Table 9: Regression coefficients of the five error types identified in the OPT

Independent Variable	Coefficients			95.0% Confidence Interval for B	
	Standardized Coefficients Beta	t	Sig.	Lower Bound	Upper Bound
Omission	-1.05	-127.41	<.001	-1.02	-0.98
be + base verb	-0.31	-34.26	<.001	-1.07	-0.95
Past participle used alone	-0.38	-42.05	<.001	-1.05	-0.95
Overgeneralisation	-0.11	-14.73	<.001	-1.17	-0.89
Other	-0.23	-28.75	<.001	-1.05	-0.91

Dependent Variable: Overall accuracy rate

The regression coefficients in Table 9 clearly show that all five types of errors have a statistically significant negative impact on learners' task accuracy ($p < 0.001$). Among them, omission errors show the most severe negative effect (Beta = -1.05, $t = -127.41$). Following are the 'past participle used alone' errors (Beta = -0.38, $t = -42.05$) and the 'be + base verb' structures (Beta = -0.31, $t = -34.26$). Overgeneralisation errors and other errors have a relatively smaller, but still significant effect on learners' verb inflection accuracy.

5.1.3 Tense inconsistency

Instances of tense inconsistency were calculated separately (see Section 4.5.2). Tense inconsistency was observed in approximately 7% of all verb forms, with a 7% average occurrence rate among learners. Despite the low rate, it occurred the second frequently compared with other error types. Thus, it is necessary to examine whether excluding tense inconsistency as a commission error would significantly impact learners' task accuracy. If task accuracy is significantly affected when tense inconsistency is considered, it would indicate a problem with learners' understanding of tense. Then, consideration may be given to discussing how tense inconsistency may reflect learners' knowledge of verb morphology.

A correlation analysis was conducted between the percentage of tense inconsistency in total verb inflections and the recalculated overall accuracy, after accounting for tense inconsistency. The Pearson correlation results show a slight negative correlation between tense inconsistency and the recalculated verb accuracy, but this correlation is not statistically significant ($r = -0.149$, $p = 0.367 > 0.05$). This suggests that tense inconsistency has a minimal impact on overall accuracy and can be safely excluded from analyses of learners' verb morphological knowledge.

5.2 GJT Results

5.2.1 Overall Task Accuracy

Table 10 presents the overall accuracy of learners in the GJT, including the numbers and percentages of correct responses for both grammatical and ungrammatical items across different features. Table 11 shows learners' average accuracy for sentences marked with each feature. Table 12 shows learners' average accuracy for regular and irregular forms with sentences marked with simple past tense.

Table 10: Overall accuracy in the GJT by item type and feature (GJT)

	3SG -s		Simple past tense		Progressive aspect	
	n	Percentage (%)	n	Percentage (%)	n	Percentage (%)
Grammatical (correctly accept) (total items n = 234)	150	64.10	145	61.97	156	66.67
Ungrammatical (correctly reject) (total items n = 234)	101	43.16	128	54.70	143	61.11
Total	251	38.73	273	58.33	299	63.89
Overall correct responses count						823
Overall task accuracy						58.62
Average scores (full score = 36)						21.10

Table 11: Learners' average accuracy by item type and feature (GJT)

Features	Item Form	N	Mean	SD
3SG-agreement	Overall accuracy	39	0.54	0.12
	Grammatical	39	0.64	0.15
	Ungrammatical	39	0.43	0.20
Simple past tense	Overall accuracy	39	0.58	0.13
	Grammatical	39	0.62	0.19
	Ungrammatical	39	0.55	0.20
Progressive aspect	Overall accuracy	39	0.64	0.16
	Grammatical	39	0.67	0.20
	Ungrammatical	39	0.61	0.20
Overall accuracy		39	0.59	0.08
Valid N		39		

Table 12: Learners' average accuracy for regular and irregular past forms (GJT)

	N	Mean	SD
Regular past -ed	39	0.52	0.17
Irregular past forms	39	0.65	0.21
Valid N	39		

As shown in Table 10, 11, and 12, the overall task accuracy and learners' average task accuracy were similar, both at approximately 59%, with an average score of 21.1 out of 36 total points. Among specific features, the lowest overall accuracy was observed in items related to 3SG-agreement, with a rate of only 39%. Specifically, on average 64% of grammatical 3SG-agreement items were correctly accepted, while 43% of ungrammatical items were correctly rejected. The overall accuracy for this feature averaged around 54% among learners. This rate was significantly higher than the 39% total accuracy, suggesting considerable individual differences among learners with the 3SG-agreement feature.

For the simple past tense, the overall accuracy was 58%. On average, 62% of grammatical simple past tense items were accepted, while 55% of ungrammatical items were rejected. Learners' average accuracy for this feature was close to the overall

accuracy, both at about 58%, indicating small individual difference effects in performance of this feature. Regarding regular and irregular past forms, learners showed an average accuracy of 52% for regular -ed forms and 65% for irregular past forms.

The highest overall accuracy was observed in items related to the progressive aspect feature, with a rate near 64%. Specifically, 67% of grammatical progressive aspect forms were accepted while 61% of ungrammatical ones were rejected. Learners' average accuracy for this feature was also close to the overall accuracy, both at about 64%, indicating little effects from individual difference in the performance of the progressive aspect.

An ANOVA test was conducted to examine the differences between learners' performance in each feature. Table 13 presents the results of Pairwise Comparisons in a repeated measures ANOVA test.

Table 13: Pairwise comparisons checking differences between learners' performance in each feature (GJT)

Pairwise Comparisons						
(I) Features	(J) Features	Mean Difference (I-J)	S.E.	Sig.b	95% Confidence Interval for Difference (b)	
					Lower Bound	Upper Bound
1	2	-0.05	0.03	0.38	-0.12	0.03
	3	-.103*	0.03	0.01	-0.18	-0.02
2	1	0.05	0.03	0.38	-0.03	0.12
	3	-0.06	0.03	0.26	-0.14	0.02
3	1	.103*	0.03	0.01	0.02	0.18
	2	0.06	0.03	0.26	-0.02	0.14

1 = 3SG-agreement 2 = Simple past tense 3 = Progressive aspect
 b. Adjustment for multiple comparisons: Bonferroni.

The ANOVA results show that different verb features have significant effect on learners' accuracy ($F(1.987, 75.499) = 5.399, p = 0.007 < 0.05$), with an observed power of 0.828, indicating high reliability of this relationship. Results of the pairwise comparisons with Bonferroni correction (Table 13) reveal significant differences in accuracy across different features. Specifically, learners' accuracy on 3SG-agreement is significantly lower than on the progressive aspect ($MD = -0.103, p = 0.01 < 0.05$). Although

the accuracy for 3SG -s is also lower compared to the simple past tense, the difference is not significant (MD = -0.05, $p = 0.03 > 0.05$).

A paired samples T-test was conducted to compare learners' performance on regular -ed forms and irregular past forms. The results (Table 14) show that learners' average accuracy on regular -ed forms is significantly lower than on irregular past forms (MD = -0.13, $t(38) = -3$, $p = 0.01 < 0.05$).

Table 14: Paired samples T-test on learners' performance in regular -ed and irregular past forms (GJT)

Paired Samples Test									
Paired Differences									
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Significance		
			Lower	Upper			One-Sided p	Two-Sided p	
-0.13	0.28	0.04	-0.22	-0.04	-3.00	38	0.002	0.01	

Additionally, another paired samples T-test was conducted to compare learners' performance on grammatical and ungrammatical items. The results show that learners performed significantly better at accepting grammatical forms than rejecting ungrammatical forms. Table 15 provides descriptive data on learners' accuracy for grammatical and ungrammatical items. Table 16 presents the T-test results.

Table 15: Learners' average accuracy on grammatical and ungrammatical items in the GJT

Item Form	N	Mean	SD
Grammatical	39	0.64	0.12
Ungrammatical	39	0.53	0.13

Table 16: Paired samples T-test on learners' performance in grammatical and ungrammatical items (GJT)

Paired Samples Test									
Paired Differences									
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Significance		
			Lower	Upper			One-Sided p	Two-Sided p	
0.11	0.18	0.03	0.05	0.17	3.83	38	<.001	<.001	

Table 15 and 16 clearly show that learners' accuracy in accepting grammatical items (M = 0.64, SD = 0.12) was significantly higher than their accuracy in rejecting

ungrammatical forms ($M = 0.53$, $SD = 0.13$), with a mean difference of 0.11 that is statistically significant ($t(38) = 3.828$, $p < 0.001$).

5.2.2 Performance in Different Error Types

An ANOVA test was conducted to examine which types of errors in the GJT presented the greatest challenge to learners. Table 17 provides descriptive data of learners' average accuracy in rejecting ungrammatical sentences across different error types. Table 18 presents the results of the pairwise comparisons from the repeated measures ANOVA.

Table 17: Learners' average accuracy on ungrammatical items across different error types (GJT)

	Error Type	N	Mean	SD
1	3SG -s omission	39	0.50	0.26
2	Wrong SVA	39	0.37	0.29
3	Regular past -ed omission	39	0.44	0.27
4	Irregular past omission	39	0.66	0.34
5	Present participle used alone	39	0.50	0.29
6	be + base verb	39	0.73	0.28
	Valid N	39		

The ANOVA results suggest that different error types significantly impacted participants' accuracy in the GJT ($F(4.479, 170.193) = 8.753$, $p < 0.001$). Results of the pairwise comparisons with Bonferroni correction (Table 14) show that, overall, learners performed best on the be + base verb structure errors. Their accuracy on this error type is significantly higher than on 3SG -s omission ($MD = 0.23$, $p = 0.002 < 0.05$), wrong SVA ($MD = 0.36$, $p < 0.001$), regular past -ed omission ($MD = 0.29$, $p < 0.001$), and present participle used alone ($MD = 0.23$, $p = 0.026 < 0.05$). Although the comparison with irregular past omission did not reach statistical significance ($p > 0.05$), the mean difference indicates that performance on the be + base verb errors is still better than the irregular past omission errors ($MD = 0.07$).

Table 18: Pairwise comparisons checking differences between learners' performance in different error types (GJT)

Pairwise Comparisons						
(I) Error Type	(J) Error Type	Mean Difference (I-J)	S.E.	Sig.b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	0.13	0.06	0.681	-0.07	0.32
	3	0.06	0.06	1.000	-0.13	0.25
	4	-0.16	0.07	0.273	-0.37	0.04
	5	0.00	0.07	1.000	-0.21	0.21
	6	-.231*	0.06	0.002	-0.40	-0.06
2	1	-0.13	0.06	0.681	-0.32	0.07
	3	-0.07	0.06	1.000	-0.27	0.13
	4	-.291*	0.07	0.003	-0.51	-0.07
	5	-0.13	0.08	1.000	-0.37	0.11
	6	-.359*	0.06	<.001	-0.54	-0.18
3	1	-0.06	0.06	1.000	-0.25	0.13
	2	0.07	0.06	1.000	-0.13	0.27
	4	-0.22	0.07	0.062	-0.45	0.01
	5	-0.06	0.06	1.000	-0.26	0.14
	6	-.291*	0.06	<.001	-0.49	-0.09
4	1	0.16	0.07	0.273	-0.04	0.37
	2	.291*	0.07	0.003	0.07	0.51
	3	0.22	0.07	0.062	-0.01	0.45
	5	0.16	0.07	0.362	-0.05	0.38
	6	-0.07	0.06	1.000	-0.26	0.12
5	1	0.00	0.07	1.000	-0.21	0.21
	2	0.13	0.08	1.000	-0.11	0.37
	3	0.06	0.06	1.000	-0.14	0.26
	4	-0.16	0.07	0.362	-0.38	0.05
	6	-.231*	0.07	0.026	-0.45	-0.02
6	1	.231*	0.06	0.002	0.06	0.40
	2	.359*	0.06	<.001	0.18	0.54
	3	.291*	0.06	<.001	0.09	0.49
	4	0.07	0.06	1.000	-0.12	0.26
	5	.231*	0.07	0.026	0.02	0.45

1 = 3SG omission, 2 = Wrong SVA, 3 = Regular past -ed omission
4 = irregular past omission, 5 = Present participle used alone, 6 = be + base verb
b. Adjustment for multiple comparisons: Bonferroni.

For the omission error type, there are no significant differences between 3SG -s omission and regular past -ed omission (MD = 0.06, $p > 0.05$), as well as irregular past omission (MD = -0.16, $p > 0.05$). Overall, performance on 3SG -s omission is worse than on irregular past omission but is better than on regular past -ed omission. The difference between regular past -ed omission and irregular past omission is near a statistical significance ($p = 0.06$), with accuracy on regular past -ed omission lower than on irregular past omission (MD = -0.22).

Chapter 6 Discussion

The purpose of this study was [1] to investigate the acquisition of the three English morphological features 3SG-agreement, simple past tense, and progressive aspect by Chinese adolescents after nearly 10 years of instruction in a school setting, and [2] to examine the role of the learners' L1 in interaction with the interpretability status of these features. This chapter discusses the results obtained from the oral production task (OPT) and the grammaticality judgement task (GJT), providing answers to the research questions and hypotheses posed.

6.1 Have Chinese Adolescents Acquired the English Morphology of 3SG-agreement, Simple Past Tense, and Progressive Aspect After Several Years of Instruction?

This study uses a 90% accuracy rate as the acquisition threshold, a standard commonly recognised in SLA research for evaluating learner performance in comprehension or production tasks (Ellis, 2015; Pienemann, 1998). Most SLA research considers that achieving 90% accuracy in supplying a specific feature would indicate successful acquisition of the feature (Hawkins, 2019). As outlined in the hypothesis to RQ1, if learners show 90% accuracy in both comprehension and production, then it indicates that learners have successfully acquired the features and can apply them proficiently. If learners exhibit low accuracy in production but high accuracy in comprehension, then this might suggest that learners have acquired the grammatical features but encountered problems in applying them. If low accuracy is found in both comprehension and production, then this reflects that learners have not acquired these features.

6.1.1 Overall performance

In this study, comprehension was assessed using the GJT while production was evaluated with the OPT. The results showed that learners averaged about 59% accuracy in the GJT and about 63% accuracy on verb inflections in the OPT, with no statistically significant difference between the two tasks. It is clear that neither of the tasks displayed an accuracy that reached the 90% threshold. Therefore, it can be concluded that the learners did not acquire these three features in terms of overall performance.

Moreover, a lower accuracy in the GJT compared to that in the OPT suggests limited comprehension and acceptance of ungrammatical forms. In the GJT, learners correctly accepted grammatical sentences 64% of the time, while their accuracy in rejecting ungrammatical sentences was significantly lower, which was about 53%, nearly at chance level. Accuracy rates for most ungrammatical error types were below 50%, reflecting high acceptance of ungrammatical sentences.

Many studies have pointed out that learners' performance in the GJT is likely to be lower than that in OPT (Ellis, 2005). This is particularly true for timed GJT delivered in an oral form, as it not only demands a high level of proficiency in the application of explicit knowledge, but also partially assesses whether learners have internalised the explicit knowledge to be implicit (Loewen, 2009). In contrast, during free production tasks, learners can have more time to think and self-correct, which is likely to result in better performance (Ellis, 2005).

In this regard, the lower accuracy in the GJT compared to the OPT in this study reflects learners' insufficient understanding of the correct morphological forms of the features. The significantly higher acceptance of ungrammatical sentences, in particular, suggests that learners have not internalised morphological knowledge of these features, and are relying more on explicit knowledge for judgments. Consequently, it is likely that the increased cognitive load and psychological pressure under the time-limited conditions led to a low accuracy in rejecting ungrammatical forms.

Furthermore, the high frequency of omission errors suggests a highly likely L1 influence. In the OPT, omission errors were the most common. Approximately 31% of the verb inflections omitted, a rate significantly higher than errors of other types. In the GJT, omission errors also appeared to be challenging, especially with omission of the 3SG-agreement -s and the regular past -ed, where accuracy rates were only 44% and 50% respectively.

Ionin and Wexler (2002) suggest that omission of inflection is common in early language stages of language learning due to incomplete mastery of inflectional rules. Therefore, this error is likely to reduce in mid-stages as learners might gradually grasp the rules, though they might still show inconsistency in applying them (Bayley, 1996). The

learners in this study are at intermediate level (CEFR B2) with nearly 10 years of instruction. In this regard, native language interference is likely to have played an important role in their difficulty of omission errors.

Research has suggested that L2 learners lacking inflectional morphology are more likely to omit inflectional markers (Lardiere, 2017). Previous studies such as Gardner et al. (2021), which found young adult Chinese learners omitted inflections in 44% of the cases during a picture elicitation task, and Li and Yang (2022), which reported a 71% omission rate of the 3SG-agreement -s marker in obligatory contexts among Chinese graduate students in the UK, all provide evidence of L1 interference in Chinese learners' L2 acquisition. Lardiere's (2017) speech analysis of the Chinese adult learner named Patty, who has lived in the US for many years, showed only 5.8% of all past tense cases were marked, suggesting that this L1 effect is likely to be permanent. The results of this study align with previous studies, confirming that omission of inflection is particularly problematic for Chinese students and supporting the idea that Chinese students are significantly influenced by their L1 in their acquisition of L2 verb morphology.

To summarise, neither task showed an average accuracy exceeding the 90% threshold. This indicates that while learners may have developed some morphological knowledge of the features, they have not acquired them and cannot apply them proficiently. In the meantime, the high acceptance rate of ungrammatical items in the GJT suggests a weak compression of these features, implying that learners have not internalised their morphological knowledge and rely more on explicit knowledge. Moreover, the high omission rate points to a likely long-lasting L1 effect on Chinese adolescent learners in their L2 verb morphology acquisition.

6.1.2 Feature-specific performance

Although the learners' overall performance shows a failure to acquire the three features in general, it is necessary to examine each feature individually. This will ensure that any significant differences in accuracy between the features are not overlooked, avoiding situations where the average accuracy falls short of the 90% threshold while some of the individual feature still meet the standard.

Before discussing the performance of each feature, it should be clarified that in the OPT, the proportion of accurate verb inflections for each feature relative to the total number of verb inflections was calculated to reflect learners' performance in different features, instead of features' respective accuracy rate. Due to the research design, this study does not count the total number of verb inflections produced for each feature (as detailed in Section 4.5.2). Consequently, the feature-specific results in the OPT reflect more of how frequently accurate inflections were used relative to the total opportunities for each feature, rather than the accuracy. This method can provide insights into learners' strengths and weakness in applying different verb inflections but does not measure their actual acquisition, which may affect the interpretation of the results.

6.1.2.1 3SG-agreement

Learners showed low accuracy with the 3SG-agreement feature. In the GJT, there were 12 obligatory contexts for the 3SG-agreement, 6 instances grammatical and 6 ungrammatical. The ungrammatical items tested two types of errors: omission of 3SG -s and wrong SVA. On average, learners had an accuracy rate of about 54% for this feature. To unpack this further, learners averagely accepted sentences with properly marked 3SG-agreement about 64% of the cases. However, they show greater difficulty in rejecting ungrammatically inflected sentences, achieving only about 43% accuracy on average, a statistically significant lower rate. Regarding the two error types, learners had an accuracy of near 50% in rejecting sentences with the 3SG -s marker omitted. Performance for sentences with incorrect SVA was even inferior, with only about 37% of these sentences correctly rejected.

In terms of acquisition, first, the 54% accuracy rate does not exceed the 90% threshold, suggesting that learners did not fully comprehend the 3SG-agreement feature. Second, the low accuracy in correctly accepting grammatical sentences with 3SG-agreement feature and the high acceptance for sentences with omission errors or incorrect inflections reflect that learners were largely uncertain of the correct 3SG-agreement forms, implying insufficient morphological knowledge of 3SG-agreement. Third, the difficulty in rejecting omission errors and SVA errors indicates potential L1 influence. This aligns with many studies which have proposed that the frequent 3SG-s omission errors among Chinese learners is due to the lack of inflectional morphology in

Chinese. For instance, Blom et al. (2012) found that learners with Mandarin and Cantonese as L1, which are languages lacking morphological changes, were more likely to omit to the 3SG -s marker than those whose native languages were Spanish and Romanian, which are languages with rich morphological inflection system. This provides evidence for the L1 transfer effect. Similarly, Li and Yang (2022) reported a high omission rate of 70.6% for the 3SG -s marker and several instances of overusing 3SG-agreement in non-3SG contexts among Chinese graduate students in the UK, suggesting that the lack of inflectional morphology in Chinese poses long-lasting problems for Chinese learners in acquiring the inflection-dependent 3SG-agreement feature. Other studies including Goad et al. (2003), Hsieh (2009), and Jia and Fuse (2007) all found Chinese learners continuous to struggle with the 3SG-agreement with several years of English learning experience, which further reinforce the negative impact of L1 transfer effects on Chinese learners' acquisition of 3SG-agreement.

In the OPT, the percentage of verbs marked with accurate 3SG -s was about 16% in all verb inflections. This probably is due to task effect, where learners tended to narrate the story using the past tense, as people commonly do. Nevertheless, it is important to note that about 31% of the verbs were found to have omitted inflections, extensively exceeding the number of other types of errors. Previous studies have pointed out that the 3SG -s and regular -ed form are most likely to be shown omission errors for Chinese learners (Yang, 2022). It is thus hypothesised that most omission errors in the OPT were with 3SG -s and regular -ed.

Considering learners' performance both in the GJT and the OPT, it can be inferred that the feature of 3SG-agreement has not been acquired. Evidence for that was the low accuracy rates in the GJT, the relatively high omission rate in the OPT, and the acceptance of different types of commission errors.

6.1.2.2 Simple past tense

Following the same design, there were 12 items for simple past tense in the GJT, 6 grammatical and 6 ungrammatical, split equally between the regular past -ed forms and the irregular past forms. The ungrammatical items tested omission errors, with 3 targeting the regular past -ed form and 3 the irregular past form. On average, learners

achieved a 58% accuracy rate for this feature. Specifically, accuracy was about 52% for regular past -ed and 65% for irregular past. Learners correctly accepted 62% of the grammatical sentences, while the accuracy for rejecting ungrammatical sentences was about 55%. A significant difference was observed in rejecting omission errors with regular -ed forms and irregular past forms, with about 44% correct rejection for the former and about 66% for the latter.

In terms of acquisition, first, the 58% overall accuracy rate is well below the 90% threshold, indicating non-acquisition of the simple past tense feature. Second, the low accuracy in accepting grammatical sentences suggests insufficient knowledge of the correct simple past morphological forms. Third, the merely 55% accuracy in rejecting ungrammatical sentences indicates great difficulty in identifying omitted past tense inflections, which aligns with previous literature showing that young adult Chinese learners often omit past tense inflections (Gardner et al., 2021; Newbery-Payton & Mochizuki, 2020).

While the learners did not seem to acquire the simple past tense feature, there is a noticeable difference in their performances on regular -ed and irregular past forms. The 52% low accuracy with the regular -ed form suggests a lack of sensitivity to the -ed marker, as all ungrammatical items were designed with omission errors. In contrast, the higher 65% accuracy with irregular forms, though still falls below the acquisition threshold, indicates a better grasp of these inflections.

This discrepancy might be due to the nature of acquisition with the irregular past form. In English, irregular verbs are more common among high-frequency words, especially in everyday language (Marcus et al., 1992). This means that learners are likely to encounter irregular past forms more often in their input. Moreover, because the irregular past form involves complete morphological changes, they are often learned as individual items, requiring more focused memorisation (Ellis, 2005). As a result, learners are likely to focus more on memorising irregular forms. Furthermore, English instruction in China emphasises more on irregular past forms, as the regular forms follow a straightforward rule, leading to frequent practice and higher awareness (Yang & Lyster, 2010).

The better performance with irregular past forms in this study aligns with results of previous research. For example, DeKeyser (1997) found that English L2 learners often perform better with irregular forms due to frequent exposure in language input. Nassaji and Fotos (2011) also noted that focused instruction on irregular verbs can lead to better mastery, particularly in EFL contexts like China.

In the OPT, the percentage of accurate simple past tense inflections was about 44%, with regular past -ed form accounting for about 7% and irregular past forms 37%. As detailed at the beginning of this section, the significantly higher frequency of accurate irregular past forms does not necessarily indicate better mastery but might simply be that irregular verbs are more frequent in daily language. However, consider the high proportion of omission errors in this task, which are assumed to be largely with regular past -ed and 3SG -s, the significantly higher frequency in using irregular past compared to regular -ed form can still suggest a certain level of mastery. The possibility cannot be rejected that a higher proportion of accurate inflections might suggest a higher familiarity with the correct forms.

Considering learners' performance in both the GJT and the OPT, it can be concluded that the feature of simple past tense has not been acquired. Evidence for this was low accuracy rates in accepting grammatical sentences in the GJT and high acceptance of ungrammatical sentences with omitted past tense inflections. Significant problems with omission errors were highlighted, indicating insufficient sensitivity to the need of past tense inflections among Chinese learners, which aligns with previous studies. Although the feature was unacquired, learners showed a better grasp of irregular forms compared to regular -ed forms, suggesting a higher awareness of the need for past tense inflection in contexts with irregular verbs.

6.1.2.3 Progressive aspect

The progressive aspect showed relatively better performance compared to other grammatical features. As with the design of other two features, the GJT included 12 obligatory contexts for the present progressive aspect feature, 6 grammatical and 6 ungrammatical. The ungrammatical items tested two types of errors, with the 'past participle used alone' errors and 'be + base verb' errors evenly split. On average, learners

achieved a 64% accuracy rate for this feature. Specifically, learners correctly accepted about 67% of grammatically formed sentences and rejected about 61% of ungrammatical ones. Regarding the two types of errors, accuracy was slightly below 50% for the 'present participle used alone' errors and about 73% for the 'be + base verb' errors.

In terms of acquisition, despite a relatively better performance, the 64% average accuracy rate is still far below the 90% threshold, indicating that the progressive aspect has not been fully acquired. Furthermore, although learners performed better in rejecting ungrammatical progressive aspect sentences than the other two features, their overall accuracy in accepting grammatical sentences and identifying ungrammatical forms remained low, suggesting incomplete morphological knowledge of the correct progressive forms.

Interestingly, learners showed problems in identifying incorrect progressive structures where the auxiliary 'be' was missing, with accuracy below 50%. However, they seemed to be more sensitive to the -ing marker, achieving 73% accuracy in identifying the incorrect 'be + base verb' structure. This finding contrasts with previous research, which suggested that English L2 learners whose L1 lacks progressive aspect markers are more likely to omit them in English (Ionin & Wexler, 2002). Studies on Chinese learners also found the tendency of omitting the -ing marker (Chen et al., 2017; Zeng et al., 2021).

One explanation for this contradictory result could be that L2 learners are more likely to notice features that differ from their L1 (Schmidt, 1990). Differences between L2 input and L1 can capture more attention and facilitate acquisition of these features (Gass & Varonis, 1994; Laufer & Girsai, 2008). As detailed in the linguistic background, Chinese has a rich aspectual system, with the progressive marker 'zai' positioned similarly to the auxiliary 'be' in the English progressive 'be + verb + -ing' structure. However, there is no equivalent for the -ing marker, as Chinese does not inflect its verbs. As a result, this may lead Chinese learners to focus more on the -ing marker and consequently result in better performance.

In the OPT, the progressive aspect was used infrequently, with only about 2% of all verb inflection being accurately inflected progressive. As explained earlier, low usage rate might also reflect mastery to some extent. On the other hand, however, the low usage

rate in the progressive aspect seems more likely due to a task effect. The OPT was designed to elicit natural oral output, with no mandatory tense requirements given. Although there are prompts encouraging the use of past and present tenses with all three features, learners narrated the story mostly using the simple past and present tenses, possibly due to the conventional instruction that stories should be told in past tense. Nonetheless, the low frequency of progressive aspect usage may still indicate a limited familiarity with the feature to some extent.

Ellis (2005) noted that L2 learners often employ avoidance strategies, tending to choose a simpler structure when unsure of the correct form. This especially true when the feature is conjugated differently in their native language, where learners are likely to adopt a simpler way of expression to avoid potential errors (Dagut & Laufer, 1985; Tarone, 1980). Many studies found that Chinese learners exhibit this avoidance tendency. For example, Wang (2020) found that Chinese learners avoid passive structures in non-adversity contexts, using them 56% less compared to adversity contexts, which was attributed to the differences between Chinese and English passive structures. In this regard, the low frequency of progressive aspect usage, despite explicit instruction, might imply that the learners were not familiar with the feature. If learners were proficient with the progressive aspect, with deep understanding and high level of application ability developed, they would have used it more frequently, as the task instruction clearly elicited its use. Instead, very few learners used the progressive aspect, which potential indicates their insufficient familiarity with the feature.

Interestingly, despite their sensitivity to the -ing marker and relatively good performance in rejecting the 'be + base verb' structures in the GJT, learners actively made 'be + base verb' errors in the OPT. This structure appeared in about 2.2% of the total verbs produced, occurring 12 times across 11 learners. This means about 28% of the learners actively made this error, which is not a low percentage for error studies in SLA research. This seems to support the claim that Chinese learners are prone to omit the -ing markers in progressive aspect. However, it should be noted that the 'be + base verb' error does not necessarily imply an absence of the -ing marker in an intention to express progressive. Some scholars view it as an overuse of the copula 'be' for expressing other tenses (Ionin & Wexler, 2002). Ntalli (2021) argues that the well-attested 'be + verb' structure may not

be a simple omission of the -ing marker but rather a reflection of the learners' developing syntactic knowledge. In generative grammar, the syntactic position T is crucial for tense marking. The use of 'be' in this structure could be seen as learners' attempts to fill this position. In this view, the 'be' does not mark a specific tense, implying that L2 acquisition may follow a different path from L1 acquisition.

Returning to the present study, however, the 'be + base verb' errors produced by the learners do not align well with the above accounts. This study poses a hypothesis that learners produced the 'be + base verb' structure due to insufficient lexical knowledge rather than incomplete knowledge of inflectional morphology. For instance:

(a) 'Henry **was sleep**' (Participant no.1)

(b) 'he was very tired because he **is stay up late**' (Participant no.30)

Considering the context, 'was sleep' in (a) would normally be interpreted as 'was sleeping' but with the -ing marker missing. Similarly, 'is stay up late' in (b) would be better understood as 'had stayed up late', with an overuse of copula 'be' in substitute. However, this way of interpreting learners' erroneous 'be + base verb' use in place of different tenses would be more convincing with early-stage learners, as they have not yet well mastered the tense-aspect knowledge (Ionin & Wexler, 2002). Learners in this study were at an intermediate level, with nearly 10 years of formal instruction. Their relatively higher accuracy with the progressive aspect in the GJT also suggests a better grasp of this feature than the 3SG -s and simple past tense. Therefore, it would be unlikely that they produced the 'be + base verb' structure due to overusing 'be' or missing the -ing marker, especially when some learners produced the 'be + base verb' structure while also using the correct progressive aspect form. For instance:

(c) 'when he **is sleeping**, he didn't notice that there is a man steal his file when he **is sleep** well' (Participant no.9)

In most 'be + base verb' errors, the verbs or phrases involved involve a meaning of continuation and indicate a state, such as 'sleep' in (a) and 'stay up late' in (b). Therefore, this study proposes an alternative explanation: that the 'be + base verb' structure may

result from learners confusing verbs and adjectives due to flexible boundaries between them in Chinese

In Chinese, the boundary between adjectives and verbs is often vague. Many verbs can function adjectivally, both describing actions and implying the state of the subjects. For example, the Chinese equivalent of 'Henry was sleeping' also conveys that Henry was 'in the state of being asleep' at that moment. Similarly, Chinese phrase meaning 'he had stayed up late' not just functions essentially as a verb, but also suggests a resulting state: 'the state of fatigue' that 'he' might be in as a result of staying up late. This flexibility may lead Chinese learners to confuse verbs and adjectives in English. Supporting this hypothesis is the evidence that the expression 'is / was sleep' appeared 5 times in the 12 'be + base verb' instances, produced by 5 different learners. In this regard, the 'be + base verb' structure might be viewed as a misuse of thematic verbs as predicative adjectives over the subject, with 'be' serving as linking verb that connect the predicative to describe the subject's state.

Combining learners' performance in both tasks, it can be concluded that the learners have not fully acquired the progressive aspect feature, as evidenced by their low accuracy in the GJT and limited use in the OPT. Nevertheless, learners showed some understanding of its morphological forms, particularly their sensitivity to the -ing marker shown in the GJT. A hypothesis is proposed as an alternative explanation to learners' active 'be + base verb' errors in the OPT. This study suggests that this structure is due to insufficient lexical knowledge, rather than incomplete morphological knowledge that leads to omission of the -ing marker.

To summarise, this section examined whether Chinese adolescents have successfully acquired the three English morphological features: 3SG-agreement, simple past tense, and progressive aspect, after nearly 10 years of instruction in an EFL context. The results indicate that while learners exhibited slight variations between the features, they have not acquired any of these features. Notably, they frequently omitted inflections and made commission errors with characteristics of the Chinese language, suggesting a negative L1 transfer effect, aligning with previous studies.

5.2 Will accuracy on morphological features differ as a result of presence or absence in L1 and their interpretability? Will some features be harder to acquire than others?

As outlined in the hypothesis, the learners were expected to struggle most with the 3SG-agreement feature, particularly in supplying the -s marker, as it is an uninterpretable feature which does not exist in Chinese. The progressive aspect feature was anticipated to be found shown better performance, given that it is both interpretable and presented in the Chinese grammar. Moderate accuracy was hypothesised for the simple past tense feature, as it is semantically interpretable but expressed in a completely different way in Chinese. Specifically, better performance on irregular past forms was anticipated, due to its nature of acquisition and more focused instruction. Based on the data and the detailed analysis in last section, the answer to the second research question is now clear.

Learners' average accuracy in the GJT was 54% for 3SG-agreement, 58% for simple past tense, and 64% for progressive aspect, with statistically significant differences across the features. The proportion rates of features in the OPT were excluded from the analysis as it cannot measure feature-respective accuracy but only reflects familiarity of the feature to some extent. In addition, there was a significant task effect on the usage rates across the three features, leading to very limited use of some features. Therefore, learners' proficiency in the three features, listed from highest to lowest, is: progressive aspect > simple past tense > 3SG-agreement. The results are consistent with the hypothesis, supporting that the states of presence or absence in L1 as well as different feature interpretability will lead to varied accuracy in morphological features among Chinese learners.

Specifically, accuracy rates for accepting grammatical items and rejecting ungrammatical items were highest for the progressive aspect, with 67% acceptance and 61% rejection, further supporting that the learners grasped this feature best among the three features. The lowest accuracy in general was observed with 3SG-agreement, especially in rejecting incorrect forms, with an accuracy rate of 43%, indicating significant problems in recognising correct 3SG-agreement forms. This aligns with

previous studies that identified 3SG-agreement as the hardest feature for Chinese learners to acquire (Gardner et al., 2021; Goad et al., 2003; Li & Yang, 2022).

The accuracy rates with the simple past tense were generally mediocre, with 62% accuracy for accepting grammatical sentences and 55% accuracy for rejecting ungrammatical ones. However, a significant difference was noted between regular -ed forms and the irregular past forms. Learners showed about 52% accuracy with regular -ed forms and 65% with irregular forms. Same discrepancy was found in learners' performance in omission errors with regular -ed and irregular past forms, with 44% accuracy for the former and 66% for the latter. This suggests great difficulty in the regular past -ed form, consistent with the hypothesis and previous research (Lardiere, 2003; Clahsen & Felser, 2006).

Many studies compared Chinese learners' performance in supplying the 3SG -s marker with the regular -ed marker. For example, Hsieh (2009) found higher omission rates for regular past -ed inflection among adolescent Chinese learners. An inferior performance in rejecting sentences with omitted regular -ed to the omitted 3SG -s was also reported, suggesting a greater challenge in supplying the regular past -ed inflection than the 3SG -s marker. The results of this study aligned with Hsieh (2009), which also found lower accuracy for rejecting regular -ed omissions than 3SG -s omissions, although not significant. The challenge with regular -ed may be attributed to L1 influence. Previous literature has pointed out that Chinese learners rely more on contexts to denote past temporality (Yang & Huang, 2004). They may be linguistically constrained due to absence of verb inflections in Chinese (Yeh et al., 2015). Moreover, although the regular past inflection is morphologically traceable with an explicit -ed marker, it is relatively less prominent in phonology (Yang & Lyster, 2010). Consequently, the Chinese learners face greater challenge in the regular past -ed form.

In contrast, performance with the irregular past form omission errors was better than both the regular -ed and the 3SG -s omission errors. A potential reason for this is the less regularity and higher frequency with the irregular past form, which results in higher salience (Yang & Lyster, 2010). Furthermore, external factors such as focused instruction and repeated input also lead to the better grasp of irregular past forms (Han & Odlin, 2005;

Jiang, 2004). In this regard, this result is supported by both theories and empirical evidence, which reflects a general characteristic of Chinese learners.

To obtain a more detailed profile of Chinese learners' mastery of each inflectional forms, performance with irregular past forms and progressive aspect feature were also compared. Generally, the irregular past forms showed slightly better performance (65% vs. 64%). Higher accuracy in rejecting ungrammatically inflected forms was also observed (66% vs. 61%).

Based on the above analysis, when considering regular and irregular simple past forms separately, the learners' accuracy in individual inflectional forms follows this order: irregular past form > progressive aspect > simple past tense (in general) > 3SG-agreement > regular past -ed, confirming the hypothesis.

Chapter 7 Conclusion

This study explored the acquisition of the three English morphological features - 3SG agreement -s, simple past tense, and progressive aspect – by Chinese adolescent learners of English. The investigation centered on two key research questions: the extent to which these learners have acquired these features and the influence of their L1 on their acquisition.

The first research question addressed whether the learners have acquired these features. The results reveal that Chinese adolescent learners did not acquire the three features even after several years of instruction. Their performance in the oral production task and the GJT suggests that their acquisition remains incomplete. In none of the features learners reached an accuracy rate exceeding 90% in GJT. In the meantime, a relatively high percentage of omission and commission errors in oral production was found. This was argued to be due to an effect of age while another reason may be sought in the learners' L1 and the fact that Chinese is an isolating language that does not inflect verbs.

The second research question addressed the extent to which the presence or absence of grammatical features in the learners' L1 and the interpretability of these features influence their acquisition in L2. The results confirm that both the presence of similar features in L1 and their interpretability play a crucial role.

Specifically, the absence of inflectional morphology in Mandarin-Chinese may have significantly impacted learners' accuracy in English verb inflections. A high rate of omission errors was found among learners' oral production and low accuracy in identifying ungrammatical sentences with omission error in the GJT was detected, suggesting a strong L1 influence. The hypothesis that features not existing in learners' L1 are more difficult to acquire was confirmed. The 3SG agreement -s feature appeared to be the most negatively affected, displaying the lowest accuracy rate and assumably high frequency of omission errors. The progressive aspect and simple past tense features appeared to be relatively better grasped, supporting the hypothesis that features with higher interpretability will lead to better performance.

In addition, a significant difference between the accuracy in inflection of regular -ed and irregular past forms within the past tense feature suggests a possible role of instruction in the learning process. Given the challenges identified in supplying the regular past -ed form and the 3SG agreement -s feature, more targeted instructional strategies are needed to help Chinese learners overcome the difficulties.

While this study offers insights into the acquisition of English verb morphology by Chinese adolescent learners, it is not without limitations. Focusing on only three morphological features may not fully capture Chinese learners' overall acquisition of English verb morphology. Future research could expand the scope to include more features and investigate their longitudinal development over time.

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Appendix B

GJT test items in test order

1. T0 He complete his homework with Jack last night.
2. T1 Tom never finished his homework on time.
3. F He had never visit Paris before.
4. T0 It rain a lot last September.
5. T0 We watch a film last night.
6. S0 Judy's parents feels disappointed with her fail in exam.
7. S1 The artist creates a masterpiece.
8. S1 The company holds a board meeting every month.
9. F Do they prefer tea or coffee in the morning?
10. T1 He acted in a film last year.
11. A1 The flowers are blooming in the spring.
12. S1 It usually rains a lot in September.
13. A0 Julie's teacher asking her to answer the question.
14. A0 My neighbor's dog barking loudly.
15. T1 The cat sat on the mat.
16. F Is there any strawberries left in the fridge?
17. F How fast can he swim?
18. T1 The politicians discussed this matter at the conference.
19. S0 Tom always finish his homework on time.
20. F Will it raining tomorrow afternoon?
21. A1 The receptionist is answering the phone with a smile.
22. S1 The computer stands on the table.
23. S1 He breaks the record in a competition.
24. A1 He is not feeling well these days.
25. T1 She broke her arm last month.
26. S0 The birds flies north every summer.
27. F Behind the house is a tree.
28. F Can this type of birds fly?
29. F There have two computers on the desk.
30. S1 He often does his homework with Jack.
31. F What time the girl sleep?
32. A0 They eating pizzas for dinner tonight.

33. T1 She ate a pizza for dinner yesterday.
34. S0 The flowers blooms in the spring.
35. F Everyone is in the class except Jenny.
36. A0 The artist is create a masterpiece.
37. A1 The company is holding a board meeting.
38. F This apple is as big as that one.
39. T0 Jack catch a cold two days ago.
40. S0 The cat usually sit on the mat.
41. F What colour the box is?
42. T0 The birds fly south for the winter last year.
43. A0 The cat is sit on the mat.
44. A1 The students are taking exams at this moment.
45. A1 Tom is finishing his homework right now.
46. A0 They are talk on the phone.
47. T0 The company hold a board meeting yesterday.
48. S0 She eat a pizza for dinner every Sunday.

Appendix C

[Chinese Adolescents' Learning of English]

QUESTIONNAIRE FOR LANGUAGE BACKGROUND

Central University Research Ethics Committee Approval Reference: [EDUC_C1A_24_075]

Participant Information

1. Full name:
2. Age (counting from the time of birth):
3. Gender:
 - Male
 - Female
 - Prefer not to say

Language History

4. Native language:
5. Other language or languages spoken at home (include dialects):
6. At what age did you start learning English systematically? (such as learning in schools or training institutions)
7. Where did you start systematic English learning? (e.g., at school, extracurricular classes, etc.)
8. Languages learned other than native and English (If you have not learned other languages, please answer "No" and skip next question):
9. What do you think of your proficiency in other learned languages:
 - Fluent
 - Proficient
 - Intermediate
 - Basic

Language Exposure

9. How long have you been learning English?
10. How long have you stayed in an English-speaking country (if you have not been to any English-speaking country, just answer "No"):
11. How frequently do you use English in daily life?
- Everyday
 - A couple of times a week
 - Occasionally during the week
 - Rarely in a week
 - Never
12. On average, how many hours per week do you spend on using English in daily life? (outside of school)
- 0 hours
 - 1-2 hours
 - 3-5 hours
 - 6-10 hours
 - More than 10 hours
13. How frequently do you use English at school? (including English use in classes)
- Everyday
 - A couple of times a week
 - Occasionally during the week
 - Rarely in a week
 - Never
14. Do you take any extracurricular English classes?
- Yes
 - No
15. On average, how many hours per week do you spend in extracurricular English classes? (if you do not take any extracurricular English classes, please skip)
- 1-2 hours
 - 3-5 hours
 - 6-10 hours
 - More than 10 hours
16. Do you participate in any extracurricular activities related to English (e.g., English clubs, debates, etc.)?

Yes

No

17. On average, how many hours per week do you spend in extracurricular activities related to English? (if you do not take any extracurricular activities related English, please skip)

1-2 hours

3-5 hours

6-10 hours

More than 10 hours

Additional Information

18. Is there anything else you would like to share about your language background or experiences?

Thank you for taking time to complete this questionnaire. I hope you enjoy participating in this project!

Appendix D

Dear Principal of School,

I hope this email finds you in good health and high spirits.

My name is [REDACTED], and I am a graduate student at the Department of Education, University of Oxford, where I am studying in the Master of Science programme in Applied Linguistics and Second Language Acquisition. I am writing to kindly request your consent for conducting data collection for my master's degree research project at Chengdu Jiexiang Foreign Language School (Pidu Branch). The data collected will contribute to the completion of a thesis as part of my degree programme. As a former student who graduated from there, I chose that school to potentially carry my study at as it provides a familiar environment for me which can facilitate my research.

The purpose of my study is to analyse the use of English by Chinese adolescent learners in order to understand how adolescents learn English and what they have acquired after many years of instruction. This project can shed light on their learning journey and the challenges they face. As such, this study may have practical implications for English teachers in China, facilitating their understanding of students' needs and leading to an improvement of teaching strategies.

My anticipated participants are Grade-11 students at your school. For this project, I would need to conduct individual sessions with students, each lasting for about 15 mins. The students will be asked to participate in three tasks, all conducted orally. The first one requires students to name some pictures of objects. The second one prompts students to tell a story based on two photos given to them as well as some prompts. In the third one, students will be asked to judge whether the sentences they hear sound well-formed or not. To ensure effective communication about this study with your students before their participation, I will need to give an introductory presentation to the students and collect their written consent. I will also need to record students' oral production for analysis. This will be done under students' informed consent upon your approval for the research. I assure that all information collected will be kept strictly confidential and used for research purposes only. The identities of participants and the school will be protected and remain anonymous in my MSc thesis and any subsequent publication.

I understand the importance of maintaining a smooth learning environment for both students and staff. I am committed to ensuring minimal disruption to the school's routine, and I am happy to cooperate with you to ensure that the research process aligns seamlessly with the school schedule and priorities.

Attached with this email is an information sheet that provides more detailed information of this research. Please do not hesitate to ask me any questions you may have. I would be grateful for the opportunity to meet you and provide more information about the project. I look forward to hearing back from you.

Sincerely,

██████████

University of Oxford

Appendix E

Participant information sheet

[Chinese Adolescents' Learning of English]

PARTICIPANT INFORMATION SHEET

Central University Research Ethics Committee Approval Reference:
[EDUC_C1A_24_075]

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please ask if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

1. Why is this research being conducted?

The data collected will contribute to the completion of a thesis as part of my degree programme in MSc Applied Linguistics and Second Language Acquisition at the University of Oxford. Furthermore, this study aims to investigate the oral production and knowledge of English by Chinese adolescent learners. English is a compulsory subject in the school curriculum of China. The findings of this study hold potential for informing more effective language instruction strategies and curriculum development tailored to the unique needs of Chinese adolescent learners.

2. Why have I been invited to take part?

All Grade 11 students who have been learning English for at least 8 years (presumably starting from Grade 3) are invited to take part in this study. This study aims to understand Chinese adolescents' learning of English at the end of their high school and after several years of instruction.

3. Do I have to take part?

No. It is up to you to decide whether to take part. You are considered as competent youths and are able to make your own decision because of your age. You have the option to withdraw at any time during the test procedure without providing a reason or facing any negative consequences. If you choose to withdraw after completion of your tasks, you have a 14-day window to request the removal of any information you contributed. Upon withdrawal, all data that is relevant to you will be securely deleted. Your contribution will therefore not influence the results of this study and its publication.

4. What will happen to me if I take part in the research?

- The research will take place at your school. You do not need to prepare anything before the meeting session.
- Before taking the tasks, you will need to sign a consent form. This is to state that you have clearly understood details about how your contribution will be used and any risk it involves. You will also have the opportunity to ask any questions.
- With your consent, I would like to audio record you because I need to transcribe accurately the language you provide for further analysis. I ensure you that you will not be identifiable through any data you provide. Data will be presented as group results or as anonymous quotations (only if you give consent for being quoted anonymously). For more information, please read below.
- Your participation will be about 15 minutes. You will participate in three simple language activities such as naming some pictures, narrating a story and judging some sentences. You will need to answer orally.
- You can ask to stop the test at any time or to pause between tasks without giving any reason or facing any negative consequences. Note that if you ask to pause or stop during a task (after the test question is given), you then cannot restart this task because this brings potential risk of over-preparation to this study.
- You can have a 1-minute break between the tasks. However, this is optional for you because the procedure overall is not very long.

5. What are the possible disadvantages and risks in taking part?

I do not think there are disadvantages in taking part. You will practice your English in a safe environment and you will contribute to research. Some of you may feel distressed participating, thinking of it as a testing session. We assure you that this should not be seen as an exam rather than as a meeting session which you are just required to speak in English without anybody judging you.

6. Can I stop during the session or withdraw my data?

You have every right to stop or drop out from the study at any time during the test procedure. The latest time for you to withdraw your data is the 14th day after your completion of the tasks. Upon withdrawal, your data collected will be securely destroyed and not utilised in the study anymore. Please note that withdrawal after 14 days of your participation will not be accepted as this will cause inconvenience to the data management and analysis by the researcher.

7. Are there any benefits in taking part?

While there may be no direct benefits to you from taking part in this research, this research provides you the opportunity to practice your English speaking skills. Group feedback can be given to you later after a thorough analysis, which may help you understand your performance and how to improve your learning strategies.

8. What information will be collected and why is the collection of this information relevant for achieving the research objectives?

I am interested in your knowledge and practical usage of English language. The information you provide will help me better understand Chinese adolescent learners' acquisition of the English language. Your answers to the tests will be audio recorded for transcription and be analysed.

9. How will my data be protected?

Identifiable information, such as your name, will be replaced by number and your voice recordings will be stored under a numerical filename. Your voice recording files will be stored in Nexus 365 for business OneDrive file storage service under my university student account. The researcher, I, and my supervisor will have access to the research data. This will be for research purpose only. Your data will be stored for at least 3 years after completion of this research.

I would like to use this data in future studies. I guarantee you that your data will remain unidentifiable. If you do not wish to assign your data to me for research use in the future and wish your data to be destroyed after a 3-year period, you can skip the respective consent question in the consent form that you will need to sign before taking part in. If you give permission to your data to be used for future publications or new studies on relevant topics, please sign to the corresponding question in the consent form. Your data will then be placed on Depositing data in the Oxford Research Archive (ORA) in an open form with participants' identity remaining anonymous.

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the research. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available from the University's Information Compliance website at <https://compliance.admin.ox.ac.uk/individual-rights>.

10. Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in a thesis. It may also be used for academic publications or conference presentations. You will not be identified through any data in the paper of this study. However, I would like your permission to use direct

quotations in research outputs. Your name will not be included. A copy of my thesis will be deposited both in print and online in the [Oxford University Research Archive](#).

11. Who has reviewed this research?

This research has received ethics approval from the University of Oxford Central University Research Ethics Committee. (Ethics reference: [EDUC_C1A_24_075]).

12. Who do I contact if I have a concern about the research or I wish to complain?

If you have a concern about any aspect of this research, please contact *Xin Liao*, or *Athina Ntalli*, and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, you can contact the Chair of the Department of Education Research Ethics Committee at the University of Oxford at elizabeth.wonnacott@education.ox.ac.uk.

13. Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Thank you for taking the time to read this. I hope you will decide to take part and that you will enjoy the meeting session

Appendix F

Informed consent sheet

Consent to take part in the study [Chinese Adolescents' Learning of English]

Central University Research Ethics Committee (CUREC) approval reference: EDUC_C1A_24_075

Purpose of Study: this study aims to investigate the oral production and knowledge of English by Chinese adolescent learners.

Please initial
each box if you
agree with the
statement

I confirm that I have read and understand the information sheet for the above research. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw at any point (within 14 days after you finish the tasks), without giving any reason.

I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.

I understand I will not be identifiable from any publications in any form.

I consent to being audio recorded.

I understand how audio recordings will be used in research outputs.

[optional] I agree to the use of quotations in research outputs if I am not identifiable.

I understand how to raise a concern or make a complaint.

I agree to take part.

[optional] I allow my contribution to be used to support future publications or be reused in new studies investigating various aspects of adolescents' oral English production.

dd / mm / yyyy

Name of participant

Date

Signature

dd / mm / yyyy

Name of person taking
consent

Date

Signature