國立政治大學英國語文學系碩士班碩士論文

指導教授：鍾曉芳 博士

Advisor：Dr. Siaw-Fong Chung

比較 HAPPEN 與其同義字:

以母語及學習者語料庫為基礎的非賓格存現動詞之研究

Comparing Unaccusative HAPPEN and its Synonyms:

A Study of Existence/appearance Verbs Based on Native Speaker and Learner Corpora

研究生：王亮鈞 撰

Name：Liang-chun Wang

中華民國 100 年 1 月

January, 2011

Comparing Unaccusative HAPPEN and its Synonyms:

A Study of Existence/appearance Verbs Based on Native Speaker and Learner Corpora

A Master Thesis

Presented to

Department of English,

National Chengchi University

In Partial Fulfillment

of the Requirements for the Degree of

Master of Arts

by

Liang-Chun Wang

January, 2011

The members of the Committee approve the thesis of Liang-Chun Wang defended on Jan. 4th , 2011.

Siaw-Fong Chung

Professor Directing Thesis

Chun-Yin Chen

Committee Member

Huei-Ling Lai

Committee Member

Approved:

Chih-hsin Lin, Chair, Department of English

ACKNOWLEDGEMEMTS

For the completion of the thesis, I would like to express my greatest appreciation and gratitude to the following people. Without their assistance and encouragement, accomplishing this thesis would be impossible.

First of all, I would like to show my heartfelt gratitude to my advisor, Professor Siaw-Fong Chung, for her inspiring guidance and invaluable help. She penetrates insights into the issue of corpus-based integration with second language acquisition, which have inspired me persistently and profoundly. I will never forget the first time we together discussed my research topic in her quantitative research course, which was just vivid as things happened yesterday. I would never forget her pleasant and satisfying smile after a rigorous process of revising our paper, which provides me with more critical thinking and builds up my confidence.

Second, I am grateful to the committee members, Professors Doris, Chun-yin Chen and Huei-ling Lai, for their constructive suggestions and feedbacks to make my thesis better. Especially, I thank Prof. Chen because her informative speech in National Chungcheng University three years ago triggered my interest in the issues of interlanguage in second language acquisition. I also thank her to spend time discussing problems and issues related to my research methods. In addition, I would also show my greatest gratitude to Prof. Lai for continuous assistance and encouragement since she was the chair of English Department. Her constant care and timely help for my conference presentations and thesis always give me the courage to realize my dream of exchanging views with the world. Other than my advisor and committee members, I would also thank Professors Hin-tat Cheung and Zhao-Ming Gao for offering me invaluable comments on my theoretical framework of my thesis,

which broadens my horizons of research. I would also thank the entire faculty at the TESOL MA Program of the English Department, National Chengchi University, for their abundant teaching through these three years in which I absorb my professional knowledge of applied linguistics and language teaching.

I would also thank Language Training & Teaching Center as well as Foreign Language and Literature College of National Chengchi University for the invaluable learner corpora resources. Without their facilities and financial support, I would impossibly conduct my project. Additionally, I thank National Science Council for the travel grants of my international conference presentations related to my thesis topic. My deepest gratitude also goes to the students and teachers in Taipei Municipal Wan Fang Senior High School, National Taipei University of Science and Technology, and National Chengchi University. With their cooperation, I could accomplish my mater thesis.

I would also express my sincere thanks to my classmates at Chengchi University, Jeremy Chen, Rachel Tseng, Mandy Huang, and Emily Hung. Additionally, my special appreciation goes to my fellow friends in the NCCU bike club, Grace Kao, Samsan Chan, Emily Lai, and Yi-Hsiang Wang, as well as other supportive friends, Ching Ho Lo, Valcan Ke, and Yi-yuan Chen. With their friendship and company, I never feel lonely during my completion of the thesis.

Lastly, I am really blessed to have my dearest parents, Wen-yi Wang and Chin-Mien Yang, and my lovely sister, Katherine Wang. I am grateful for their unconditional love, patience, and understanding. They allowed me to have sufficient freedom to pursue my wildest dream and self-growth.

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碩士論文提要

論文名稱:比較 HAPPEN 與其同義字: 以母語及學習者語料庫為基礎的非賓格存現動詞之研究

指導教授：鍾曉芳 博士

研究生：王亮鈞

論文提要內容：

本研究,基於分辨非賓存現動詞及瞭解二語學習者如何讓習得此類動詞之需求，旨在分析一個高頻率之非賓格存現動詞 HAPPEN 與其三個同義字(OCCUR，APPEAR，與 EXIST)和中文同義字「發生」從語言使用者角度作比較。採用了母語語料庫 (英文採用英國國家語料庫 BNC；中文採用十億詞語料庫 GW 2.0)及學習者語料庫(含語言訓練與測驗中心學習者語料庫 the LTTC，國際英語學習者語料庫 the ICLE，及政治大學外語學習者語料庫 the NCCU)作為第一部分的語料庫分析。此外，為了探索二語英文錯誤及母語中文遷移的關係，我們也進行了以語料庫為基礎的心理語言學實驗(兩個關於中英文 HAPPEN 句子結構的接受度判斷測驗)。

本研究結果發現，其一，就語料庫中的文法形式(Grammatical form)來分析 HAPPEN、OCCUR、APPEAR 與 EXIST，英文母語語料庫中的高頻文法形式(例如：*happened* 或 *happen*)與學習者語料庫中有相同的現象。然而大部份的高頻文法形式都是二語學習者經常誤用之處，且容易與兩個常見非賓動詞錯誤—過度被動化錯誤(Overpassivization)和及物化錯誤(Transitivization)—共現

(Collocated)。其二，從語料庫錯誤分析各種錯誤類型得知， HAPPEN 與 OCCUR 較常出現過度被動化錯誤；APPEAR 與 EXIST 較常有及物化錯誤。此結果顯示每個非賓存現動詞可能會犯不同錯誤，也因此造成其錯誤的原因有所不同。其三，從分析心理語言實驗結果得知，我們發現母語中文文法句型(L1 Chinese grammatical patterns)，例如：「V-了」—「出現了」；抑或是「V+N」—「發生車禍」、「發生戰爭」、「存在缺失」，都影響了二語學習者對英文非賓動詞之文法形式的正確判定。由此揭示了母語中文大多都對二語英文非賓動詞習得有所干擾。

基於所得結果，我們提出「完成體」(Perfectivity)及「及物性」(Transitivity)之不同來探討中英文間存現動詞用法之異同，並試著解釋造成二語非賓動詞學習複雜化的原因。

此研究克服了過去文獻中比較非賓存現動詞之困難也透過語料庫結合心理實驗研究法提供對非賓動詞習得之解釋方法。這些發現可進一步作為詮釋非賓動詞的假說，並將其應用於語言教材設計或被視為未來跨語言分析研究之基石。

關鍵字：第二語言習得、BNC 英文母語語料庫、HAPPEN、學習者語料庫、非賓存現動詞

English Abstract

Owing to the necessity to identify unaccusative existence/appearance verbs and realize how they are acquired by L2 learners, this present thesis aims to analyze a highly frequent English unaccusative verb HAPPEN and compare it with its three other synonyms (OCCUR, APPEAR, and EXIST), as well as its Chinese counterpart *發生 fāshēn* 'happen.' Native speaker corpora (the British National Corpus (BNC) for English and Chinese Gigaword 2 Corpus (GW 2.0) for the Chinese), and L2 learner corpora (the Language Training and Testing Learner Corpus (the LTTC), International Corpus of Learner English 2.0 (the ICLE), and the National Chengchi University Foreign Language Learner Corpus (the NCCU)) are utilized to analyze the unaccusative verbs in the first main section. In addition, in order to discover the relationship between L2 English errors and L1 Chinese transfer, psycholinguistic experiments (two acceptability judgments tasks with comparable Chinese and English HAPPEN sentence constructions) based on the corpora data were conducted in this thesis.

The results in this thesis showed that, first, the highly frequent grammatical forms of unaccusative verbs (e.g., *happened* or *happen*) in the English native speaker corpus share some similarities with those of L2 learner corpora. However, these grammatical forms were usually misused by L2 learners and were frequently collocated with the two common unaccusative errors (overpassivization, e.g., **What is happened?* and trasitivization, e.g., **I happen a car accident.*). Second, as for the distributions of unaccusative error types, HAPPEN and OCCUR were found to mainly co-occur with overpassivization errors, whereas APPEAR and EXIST were found to mainly co-occur with transitivization errors. This indicates that each unaccusative verb may have different potential for L2 unaccusative errors, and

therefore the causes of these errors with different verbs may vary. Third, from the analysis of psycholinguistic experiments, we discover that the L1 Chinese grammatical patterns, such as the V-*le* grammatical pattern (e.g., *出現了 chūxiànle* 'appear-le') and the V+N grammatical pattern (e.g., *發生車禍 fāshēngchēhuò* 'The car accident happened', *發生戰爭 fāshēngzhànzhēng* 'The war occurred', and *存在缺失 cúnzàiquēshī* 'The pitfalls existed') may influence L2 learners' correct judgment as to the grammatical forms of unaccusative verbs. This reveals that generally L1 Chinese might have some interference with L2 unaccusative acquisition.

Based on the results, we proposed that the perfectivity and transitivity differences between English and Chinese unaccusative existence/appearance verbs could distinguish the uses among the English HAPPEN and the Chinese *發生 fāshēn* 'happen' with their synonyms. These differences could also provide a possible reason for the cause of the problematic L2 unaccusative acquisition.

This thesis overcomes the difficulties of comparing unaccusative existence/appearance verbs in the previous studies and attempts to unravel the enigma of acquiring this verb type from the integrated corpus-based and empirical findings. These findings in turn serve as the suggested assumptions to interpret unaccusative verbs, which can be applied to the design of language teaching materials or can be viewed as the basis of cross-language analysis in the future studies.

Keywords: second language acquisition, BNC, HAPPEN, learner corpora, unaccusative existence/appearance verbs

CHAPTER 1

INTRODUCTION

1.1 Background and Motivation of the Study

Understanding and identifying the differences among verbs with closely related meanings is of importance in language acquisition, including first language acquisition (FLA) and second language acquisition (SLA), specifically for unaccusative verbs. Unaccusative existence/appearance verbs are a subcategory of unaccusative verbs (e.g., *happen*, *occur*, *appear*, or *exist*), belonging to a type of intransitive verbs. Perlmutter (1978) first proposed a syntactic hypothesis regarding unaccusative verbs which possess a simple syntactic structure (NP+V) but involve complicated internal elements to cause language misuses, such as thematic roles (e.g., an AGENT or a THEME thematic role is possibly mapped onto the subject of the sentence). This hypothesis was later noticed in recent studies (Liu, 2000; Wu & Liu, 2002; Zhang, 2006).

Before discussing unaccusative verbs, we first present in Table 1.1 the four types of verb structures in English.

TABLE 1.1 Accusative, Ergative, Unaccussative, and Unergative Verbs

Verb Types	Syntactic Structures	Examples
Accusative verbs	Transitive— NP + V+ NP Intransitive— NP + V	*eat*, *see*, *win* in English a. *I won the award*. b. *I won in the speech contest*.
Ergative verbs (Alternating unaccusative verbs)	Transitive— NP + V+ NP Intransitive— NP + V	*break*, *melt*, *fly* in English **c. *I broke the window.*** **d. *The window broke.***

Unaccusative verbs (Non-alternating unaccusative verbs)	Intransitive— NP + V	*happen*, *die*, *fall*, *arrive* in English e. *He has arrived*. f. *The leaf fell*.
Unergative verbs	Intransitive— NP + V	*talk*, *laugh*, *run* in English g. *The mother talked with me*. h. *He laughed*.

As can be seen in Table 1.1, there are four types of verbs with different syntactic structures. As for accusative and ergative verbs, they can be either transitive or intransitive, while ergative verbs possess an object (*the window* in 1.1c) in the transitive structure which serves as the subject in the intransitive one (1.1d). On the other hand, regarding the unaccusative and unergative verbs, both possess intransitive structures yet with different 'volition control', referring to the willingness to do the action or to receive the action of the subject. These differences will be emphasized in detail in Chapter Two.

Many studies (Balcon, 1997; Yip 1990, 1995; Yuan, 1999; Oshita 2000, 2001; Yu, 2002; Hirakawa, 2001; Ju, 2000; Juffs, 1998; Chen, 2006; Park & Lakshmanan, 2007; Lozano & Mendikoetxea, 2008; Shan & Yuan, 2008) have pointed out the difficulty to acquire unaccusative verbs in a second language (L2). From the findings of these previous studies, unaccusative existence/appearance verbs, with only a single noun (Noun + Verb) in a sentence, remain an unstable 'all or nothing' (Liu, 2000: 2) acquired result. The 'all or nothing' acquired result here indicates that L2 learners seem to completely acquire the L2 unaccusative existence/appearance verbs but tend to frequently make some common errors. Two common errors of unaccusative verbs are the overpassivization errors (Kondo, 2005) (e.g., **The unforgettable experience was happened.*) and the transitivization errors (or postverbal subject, e.g., **The*

shortage of fuels occurred the need for economical engine. (Ju, 2000:89)).[1]

However, to take the overpassivization error type as an example, neither L1 Mandarin Chinese, such as **事情**被**發生 *Shìqíng**bèi**fāshēng* '*The thing **is** happened' (from *事情發生 Shìqíngfāshēng* 'The thing happened'), nor L2 English, such as **The unforgettable experience **was** happened.* (from *The unforgettable experience happened.*), is grammatical in these two languages respectively. For this reason, the cause for Chinese L2 learners to produce the erroneous sentences in L2 English unaccusative existence/appearance verbs may not be simply due to their L1 Chinese or L2 English. Hence, decoding the enigma of the frequent unaccusative errors in acquiring L2 has been investigated through syntactic structure (Zobl, 1989; Yip, 1995; Oshita, 2000, 2001; Kuno & Takami, 2004), thematic roles (Burzio, 1981, 1986; Zobl, 1989; Nakano, Sugino, Ohba, Yamakawa, & Shimizu, 2005; Park & Lakshmanan, 2007), and the causative alternation (Levin & Rappaport Hovav, 1995; Balcom, 1997). Each of these will be elaborated in Chapter Two.

Other previous studies (e.g., Sorace, 2000) pointed out the use of the two perfective auxiliary selections (HAVE versus BE) to distinguish unergative and unaccusative verbs in most Romance and Germanic languages. However, these auxiliary selections (HAVE versus BE) can hardly be applied to the unaccusative verbs of other languages, such as Chinese. Liu (2007) attempted to answer this question. She proposed that the perfectivity in Chinese would be different from that of Romance and Germanic languages. The two perfective auxiliaries in Chinese – *著 –zhe* versus *–了 –le* represent the imperfective versus perfective aspects respectively, and these two auxiliaries are usually attached to verbs (e.g., *發生著 fāshēngzhe* 'happen-zhe' to display the ongoing event or the imperfective state of the

[1] The 'tranisitivization' terms could be used as the general phrases to refer to verb structures with an object following the verbs. However, in this thesis, it serves as the terms to indicate an error type of unaccusative verbs.

event).[2] These Chinese perfective features (perfective versus imperfective) differ from those of the Romance and Germanic languages (unergative versus unaccusative). A recent study by Laws and Yuan (2010) followed Liu's framework yet changed the term 'perfective auxiliaries' into 'perfective particles.' In their study, the perfective auxiliary selections with locative structures of unaccusative verbs are emphasized (e.g., *學校裡**來了**一個學生 xuéxiàolǐ**lái le**yīgèxuéshēng* 'At the school **arrived** a student' (Laws & Yuan, 2010:229)). However, distinguishing the unaccusative verbs with the same concept yet in different languages (e.g., HAPPEN in English versus ***發生** fāshēng* 'happen' in Chinese) and realizing the relation between L2 unaccusative existence/appearance verbs and Chinese perfectivity have been rarely discussed in previous studies.

On the other hand, the methods to investigate the causes and relationship among the unaccusative errors in L1 and L2 have been debated in the studies of SLA. Some studies adopted psycholinguistic experiments, including acceptability or grammatical judgment tasks, in empirical studies (e.g., Keller & Sorace, 2003; Cai, 1998; Hirakawa, 2001; Laws & Yuan, 2010). Others (e.g., Montrul, 1999) utilized picture judgment tasks, while still others (e.g., Oshita, 2000; Lozano & Mendikoetxea, 2008) adopted a corpus-based approach. In recent corpus-based studies (Wang, Y.-J., 2008; Fu, 2007; Wang & Chung, 2009; Wang & Chung, 2010), a lexical semantic approach has been adopted, focusing on one or two unaccusative existence/appearance verbs with closely related meanings, and these studies aimed to analyze the verb collocation. However, this thesis suggests that an integrated approach combining corpora analysis

[2] Most linguistic scholars (e.g., Huang, 2004; Li, Lin, & Chen, 2005; Laws & Yuan, 2010) preferred to use other terms to infer *–著 –zhe* versus *–了 –le*. Huang (2004) used the perfective marker *–了 –le* and the durative marker *–著 –zhe* to refer to these two Chinese characters, while Li et al. (2005) uses aspect markers to represent *–著 –zhe* and *–了 –le*. Laws and Yuan (2010) replaced the 'perfective auxiliaries' with 'perfective particles.' In this thesis, we choose perfective auxiliaries to stand for *–著 –zhe* and *–了 –le* for the convenience of comparison with the perfective auxiliaries HAVE and BE in western languages.

with empirical psycholinguistic experiments (the acceptability judgment tasks) will help display the use of the unaccusative verbs by native speakers and L2 learners of English (Gilquin & Gries, 2009).

1.2 Significance of the Study

From the previous studies, to solve the problems of distinguishing unaccusative existence/appearance verbs and provide possible explanations for the difficulty of acquiring unaccusative existence/appearance verbs would be of vital significance in language acquisition. The present study intends to take a syntactic-semantic and quantitative approach, including corpora analysis and psycholinguistic experiments so as to distinguish two unaccusative existence/appearance verbs (HAPPEN in English and *發生 fāshēng* 'happen' in Chinese) with their synonyms (OCCUR, APPEAR and EXIST in English; *出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist' in Chinese) through understanding different uses of those unaccusative existence/appearance verbs by native speakers and L2 learners. This approach of distinguishing unaccusative existence/appearance verbs would make clear the elemental differences of each verb meaning from users' perspectives and practical usages. With quantitative calculation, the distinctions of HAPPEN and *發生 fāshēng* 'happen' with their synonyms can be more objective and precise. As for the corpora, native speaker corpora and learner corpora are adopted, which are listed in the examples in (1).

(1)

a. English native speaker corpus—British National Corpus (BNC) with approximately 100 million words
b. Chinese native speaker corpus—Chinese Gigaword 2 Corpus (GW 2.0) with

nearly 455 million words for L1 Mandarin Chinese

c. L2 English learner corpora

i. the Language Training and Testing Learner Corpus (the LTTC) with 262,178 words (to date)

ii. International Corpus of Learner English 2.0 (the ICLE) with 3,753,030 words

iii. the National Chengchi University Foreign Language Learner Corpus (the NCCU) retrieved on Jan, 2010 with 204,945 words corpora (to date)

As shown in examples (1), we utilized the English and Chinese native speaker corpora, along with L2 English learner corpora. The corpora analysis attempts to compare the similar and different uses of unaccusative existence/appearance verbs between L1 and L2, which will be detailedly introduced in Chapter Three.

Moreover, the psycholinguistic experiments in this thesis constitute two acceptability judgment tasks based on the corpora. Between corpora analysis and psycholinguistic experiments, frequent grammatical form ratings (*to-V*, *V-ed*, *V-base*, *V-s*, and *V-ing*) and the change of these grammatical form ratings by L2 learners will serve as the basis to compare the influence of L2 English or the possible transfer from L1 Chinese.

The significance of the present thesis is its focus on a specific unaccusative existence/appearance verb HAPPEN which is compared to in terms of similarities and differences three other synonyms (OCCUR, APPEAR, and EXIST).[3] Moreover, the Chinese counterparts of the four English verbs (*發生 fāshēng* 'happen', *出現 chūxiàn* 'appear', and *存在 cúnzài* 'exist') will also be analyzed through using

[3] The capitalized verbs, such as HAPPEN, refer to the four main verbs in this study to contrast the different grammatical forms of the four verbs, such as *happen, happened, happening,* and *happens*.

corpora for the comparison in English and for the stimuli designed for the psycholinguistic experiments.

In addition, two important issues of acquiring the unaccusative existence/appearance verbs are also investigated in the thesis. One is the puzzle whether L2 learners have different degrees of learning difficulty between writing production and their response to L2 acceptability judgment tasks. The other is to find out the possible reasons from L1 Chinese transfer or L2 English influence (e.g., the missing of the third person singular *V-s* by L2 English, e.g., **She **speak** English well.*). These two issues will be examined through the two corpus-based designed acceptability judgment tasks in the psycholinguistic experiements to bridge the gap found in the previous related studies of the unaccusative existence/appearance verbs so as to shed some light on language education.

Based on the research scope of the study, the research questions bellow will be addressed:

(1) How do corpora and psycholinguistic experiments help distinguish unaccusative existence/appearance verbs?
(2) How do the learners' L1 and L2 affect their acquisition of unaccusative existence/appearance verbs?

This thesis will be arranged in the following chapters: In Chapter Two, the important issues of unaccusative existence/appearance verbs in most previous studies, such as L2 English (syntactic structure, thematic roles, and causative alternations) and L1 Chinese distinctions (lexical-semantic grammatical patterns) of this verb type, will be discussed. The gap in the literature will be pointed out in the present thesis as well.

Chapter Three will focus on Study I—the corpora analysis. We will first introduce the methodology of the corpora analysis, including the native speaker corpora of both L1 Chinese and L2 English and the three learner corpora of L2 English. Then we will present the result of the corpora analysis, including L1 Chinese grammatical patterns of unaccusative verbs, L2 English grammatical form distributions of HAPPEN, OCCUR, APPEAR, and EXIST, comparison of both native speaker corpora and learner corpora, as well as error analysis and categories of learner corpora. However, some issue of unaccusative existence/appearance verbs concerning language acquisition, particularly for L2 acquisition, such as L2 English syntactic structure, the age of L2 learners, and L1 Chinese transfer to L2 English, could not be directly analyzed through corpora analysis.

For this reason, Chapter Four will display Study II—the psycholinguistic experiments to examine the relation between the unaccusative existence/appearance verbs and the acquisition of this verb type. The methodology of conducting the psycholinguistic experiments will be introduced, and the result of the psycholinguistic experiments will be shown to find out the possible cause of the difficulty in acquiring L2 English unaccusative verbs (HAPPEN, OCCUR, APPEAR, and EXIST) through L2 English syntactic structures and L1 Chinese grammatical patterns.

Chapter Five will discuss the findings from both corpora analysis and psycholinguistic experiments and compare the findings with those of the previous studies. We would like to see whether there are some new findings different from other previous studies or some similar patterns which could be generalized to be the stronger evidence for the L1 transfer or L2 influence on the acquisition of unaccusative existence/appearance verbs. Additionally, in Chapter Six, the conclusion of this thesis will be made along with some limitations in this thesis. The results of

this thesis will also provide some pedagogical implications for learning L2 unaccusative existence/appearance verbs as well as some suggestions for further studies.

CHAPTER 2
LITERATURE REVIEW

The thesis aims to conduct a research among the four unaccusative existence/appearance verbs (HAPPEN, OCCUR, APPEAR, and EXIST) and compare them with their Chinense counterparts (*發生 fāshēng* 'happen', *出現 chūxiàn* 'appear', and *存在 cúnzài* 'exist') via native speaker and learner corpora. This chapter will review the previous studies from five main related aspects: L2 English syntactic differentiation of these unaccusative existence/appearance verbs (2.1), perfectivity (focusing on learners' L2 English and L1 Chinese) (2.2), lexical semantics-based and corpus-based comparison (L1 Chinese) (2.3), errors analyses in SLA (2.4), and gaps of previous research (2.5).

2.1 L2 English Syntactic Differentiation of Unaccusative Existence/appearance Verbs

In this section, unaccusative existence/appearance verbs will be reviewed from syntactic structures, thematic roles, and causative alternations based on L2 English syntactic structures (transitive versus intransitive structures).

2.1.1 Syntactic Structures of Unaccusative Existence/appearance Verbs

Many scholars have proposed to investigate the syntactic structures of unaccusative verbs. Even though unaccusative verbs are categorized as the intransitive verbs, the subcategories of these verbs may vary as transitive alterations. Some subcategories, such as unaccusative existence/appearance verbs, are divided into the intransitive verbs with transitive alternations (*break* or *melt*, e.g., *The snow*

melted.→*The sun* ***melted the snow***.) or the intransitive verbs without transitive alternations (*happen* or *appear*, e.g., *An accident happened.*→**It* ***happened an accident***.), which has long been one of the most important issues in previous studies of second language acquisition (SLA) in English (Zobl, 1989; Yip, 1995; Oshita, 2000, 2001), Italian (Sorace, 2000), Chinese (Yuan, 1999), or Japanese (Hirakawa, 2001). To point out the complexity of unaccusative verbs, most scholars usually discussed the comparison of the intransitive verbs between the unergative and unaccusative verbs. For instance, Perlmutter (1978) first proposed a syntactic hypothesis of unaccusative verbs to discuss the differences between unergative verbs versus unaccusative verbs. The author noted that there were two main categories of intransitive verbs shown in (1). The two structures in (1) were called 'split intransitivity' developed by Burzio (1986).

(1)

a. __ [$_{vp}$ V NP] unaccusativity e.g., *[Mary $_i$ [vp arrived $_{ti}$]]*

b.NP[$_{vp}$ V___] unergativity e.g., *[Mary $_i$ [vp laughed]]*

(Shan & Yuan, 2008: 165)

As can be seen in (1) given by Shan and Yuan (2008), though the syntactic structures of both unaccusative verb (1a) and unergative verb (1b) take only one argument as their subject (i.e. *Mary*), the traces of the arguments in (1a) and (1b) are different.[4] In (1a), the argument *Mary* should be traced to the post position of the unaccusative verb *arrived* (*arrived Mary* → *Mary arrived*), while, in (1b), *Mary* is

[4] The traces of the arguments in sentences here refer to the movement of the syntactic positions of these arguments in sentences. For instance, the trace of *The leaf fell*. is from *fell* ***The leaf***. to ***The leaf*** *fell*.

fixed at the previous position of the unergative verb *laughed* without any syntactic movement.

Concerning the transitive alternations of unaccusative verbs, they vary with the verb meanings and the arguments selected by them. Two main subtypes of the unaccusative verbs can be categorized based on the transitive alternations into alternating unaccusative verbs, (or 'ergative verbs' by Yip, 1995; Zobl, 1989; Kuno & Takami, 2004), such as *open, break, melt, roll,* or *stop*, and non-alternating unaccusative verbs, such as *arrive, happen, exist*, or *die*. Examples in (2) below show the differences of these two types of unaccusative verbs.

(2)

a. *Jay **opened** the window.*

b. *The window **opened**.*

c. *The window is **opened** (by the man).*

d. **The car **happened** the accident.*

e. *The car accident **happened**.*

f. **The car accident is **happened**.*

As can be seen in (2), sentences (2a), (2b), and (2c) represent the three possible alternations of the alternating unaccusative verb *open*. Example (2a) is the transitive alternation, while (2b) is an intransitive one. For (2c), the alternation is that of a passive one (NP+be-V) with an optional phrase *by*+NP, which indicates the optional agent of the sentence doing the action. However, as for (2e), the non-alternating unaccusative verb *happen* can only allow the intransitive alternation but not the transitive (2d) and passive (2f) ones. Therefore, for non-alternating unaccusative

verbs, the transitivized patterns or passivized ones are ungrammatical in terms of the syntactic structure.

On the other hand, Perlmutter (1978) also pointed out that the 'predicates' of the sentence (i.e. the core meaning of verbs describing the actions or the states in a sentence) will determine the meanings of unaccusative clauses. Among all types of non-alternating unaccusative verbs, the unaccusative existence/appearance verbs can be further categorized into 'the predicates of existing and happening', such as *exist, happen, occur, take place, show up, disappear, vanish*, etc.

(3)

a.*The car accident* ***happened***.

b.*Belief in magic still* ***exists***.

c.*The child has* ***disappeared***.

Most of the unaccusative existence/appearance verbs have no transitivized and passivized patterns to express the state or the existence of the subjects in sentences as shown in (3) above. This point inspires later studies (e.g., Levin & Rappaport Hovav, 1995; Tang, 2005; Zhang, 2006) to shift their focus to whether all of the unaccusative existence/appearance verbs contain the features of non-alternating unaccusative verbs as discussed previously. For instance, from Tang's (2005) analysis, any verb type can become 'temporary non-alternating unaccusative verbs' within the locative existential syntactic structure, such as *In the park* ***walked*** *John's father*, in which the unergative verb *walk* takes the unaccusativity within the locative existential syntactic structure (*In the park*+V+NP). While syntactic structures alone may be vague in identifying the features of the unaccusative existence/appearance verbs, the thematic roles were latter

proposed to have profound classification of the unaccusative verbs as illustrated in section 2.1.2.

2.1.2 Thematic Roles of Unaccusative Existence/appearance Verbs

Some studies (Burzio, 1981, 1986; Zobl, 1989; Nakano et al., 2005; Park & Lakshmanan, 2007) assumed that thematic roles may provide more apparent features in the arguments of the verbs to distinguish alternating and non-alternating unaccusative verbs. From example (4) to follow, four sentences with different grammatical roles and thematic roles are shown. The examples indicate that even the grammatical roles are the same in two sentences (e.g., (4b) and (4d)), the thematic roles might be different.

(4)

a. Transitive alternation of alternating unaccusative:

John broke *the window*.

Subject Direct object (Grammatical roles)

<AGENT> *<THEME>* (Thematic roles)

b. Intransitive alternation of alternating unaccusative:

The window broke.

Subject **(Grammatical roles)**

< *THEME* > **(Thematic roles)**

c. Intransitive alternation of non-alternating unaccusative:

The car accident happened.

Subject **(Grammatical roles)**

< *THEME* > **(Thematic roles)**

d. Intransitive alternation of unergative:

John laughed.

Subject (Grammatical roles)

< AGENT > (Thematic roles)

(Park & Lakshmanan, 2007: 329)

Though all of the three sentences in (4b), (4c), and (4d) are intransitive, (4b) as well as (4c) are unaccustaive verbs and (4d), however, is an unergative verb. Moreover, the most distinctive feature among (4b), (4c), and (4d) is also the thematic role of the sentence subjects (*the window*, *the car accident*, and *John*). As previously stated, (4a) is a transitive alternation of the alternating unaccusative verbs *broke*, with the subject *John* and direct object *the window*, and the subject takes the thematic role of an *AGENT*. On the other hand, the subjects in (4b) and (4c) take the thematic role of *THEME* (someone or something receiving the action), while (4d) takes the *AGENT* (something or someone doing the action). Therefore, the functions and the co-occurred subjects may be contrasted between unaccusative verbs and unergative verbs.

In addition to the thematic roles, 'volition control' is said to be the key distinctive feature for separative *AGENT* and *THEME* thematic roles. According to Hawkins's (2001) study, the subjects with *AGENT* being combined with unergative verbs, such as *laugh*, *sing*, or *swim*, usually have the will or the volition to do the action. Unlike the subjects with AGENT, those with *THEME* being combined with unaccusative verbs, such as *appear*, *break*, or *happen*, usually accept the unwilled and unvolitional actions. For instance, in (4d), *John*, as a person, has the ability to do the action *laugh*, whereas, in (4c), the action *happen* may not be done by the subject *The car accident*. Rather, the verb *happen* appears to describe the change of the whole event.

From the above examples, we know that the unaccusative existence/appearance verbs (e.g., *happen*) are unaccusative verbs which are also non-alternating. Therefore, the subjects in the verbs are *THEME* subjects with no volition, and the sentence permits no transitive pattern. However, one problem still remains in differentiating the

unaccusative existence/appearance verbs from other alternating unaccusative verbs in intransitive alternations. For these alternating unaccusative verbs (e.g., *break*), they have the intransitive pattern as in (4b), which may make it similar to that of the unaccusative existence/appearance verbs as in (4c). This problem causes the syntactic structure and thematic role of the two sentences to become indistinctive. Therefore, a possible solution to this is to discuss the causative alternations which will be introduced in the section below.

2.1.3 Causative Alternations of Unaccusative Existence/appearance Verbs

In order to provide alternative perspectives on unaccusative existence/appearance verbs, other scholars (e.g., Levin, 1986; Levin & Rappaport Hovav, 1995; Balcom, 1997) have come to the realization that the causative alternations could be applied to identify these verb types and discover some causative features within the lexicon itself. Compared to the differentiations based on the syntactic structures (section 2.1.1 previously) and the thematic roles (section 2.1.2 previously), the causative alternations can not only distinguish the alternating (e.g., *break* or *open*) and the non-alternating unaccusative verbs (e.g., *happen* or *appear*), but also provide the detailed comparison of causes within verbs of existence (e.g., *exist*) versus verbs of appearance/occurrence (e.g., *happen*, *occur*, and *appear*). Two representations within the causative alternations are included: one is Lexical Semantic Representation (LSR) referring to the lexical semantic features of the verbs, and the other is Argument Structure Representation (ASR) referring to the semantic features reflected in syntactic arguments within the verbs. Levin and Rappaport Hovav (1995) used both LSR and ASR to analyze the causes among the unaccusative verbs. According to their research, each verb consists of these two representations. For LSR,

it contains variables (x, y, or z) within brackets to form an internal or external cause for the verb meanings. The lexical binding linking rules serve as the mechanism to create a syntactic relation associated with the LSR, which can make the lexical meaning of verbs projected to ASR.

Examples in (5) from Balcom (1997) are the application of the causative alternations to show the differences among unaccusative verbs with or without transitive alternations. From these examples in (5), we can first see the different causative alternation structures between alternating (e.g., *break* or *open*) in (5a) and non-alternating unaccusative verbs (e.g., *happen* or *fall*) in (5b).

(5)

a. Unaccusative with Transitive Alternations (e.g., *break* or *open*)

LSR	[[x DO-SOMETHING] CAUSE	[y BECOME STATE]]
Lexical Binding Linking Rules	↓	↓
ASR	Ø	<y>

b. Unaccusative with no Transitive Alternations (e.g., *happen* or *fall*)

LSR	[y BE/BECOME AT	z]	
Lexical Binding Linking Rules	↓	↓	
ASR	<y>		Ploc<z>

(*Ploc referring to the locative prepositional phrases)

(Balcom, 1997: 7)

The difference between (5a) and (5b) is that alternating unaccusative verbs (5a) with transitive alternations possess an external cause [x DO-SOMETHING], equivalent to the *AGENT* of the previous sentence (4a), and an internal cause [y BECOME STATE], corresponding to the *THEME* of the previous sentence (4a) in their LSR. This means that thematic roles and causative alternations can be

overlapping and supplementary when interpreting the same verbs. Then, through the lexical binding linking rules in (5a), the external cause of the alternating unaccusative verbs cannot be projected to ASR (x→ Ø). On the contrary, the non-alternating unaccusative verbs (4b, e.g., *happen* or *fall*) only possess two internal causes [y BE/BECOME AT z] (*THEME* and *LOCATION*) without the external causes at any level. Additionally, through the projection to ASR, these two internal causes still remain in the causative alternation structures in (5b).

The next step is to see the further differentication of the unaccusative existence/appearance verbs. From Levin and Rappaport Hovav (1995) as well as Wu and Liu (2002), they divided the unaccusative existence/appearance verbs into the two: verbs of existence in (6) and verbs of appearance/occurrence in (7).

(6)Verbs of existence (e.g., *exist*)
LSR: [y **BE** (Ploc z)]
(7)Verbs of appearance/occurrence (e.g., *happen*, *occur*, and *appear*)
LSR: [y **BECOME** (not) (Ploc z)]
(*Ploc referring to the locative prepositional phrases)

As previously mentioned, both of the two are included in non-alternating unaccusative verbs, and thus they have only two internal causes [y BE/BECOME AT z] (*THEME* and *LOCATION*). Although the LSR structure of existence verbs ([y BE (Ploc z)] (for *exist*) and that of appearance/occurrence verbs [y BECOME (not) (Ploc z)]) (for *happen*, *occur*, and *appear*) are different, when they are projected to ASR through the lexical binding linking rule, they become indistinctive as in (8).

(8)

LSR: [y BE (Ploc z)]

LSR: [y BECOME (not) (Ploc z)]

Lexical Binding ↓

Linking Rule

ASR <y> Ploc<z>

e.g.,

a. *The dinosaurs **existed** on the earth.*

b. *The car accident **happened** on the freeway.*

c. *The war **occurred** in Iraq.*

d. *The student **appeared** in the classroom.*

(Levin & Rappaport Hovav, 1995: 153)

Both existence and appearance/occurrence verbs become identical in ASR (<y> Ploc<z>). Hence, though the LSR of the two verb types are different, it seems difficult to be identified from the ASR. This indicates that using causative alternation alone cannot entirely distinguish the uses or the meanings of unaccusative existence/appearance verbs, particularly when analyzing two individual appearance/occurrence verbs, such as *happen* versus *appear*. For this reason, other perspectives, such as perfectivity (2.2) and corpous-based approaches (2.3), in differentiating unaccusative existence/appearance verbs will be introduced in the following sections.

2.2 Perfectivity

Aside from using the three L2 English-based syntax aspects (syntactic structures, thematic roles, and causative alternations) to analyze the unaccusative existence/appearance verbs (e.g., *A car accident happened.*) and compare them with unergative verbs (e.g., *John walked.*), perfectivity is an additional feature for analyzing unaccusative verbs.

Many researchers (e.g., Falk, 1984; Sorace, 2000; Keller & Sorace, 2003) proposed to use the two perfective auxiliaries (HAVE versus BE) in the perfective clauses usually co-occurred with either unergative verbs or unaccusative verbs. The

perfective auxiliary HAVE is frequently used with unergative verbs, while the perfective auxiliary BE is frequently used with unaccusative verbs. Sorace (2000) and Keller and Sorace (2003) provided some distinctive examples from German and French to differentiate unergative verbs and unaccusative verbs in (9).

(9)

a. *Die Lehrerin* ***hat*** *dauernd* *geredet*. (German)
'The teacher **has** ontinuously talked.'

b. *Der efangene* ***ist*** *schnell* *entkommen*. (German)
'The prisoner **is** quickly escaped.'

c. *Le livre* ***est/a*** *paru* *récemmrnt*. (French)
'The book **is/has** appeared recently.'

As shown in (9), the first two sentences in German indicate that the unergative verbs (e.g., *geredet* 'talk') incline to co-occur with the perfective auxiliary HAVE, while the unaccusative verbs (e.g., *entkommen* 'escape') tend to co-occur with the perfective auxiliary BE. However, in (9c) in French, it shows that the unaccusative existence/appearance verb (*paru* 'appear') has an optional selection regarding these two auxiliaries. This implies that the two perfective auxiliaries seem to be able to distinguish the uses and meanings between the unegative verbs and unaccusative verbs (*entkommen* 'escape' versus *geredet* 'talk' in German), whereas some existence/appearance verbs might not be further analyzed (e.g., *paru* 'appear' in French).

Another issue is that the perfectivity of modern English and Chinese languages possesses some differences from that of Germanic and Romance languages. In terms of modern English, Klein (2009) provided a clear distinction of sentences related to perfective and imperfective aspects and regarded the time of utterance (TU) as the

basis to decide the perfectivity of a sentence. Some examples are shown in (10).

(10)

	perfective	*imperfective*
before TU	a. Eva slept	b. Eva was sleeping
at TU	c. Eva sleeps	d. Eva was sleeping
after TU	e. Eva will sleep	f. Eva will be sleeping
before TU	**g. Eva has slept**	**h. Eva has been sleeping**

(Klein, 2009: 54)

Sentences in (10) show the contrast between perfective and imperfective clauses. In (10g) and (10h), the perfectivity in English involves two parts: the auxiliary selections (BE for impefective clauses versus HAVE perfective clauses) and the grammatical form choice (*sleeping* for imperfective clauses versus *slept* for perfective clauses). These two parts show the salient differences from the other Germanic and Romance languages due to the fact that both BE and HAVE auxiliaries are only used in perfective clauses in Germanic and Romance languages (cf. examples (9) previously), and the grammatical form choice seems not as consistent as that of modern English.

On the other hand, as for Chinese, some research (e.g., Liu, 2007; Laws & Yuan, 2010) pointed out that the syntax-based perfective auxiliary selection as in Germanic and Romance languages or even in modern English appears less appropriate in analyzing unacussative verbs of Chinese. This might be because the perfectivity of Chinese lacks the choice of the grammatical forms and fewer counterparts of the auxiliary selections in Chinese could directly correspond.

In order to distinguish unaccusative verbs based on Chinese perfectivity, among many, Liu (2007) attempted to propose a Chinese perfective auxiliary selection with the *–著 –zhe* '-imperfective auxiliary' as the imperfective auxiliary versus *–了 –le*

‘-perfective auxiliary’ as the perfective one. As Liu emphasized, unlike other European languages suitable for syntactic analysis, the Chinese language takes semantic analysis into account more. Liu also analyzed the unaccusative verbs with the change of the state, and this subclass includes the verbs of location (e.g., *來 lái* ‘come’) or the verbs of existence/appearance (e.g., *死 sǐ* ‘die’).

(11) a. *田裡* ***來了/*著*** *很多* *人。*
Tiánlǐ ***lái -le/ *-zhe*** *hěnduō* *rén.*
there **come-LE/*-ZHE** many people
‘There came many people.’
(adapted from Liu, 2007: 7)

b.*田裡* ***長了/著*** *很多* *種* *蔬菜。*
Tiánlǐ ***cháng-le/-zhe*** *hěnduō* *zhǒng* *shūcài.*
Field-in **grow-LE/-ZHE** many kind vegetables
‘In the field is growing many kinds of vegetables.’
(adapted from Liu, 2007: 8)

According to the study, the verbs of location (e.g., *來了 lái-le* ‘come-perfective auxiliary’) or the verbs of existence in Chinese (e.g., *死了 sǐ-le* ‘die-perfective auxiliary’ and *長了 cháng-le* ‘grow-perfective auxiliary’) typically select the perfective auxiliary *–了 –le* ‘-perfective auxiliary’ as in (11a). Unless the verbs of the location or the verbs of existence/appearance have no definite endpoint or resultant state, either *–著 –zhe* ‘-imperfective auxiliary’ or *–了 –le* ‘-perfective auxiliary’ would be possible as in (11b). This preliminary study of the Chinese auxiliary selections shed some light on the lexical semantic tendency and analysis of perfectivity. Following Liu’s framework of auxiliary selections, Laws and Yuan (2010) conducted an empirical study to distinguish the uses of unaccusative existence/appearance verbs in the locative structures, such as *在橋上**發生了/著**意外*

事故 zàiqiáoshàng ***fāshēng-le/zhe*** *yìwàishìgù* 'On the bridge **happened-le/-zhe** an accident'. However they changed Liu's terms 'perfective auxiliaries' for *–著 –zhe* and *–了 –le* into 'perfective particles.' The authors adopted the sentence acceptability tasks for Chinese native speakers to see whether they accepted the unaccusative verbs with *–著 –zhe* '-imperfective particle' or *–了 –le* '-perfective particle' in locative structures. The result showed that the unaccusative existence/appearance verbs, such as *發生 fāshēng* 'happen' and *出現 chūxiàn* 'appear', tend to be accepted with the perfective particle *–了 –le* '-perfective particle' for Chinese native speakers. However, the other unaccusative existence/appearance verbs with the EXIST concept, such as *有 yǒu* 'exist', was not examined in their study. Additionally, there is little discussion regarding the uses and acceptability from L2 Chinese learners and the effect on L2 English learning brought by L1 Chinese perfectivity. When L2 learners acquire the unaccusative existence/appearance verbs in a second language, they might find it difficult to use those verbs with proper grammatical forms or perfective auxiliaries. This might be owing to the fact that the lexical auxiliaries in Chinese perfectivity (the imperfective auxiliary *–著 -zhe* versus the perfective auxiliary *–了 –le*) would be different from the two parts of perfectivity in English (BE auxiliary + *V-ing* for imperfective clauses versus HAVE auxiliary + *V-ed* for perfective clauses).

Hence, we might wonder, in term of perfectivity, whether the Chinese counterparts of English unaccusative existence/appearance verbs (e.g., *發生 fāshēng* 'happen' of HAPPEN or *出現 chūxiàn* 'appear' of APPEAR) have some transfer on the grammatical form choices.[5] This would be possibly due to L2 English learners of

[5] The transfer here means that some language features in first language, such as the Chinese perfective aspectual auxiliary ***–了 –le***, may sometimes be applied to the use of the second language (e.g., **The car accident is **happened**.*) by L2 language learners.

Chinese associating the Chinese lexical auxiliaries (*–著 –zhe* and *– 了 –le*) with the decision among *V-base*, *V-s*, *V-ing*, and *V-ed* of English verbs. Moreover, for these Chinese counterparts of unaccusative existence/appearance verbs, whether or not Chinese grammatical patterns would also generate L1 Chinese transfer in the previous studies, which will be discussed in the next section.

2.3 Lexical Semantics-based and Corpus-based Differentiation (L1 Chinese)

After reviewing the previous studies as to the three L2 English-based syntactic differentiation (syntactic structures, thematic roles, and causative alternations within transitive versus intransitive alternations) and the additional features of perfectivity across languages, we found that the unaccusative verbs in L2 English and L1 Chinese would probably be different. The previous research on L2 English unaccusative verbs tended to emphasize the ways to distinguish the subclasses among unaccusative verbs (alternating versus non-alternating, such as *The glass broke.* versus *The car accident happened.*) or to compare them with unergative verbs (e.g., *John walked.*) through L2 English intransitive and transitive structures. However, from Liu's (2007) lexical semantic perspective on Chinese auxiliary selections of perfectivity, collocations of unaccusative verbs seem also crucial for Chinese native speakers. Hence, based on this Chinese lexical semantic perfective, we then would stress the corpora applications from the previous studies of unaccusative existence/appearance verbs in L1 Chinese as well as the comparison of unaccusative verbs between L1 Chinese and L2 English.

In order to realize the application of corpora and collocations in unaccusative existence/appearance verbs, some studies could be reviewed as the references for

comparing different verbs. In Wang and Chung (2009), the Chinese perfective auxiliary *–了 –le* in *發生了 fāshēngle* 'happen-le', was found to have some relationship with the overuse of the grammatical form *happened* in one EFL learner corpus (the Language Training and Testing Center Learner Corpus), indicating that the L1 Chinese feature seems to have an effect on L2 English learning.

Tao (2003) applied the Emergent Grammar and corpora to compare the three frequent Chinese unaccussative existence/appearance verbs *出現 chūxiàn* 'appear', *產生 chǎnshēng* 'produce', and *發生 fāshēng* 'happen' via different types of texts in Chinese native speaker corpora.[6] The main findings of this study were that *出現 chūxiàn* 'appear' would be combined with unexpected objects, such as 革命 *gémìng* 'revolution', while *產生 chǎnshēng* 'produce' was usually collocated with abstract ideas or emotional states, e.g., *反感 fǎngǎn* 'dissatisfaction.' The collocations of *發生 fāshēng* 'happen', on the other hand, would co-occur with undesirable qualities, e.g., *戰爭 zhànzhēng* 'war.' From this study, the unaccusative existence/appearance verbs in L1 Chinese lexical items with synonymous meanings (e.g., *出現 chūxiàn* 'appear', *產生 chǎnshēng* 'produce', and *發生 fāshēng* 'happen') appeared to collocate with different types of subjects in sentences. This suggests that to grasp the different uses of the unaccusative verbs for L1 Chinese native speakers is necessary, in that synonymous verbs could be analyzed and realized through the naturally used linguistic texts. With the differences among the verbs, we may also understand the frequent uses and collocations of each verb in L1 Chinese.

Other than Tao's Emergent Grammar analysis on the three L1 Chinese

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[6] Emergent Grammar proposed by Hopper (1987, 1998) is a linguistic theory discussing the relationship between the discourse practice and the shape of human grammar. This grammar theory is associated with the communicative purpose of language uses, such as the pseudo-cleft construction (e.g., *我開的是英文課 Wǒkāidìshìyīngwénke* 'What I open is an English course').

unaccusative existence/appearance verbs, some corpus-based related studies intended to compare the differences between an English verb HAPPEN and its Chinese counterpart *發生 fāshēng* 'happen' from syntactic and semantic properties (Zhang & Liu, 2007; Wang, Y.-J., 2008). This research line centered on comparing one lexical concept across two languages, which revealed some different linguistic uses among languages and the different features of each languages would be transferred mutually when speakers learn an L2. For instance, Zhang and Liu (2007) analyzed HAPPEN and OCCUR in English as well as *發生 fāshēng* 'happen' in Chinese based on the semantic prosody of the collocated subjects in sentences. The semantic prosody refers to the description of the way in which some neutral words can be perceived with positive or negative associations via frequent occurrences with particular collocations. For example, *set in* has a negative prosody and *rot* is a prime example for what is going to *set in* given in Sinclair's (1991) study. The results showed that all of the three verbs possess different features in their collocated subjects. HAPPEN and *發生 fāshēng* 'happen' own negative subjects (e.g. ***A disaster*** *happened*. versus ***犯罪行爲****發生* ***fànzuìxíngwéi****fāshēng* '**Criminal acts** happen'), while OCCUR owns either negative or neutral subjects (e.g., ***Child*** *abuse occurred.* or ***This behavior*** *occurs frequently.*). These findings imply that learning difficulty in acquiring L2 unaccusative existence/appearance verbs would occur due to the differences among the semantic prosody.

A similar claim for L1 Chinese transfer through a corpus-based approach could be also found in Fu (2007) and Wang, Y.-J. (2008). The semantic prosody analysis for HAPPEN and its synonyms were also examined in Fu (2007) and Wang, Y.-J. (2008). Fu discovered that the Chinese counterpart *發生 fāshēng* 'happen' is frequently collocated with a positive subject, such ***巨變****發生* ***jùbiàn****fāshēng* '**The great change**

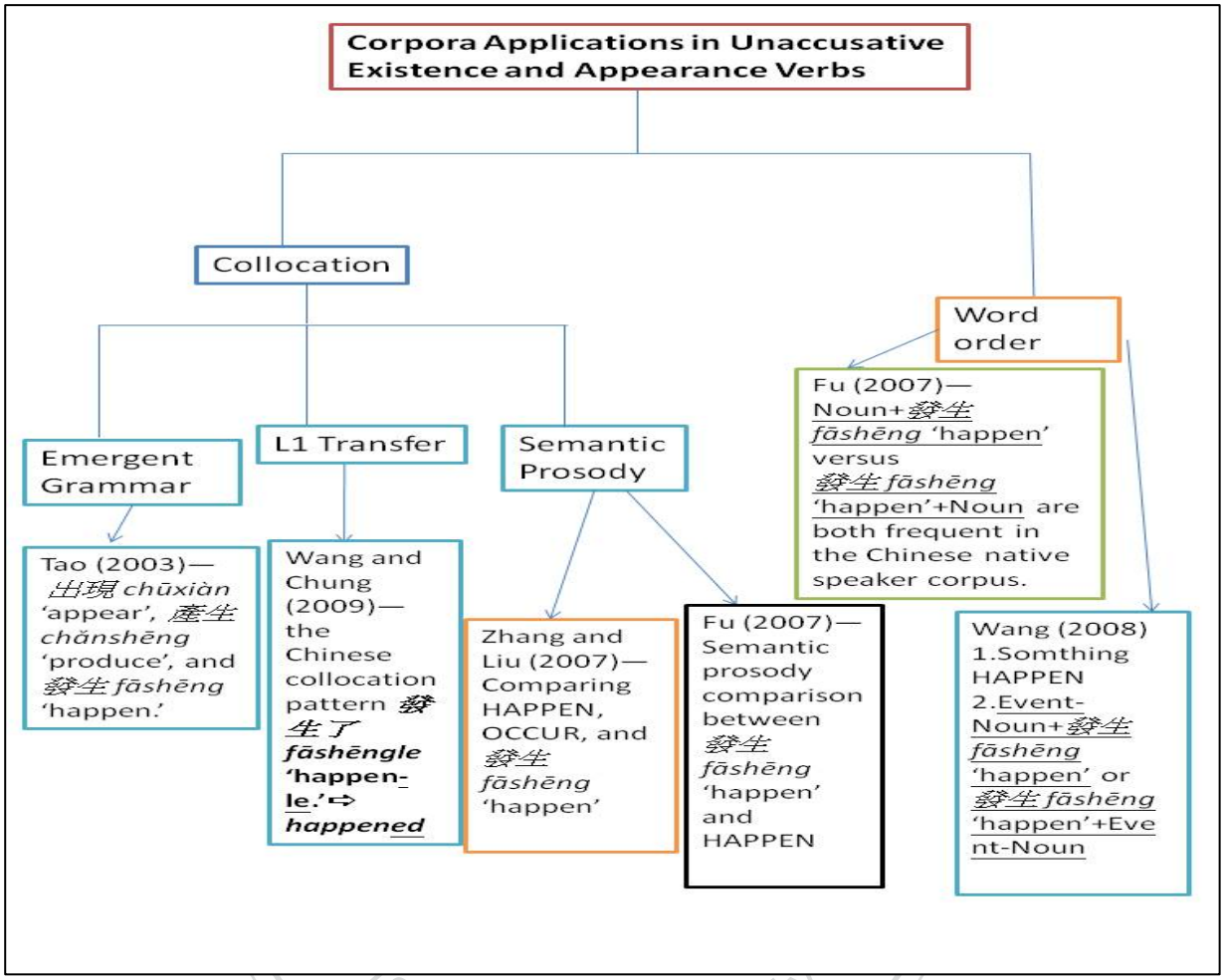
happened' However, HAPPEN is frequently collocated with a negative subject, such as ***The war*** *happened*. Therefore, Fu assumed that the L1 positive semantic prosody of the subject for *發生 fāshēng* 'happen' may probably be transferred to L2 English, which may be the cause of the L2 English misuses, such as ***The great changes*** *have been happened*. (Fu, 2007: 46).

While Fu claimed that HAPPEN and *發生 fāshēng* 'happen' would be frequently combined with the subjects belonging to different semantic prosodies (positive for Chinese and negative for English), yet Wang, Y.-J. (2008) proposed that both HAPPEN and *發生 fāshēng* 'happen' are frequently collocated with the subjects of the negative semantic prosody. In Wang's study, the positive, neutral, and negative semantic prosodies of the subjects for both HAPPEN and *發生 fāshēng* 'happen' were examined through corpora and statistical inferences. The results showed that there was no significant difference among the three types of subjects in terms of the semantic prosody between HAPPEN and *發生 fāshēng* 'happen.' However, both unaccusative verbs are frequently collocated with the subjects of the negative semantic prosody, such as ***The car accident*** *happened.* or ***車禍****發生* ***chēhuò****fāshēng*, which indicates that using semantic features to compare HAPPEN and *發生 fāshēng* 'happen' should be re-examined.

On the other hand, concerning the word order of the grammatical patterns (Verb+Noun versus Noun+Verb) in Chinese collocations, Fu noticed that the Chinese counterpart *發生 fāshēng* of HAPPEN is used as a transitive or an intransitive verb, since Noun+*發生 fāshēng* 'happen' and *發生 fāshēng* 'happen'+Noun are found to be frequently used in the Chinese native speaker corpus. These two particular Chinese grammatical patterns of *發生 fāshēng* 'happen' were also discussed in Wang, Y.-J.'s (2008) study. Wang, Y.-J. further noted the differences of HAPPEN and *發生*

fāshēng 'happen' in terms of syntactic structures and semantic properties. With regard to the verb-noun collocations between the two verbs, for HAPPEN, it would be easy to analyze the subject-verb in 'something HAPPEN' However, in Chinese, the two Chinese grammatical patterns (Event-Noun+*發生 fāshēng* 'happen' e.g., *車禍發生 chēhuòfāshēng* 'The car accident happened' or *發生 fāshēng* 'happen'+Event-Noun, e.g., *發生車禍 fāshēngchēhuò* 'The car accident happened') could not be totally suitable for the subject-verb analysis similar to English. This is because that the event noun *車禍 chēhuò* 'car accident' is neither the subject nor the object of the Chinese unaccusative verb *發生 fāshēng* 'happen.' This typical Chinese grammatical pattern V+N (e.g., *發生倒塌意外 fāshēngdǎotāyìwài* 'house tumbling accidents') was also discussed in Shei (2005). Based on the findings of the previous studies above, it seems that the unacceptable V+N collocation of unaccusative existence/appearance verbs in English is frequently used in Chinese. Thus we would like to realize how this difference among the word order (e.g., *車禍發生 chēhuòfāshēng* 'The car accident happened' versus *發生車禍 fāshēngchēhuò* 'The car accident happened') of verbs with nouns would influence L2 English processing for L1 Chinese learners. A summary of corpus-based studies in examining unaccusative existence/appearance verbs can be seen in Figure 2.1 below.

Figure 2.1 Summaries of the Corpora Applications in Unaccusative Existence/appearance Verbs



After reviewing the application of corpora in unaccusative existence appearance verb studies, the errors made by L2 learners seem to be related to learners' L1 perfectivity auxiliary selections (the imperfective auxiliary *–著 -zhe* versus the perfective auxiliary *– 了 –le*) and grammatical patterns (V+N versus N+V). Therefore, it means that the problem of how to relate the corpora to the solution of error analysis in second language acquisition has not been tackled yet, which is also worth noticing. This discussion could broaden the function of identifying the different uses among unaccusative existence/appearance verbs and answer the question of the how L2 learners acquire this verb type.

2.4 Error Analysis of Unaccusative Existence/appearance Verbs

With respect to the common error types of unaccusative existence/appearance verbs in SLA, two main error types (overpassivization and transitivization) were usually discussed in previous studies. In order to point out that these two error types are frequently made by L2 learners in using unaccusative verbs, different research methods were utilized to elicit the possible reasons for realizing the errors.

Many researchers compared the frequency of the two error types of unaccusative verbs with that of unergative verbs or other verb types. In terms of the first error type, overpassivization, Yip (1990) conducted a grammatical judgment task to investigate the acquisition of unaccusative verbs (e.g., *break*) and unergative verbs (e.g., *laugh*). The results showed that the L2 English learners tended to reject the correct sentence of unaccusative verbs in the intransitive syntactic structure, e.g., *The glass broke during the earthquake.* and accept the incorrect sentence in the passivized structure, e.g., **What was happened here?*. However, L2 English learners did not accept the passivized structure of unergative verbs, e.g., **He was walked to school*. The authors then claimed that the reason for the overpassivization of unaccusative verbs is probably because L2 learners might assume that unaccusative verbs were derived from the transitive syntactic structures. However, not all L2 learners can commit the overpassivization error. Shan and Yuan (2008) investigated the grammatical judgment tasks between unergative and unaccusative verbs for L2 Chinese learners. The most crucial finding of their study was that the overpassivization error was seldom found in acquiring the L2 Chinese unaccusative verbs, which contrasted with the finding of L2 English in Yip's research. To explain the phenomenon of the less frequent overpassivization errors in L2 Chinese, they proposed that the possibility for L2 learners to make overpassivization errors had

something to do with the features of L2. Different from the obligatory English passive marker BE-V in *The letter has **been** sent.,* the Chinese passive marker, *被 bèi* 'be-v', could be optional in Chinese passive sentences, such as *信**(被)**寄出了 xìn**(bèi)**jìchūle* 'letter **(be-v)** send-le.' For this reason, L2 Chinese learners appeared to make less overpassivization errors for unaccusative verbs than L2 English learners did.

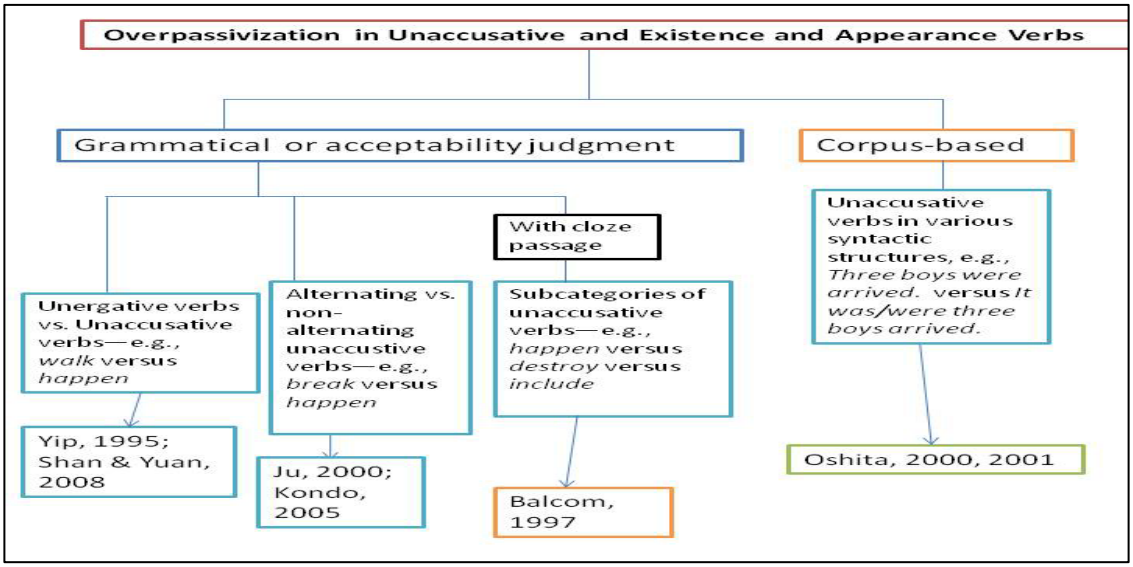
Ju (2000), on the other hand, utilized the grammatical judgment tasks to compare the differences of overpavissivization between the alternating versus non-alternating unaccusative verbs. The result showed that different unaccusative verbs would cause various degrees of learning difficulty. In this study, Ju found that the alternating unaccusative verbs (e.g., *break*) would cause higher learning difficulty than non-alternating unaccusative verbs (e.g., *happen*), since the alternating unaccusative verbs have an external cause in the causative alternation (discussed previously in section 2.1.3). However, the groups of unaccusative verbs in either alternating verbs (e.g., *break* versus *open*) or non-alternating unaccusative verbs (e.g., *happen* versus *occur*) with closely related meanings in terms of the learning difficulty and frequency of the overpassivization error could not be found in her study.

Balcon (1997), on the other hand, adopted the grammatical judgment tasks, along with the cloze tests, to compare unaccusative verbs with or without transitive alternations between the acceptability in grammar and the actual uses in cloze tests for L2 English learners. The result indicated that the subjects in the study accepted and used the *be+V-ed*/*V-en* patterns in unaccustive verbs, while frequency of the unaccusative verbs used in the cloze test was lower. The author then pointed that L2 English learners may probably accept all of the *be+V-ed*/*V-en* patterns in the grammatical judgment tasks, but these patterns may not be used frequently in the

cloze tests. In addition to the numerous studies adopting psycholinguistic experiments to investigate unaccusative existence/appearance verbs, some research analyzed the overpassivization error through corpora.

The most representative corpus-based studies in the overpassivization error were the two studies by Oshita (2000, 2001). The author intended to utilize learner corpora to investigate the overpassivization error of unaccusative verbs through different syntactic structures, such as the *There+unaccusative verbs* structure (*There happened a car accident.*). In these two studies, he also attempted to generalize some possible explanation of this error type from different linguistic theories. The result of the study concluded that the NP movement of the sentences for unaccusative verbs (*arrived Mary* → *Mary arrived*) would be the most plausible account of L2 learning difficulty. However, other error types of the unaccusative verbs in different syntactic structures, such as ***To avoid this thing happen**, we should always keep clearly in a good range.*, could be hardly found in Oshita's studies. A summary of the studies on overpassivization error in unaccusative existence/appearance verbs can be seen in Figure 2.2 below.

Figure 2.2 Summaries of the Studies on the Overpassivization in Unaccusative Existence/appearance Verbs



In addition to the first common error of unaccusative existence/appearance verbs (the overpassivization error), the second common error (the transitivization error) will be introduced. With respect to the tranisitivization error, Lozano and Mendikoetxea (2008) focused on the postverbal subjects (e.g., **It **happened the car accident***.) in the L2 English produced by the L1 Spanish learners. The result showed that the reason of transitivization errors for Spanish learners would be due to the similar patterns found in Spanish (e.g., *Ha **llegado Juan***. (has **arrived** ***Juan***) '**Juan** has **arrived**' in Spanish). However, whether the similar V+N grammatical patterns in Chinese (cf. *發生車禍 fāshēngchēhuò* 'The car accident happened' in Fu (2007) & Shei (2005) in section 2.3) could also be another reason for L1 Chinese learners to make the transitivization errors were seldom discussed in the previous studies. Liu (2000) attempted to use the grammatical judgment tasks to compare the acceptability for the [±Animacy] and [±Human] features of the subjects co-occurring with the unaccustive verbs. Some Chinese lexical features, such as the transitivized patterns *張三**發生了車禍*** *zhāngsān**fāshēnglechēhuò*** (zhāngsān **happen-le car accident**) 'An car **accident happened** to zhāngsān' (p. 38) of unaccusative existence/appearance verbs have been taken into consideration when the author designed the stimuli, e.g., **The arrival of the President **happened something** we could never expect before.* (p. 74) in the grammatical judgment tasks. However, no corpus-based evidence of frequency could be found in this study. Furthermore, the relationship between L2 English transitivization errors and L1 Chinese lexical transfer was not discussed in Liu's study, which is necessary for a profound investigation.

Aside from the studies mentioned above which focused only on overpassivization and transitivization errors, Wang and Chung (2009) adopted a quantitative corpus-based study to analyze the L2 English unaccusative verb

HAPPEN through the Language Training and Testing Center (the LTTC) Learner Corpus. This study utilized a quantitative approach to calculate the percentages of the five most highly frequent errors. They analyzed all of the error types of HAPPEN and the results were summarized in Table 2.1.

TABLE 2.1 Examples of the Five Error Types (Wang & Chung, 2009)

Error Type	Freq. (%)	Erroneous Sentence Examples
Type 1-Mismatches in subject-verb agreement	15 (45.45%)	**__Why__ the 現象 __happened__?*
Type 2- Mismatches in infinitive usages	8 (24.24%)	**But you may say what is the reason __cause this happen__?*
Type 3- Mismatches in present participle usages	5 (15.15%)	**__To avoid this thing happen__, we should always keep clearly in a good range.*
Type 4-Overpassivization	4 (12.12%)	**First problem __is always happened__. When you eat noddles you will find glass bluring*
Type 5-Transitivization	1 (3.03%)	**This situation __I have never happened__ before!*
Total	33 (100%)	

From Table 2.1, five error types were found in HAPPEN. Among the five, the overpassivization and transitivization errors are less frequent than the mismatches in subject-verb agreement, infinitive usages, and participle usages. However, the similarity among the five errors is that the grammatical form *happened* with higher frequency could be found in most of the error types. The authors assumed that the overuse of *happened* may have some effect on all of the error types of HAPPEN. Nonetheless, there still remained some puzzles in this study. The first one is whether

other unaccusative existence/appearance verbs, such as OCCUR or APPEAR, would also be overused in the *V-ed* form by L2 English learners. On the other hand, even though the research assumed that there might be a close relationship between the grammatical form *happened* and its Chinese counterpart with the Chinese perfective auxiliary *發生了 fāshēngle* 'happen-le', no empirical acceptability judgment task was conducted to investigate the L1 Chinese transfer to L2 English, which is worth discussing deeply in the present thesis. In Chapter Three as to the corpora analysis, we will re-categorize these five error types so as to clearly divide them into a larger scale of error classifications.

2.5 Gaps of the Previous Research

From the discussion of the previous four sections, we found that many scholars generally centered on two points. The first is the different uses among unaccusative existence/appearance verbs through L2 English-based syntactic perspectives in transitive versus intransitive structures, perfectivity (in L2 English and L1 Chinese), and L1 Chinese lexical semantic analysis via corpora. The second is the error analysis of unaccusative verbs through either empirical psycholinguistic experiments or corpora. However, there are some gaps in previous studies of unaccusative verbs. First, there seemed to be little research integrating the L2 English syntactic-based perspectives with L1 Chinese grammatical patterns (e.g., *車禍發生 chēhuòfāshēng* 'The car accident happened' versus *發生車禍 fāshēngchēhuò* 'The car accident happened') on the lexical semantic perspective, which is paramount because the relationship between L2 English and L1 Chinese could be elicited to explain the causes of frequent error types of unaccusative verbs.

Second, for the research methods regarding the error analysis in the related unaccusative verb studies, generally these two common errors (overpassivization and transitivization errors) were usually examined through either empirical psycholinguistic experiments (e.g., the grammatical or acceptability judgment tasks) or the corpus-based approach. However, fewer studies could be found to integrate the two research methods. According to Gilquin and Gries (2009), the two types of research methods, corpora versus psycholinguistic experiments, have their indispensable advantages. For corpora, the data were extracted from natural linguistic contexts, which would be much more objective in language analysis. As for psycholinguistic experiments, they can be utilized to investigate the less frequent linguistic data in corpora. Additionally, the variables among the linguistic data could be controlled systematically, which would also be one of the criteria to verify corpora analysis. Hence, this research pointed out the importance of integration of both corpora and psycholinguistic experiments to investigate overpassivization and transitivization of unaccusative verbs in SLA. Therefore, an integrated approach to combine corpora analysis with psycholinguistic experiments seems necessary, which can provide more objective evidence for analyzing L2 unaccusative verbs as well.

Third, it is of vital importance to set up a criterion for examining unaccusative verbs between corpora and psycholinguistic experiments and use this criterion to compare the impact of L2 English influence versus L1 Chinese transfer in SLA. Hence, section 2.5 would stress the grammatical forms as the criterion between corpora and psycholinguistic experiments, along with the language transfer issues discussed in the SLA research.

The grammatical form criterion (e.g., the *V-ed* form of PLAY is *played*) could be found in many previous studies (e.g., Krashen, 1977; Lightbown & Spada, 2006;

Gabriele, Martohardjono, & McClure, 2005). Some studies in SLA regarded the grammatical forms as the grammatical morphemes (Lightbown & Spada, 2006) and claimed that the grammatical forms, such as *V-ing* or *V-s*, would be developed by L2 learners through different stages. For instance, Krashen's (1977) study summarized that the acquisition of *V-ing* in progressive aspects was found to be earlier developed than that of *V-ed* form in past or perfective aspects in comparing the accuracy among these grammatical forms, while this development sequence of the grammatical forms may not always follow the same order. Therefore, Lightbown and Spada pointed out three main crucial factors for acquiring the grammatical forms. They are saliency (how easy it is to notice the grammatical forms), linguistic complexity (how many small parts of the grammatical forms L2 learners have to process), and semantic transparency (how clear the meaning of the grammatical forms is). In addition, the similarities and frequency of language uses between L1 and L2 should be also considered when the grammatical forms are investigated in SLA.

Moreover, the grammatical forms are used to investigate verb tense or aspects as well as different verb types. In Housen (2002), Bardovi-Harlig (1999), and Gabriele, Martohardjono, and McClure (2005), they all mentioned the *Aspect Hypothesis*, in which the grammatical forms would be influenced by the semantic properties of the verb meanings. There are four concise principles of the *Aspect Hypothesis* given in (11):

(11)

a. Learners firstly associate the imperfective grammatical form *V-ing* with dynamic/activity verbs, such as *work* or *laugh*.
b. The perfective and past grammatical forms (*V-ed* or *V-en*) are limited to

accomplishment/ achievement verbs, such as *drop*, *stop*, *die*, *fall*, and *happen*.

c. The 3rd person grammatical form *V-s* dominates the stative verbs, such as *know* and *like*.

d. In languages with distinction between perfective and imperfective in terms of the perfectivity, imperfective past grammatical forms (e.g., *was playing basketball*) emerged later than perfective past ones (e.g., *have played basketball*).

From the four principles, we can discover that the grammatical forms are not distributed randomly among most languages. The combination between a certain grammatical form and a specific verb type may imply some functional or semantic similarities in L2 learners' mind (11a), particularly for some similar features between L1 and L2 (11d). Owing to the feature possessed by the grammatical forms in English, other research line (e.g., Granger & Rayson, 1998) centered on the application of the grammatical forms via corpora and investigated the the grammatical form distributions of the verbs between native speaker and learner corpora.

In Granger and Rayson (1998), they found that the overall frequency of verbs between native speaker and learner corpora was similar (e.g., for *V-ed* form, 38% in the native speaker corpus and 35% in learner corpora), while the grammatical forms of verbs would vary. For instance, both the past particples *V-ed* and the present participles *V-ing* were underused, whereas the infinitives *to-V* were easy to be overused by L2 learners. From their finding, the frequency of each grammatical form with verbs may reflect different difficulty of acquiring L2 and this phenomenon would be regarded as the evidence for the varieties of L2 among the learners.

With the data of different frequencies in grammatical forms between the native speaker and learner corpora, it would be more important to find out the association of

grammatical forms with L1 language transfer. Though using L2 linguistic data to discuss the influence brought by L1 transfer were noticed by many studies (e.g., Pavlenko & Jarvis, 2002; Odlin, 1989), fewer previous studies would emphasize the relationship between grammatical forms and language transfer.

As for the definition of language transfer, Odlin (1989) provided some classification. The main two divisions of language transfer are positive transfer and negative transfer. Positive transfer refers to the positive effect brought by L1 in acquiring L2. Most of time, the degree of positive transfer would be determined by the similarities between L1 and L2, in which L2 learners may have less difficulty in processing L2. By contrast, negative transfer implies the negative influence and sometimes is also called 'interference' because the features of L2 induced greater degree of learning difficulty so that L2 learners would make more errors, which made the data of L2 learners differ from those of native speakers. Furthermore, negative transfer also includes the subcategories of learner errors, such as underproduction (or underuse), referring to the lower frequency of a certain linguistic elements by L2, overproduction (or overuse), indicating that L2 learners simply produce too many linguistic data with the same feature, and misinterpretation, which means that L1 language structures would influence the interpretation of L2.

From the classification of language transfer, one paramount point may emerge. That is, it appears to be critical for SLA to bridge the gap between the grammatical form of a certain verb type, such as unaccusative existence/appearance verbs, and the language transfer from L1 to L2 learning. Therefore, it would be necessary to combine the corpora analysis with the grammatical forms and then apply the grammatical forms in the psycholinguistic experiments to find out the effect of the L1 language transfer in the present thesis.

2.6 Summary of the Chapter

In sum, from the overview of the related previous studies in this chapter, the distinction among the different unaccusative existence/appearance verbs should be re-investigated from language users' perspectives on either L2 English syntactic or L1 Chinese lexical-semantic in order to identify the features of each unaccusative existence/appearance verb within one language or between two languages, such as HAPPEN versus OCCUR or HAPPEN versus *發生 fāshēng* 'happen.' On the other hand, the relationship between the features of individual unaccusative existence/appearance verbs and the causes of L2 learners' errors in acquiring this verb type should be elaborated more profoundly through an integrated approach with corpora and psycholinguistic experiments. Therefore, in this thesis, the following chapters will center on these two issues. Chapter Three will present Study I—the corpora analysis section.

We will detailedly introduce the way of extracting and collecting data from corpora. Then the results of corpora will also be displayed to compare the differences between unaccusative existence/appearance verbs in Chinese and English, such as HAPPEN versus *發生 fāshēng* 'happen', as well as discover the frequency and percentages of errors made by L2 learners

CHAPTER 3

STUDY I—CORPORA ANALYSIS

From the overview of the related studies in unaccusative verb differentiation based on L2 English syntactic structures, perfectivity, and L2 Chinese lexical semantic in grammatical patterns, along with some SLA research in terms of error analysis of unaccusative verbs and L1 Chinese transfer, we realized the importance of the integrated approach to combine both corpora analysis and psycholinguistic experiments when analyzing unaccusatve verbs. Therefore, in this chapter, Study I will focus on the corpora analysis section. We will first demonstrate the way of extracting data and display the findings of the unaccusative existence/appearance verb HAPPEN and its three other synonyms OCCUR, APPEAR, and EXIST through corpora. The conducting procedures and the findings of psycholinguistic experiments will be later discussed as Study II in Chapter Four.

As for the corpora, there are two main resources—two native speaker corpora (English and Chinese) and three L2 English learner corpora. Via the comparison of both native speaker and L2 English learner corpora, the similarities and differences of the uses of unaccusative existence/appearance verbs will be shown. On the other hand, we can discover the frequency and erroneous rate of each error type for the four unaccusative existence/appearance verbs in L2 English learner corpora, since error types might have something to do with the word frequency chosen by L2 learners. The next section will first focus on the methods and analysis of Chinese and English native speaker corpora.

3.1 Methods and Findings of Analyzing Native Speaker Corpora

Regarding the analysis of the native speaker corpora, three main focuses will be emphasized. First, the synonyms between the English unaccusative HAPPEN (with OCCUR, APPEAR, and EXIST) and its Chinese counterpart *發生 fāshēng* 'happen' (with *出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist') will be compared. The reason for the synonym comparison between HAPPEN and its Chinese counterpart *發生 fāshēng* 'happen' is to identify the different tendency with their synonyms so as to elicit the differences in verb meaning between L2 English and L1 Chinese. The result can serve as the references for the data analysis to understand the different uses of unaccusative existence/appearance verbs within the same verb concept (e.g., HAPPEN in English and *發生 fāshēng* 'happen' in Chinese belong to the *Happen* concept). The investigation of the synonyms for HAPPEN and its Chinese counterpart *發生 fāshēng* 'happen' is also conducted through both English (BNC) and Chinese (GW 2.0).

The second focus of the corpora analysis is to observe the Chinese grammatical patterns of *發生 fāshēng* 'happen' with its synonyms (*出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist'). The purpose to find out the frequently used Chinese grammatical patterns of *發生 fāshēng* 'happen' with its synonyms (*出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist') through the Chinese native corpus is that we can identify the most representative grammatical patterns in the collocations of Chinese unaccusative existence/appearance verbs used by the native Chinese speakers. With these Chinese grammatical patterns, we could design an empirical acceptability task of L1 Chinese transfer in psycholinguistic experiments, which will be applied and explained in Chapters Four.

Moreover, the third focus is to find out the English grammatical form distributions of HAPPEN, OCCUR, APPEAR, and EXIST, which can be used to compare the similarities and differences between the English native speaker corpus and L2 English learner corpora in the learner corpora analysis section. For the basis of this analysis, we follow the analyzing approach in a pilot study of HAPPEN (Wang & Chung, 2009; 2010) and some previous studies advocating the relationship between language acquisition and grammatical forms (Bardovi-Harlig, 1999; Housen, 2002). The result of analyzing grammatical form distributions can help realize how the distributions of the grammatical forms (e.g., *happened, happen, happening,* and *happens*) are used by English native speakers.

3.1.1 Native Speaker Corpora

Concerning the native speaker corpora we utilize in this thesis, we adopt an English native speaker corpus British National Corpus (BNC) with approximately 110 million words for L1 English as well as a Chinese native speaker corpus Chinese GigaWord 2 Corpus (GW 2.0) with nearly 455 million words for L1 Mandarin Chinese.

As for the BNC, it was established in 1991 and was completed in 1994. It was collected from a wide range of sources, including written and spoken samples. The written part, with 90% in the BNC, was collected from national newspapers, specialist periodicals, journals, academic books, popular fiction, etc. On the other hand, the spoken part, with 10% in this corpus, contains orthographic transcriptions of informal conversations, government meetings, radio shows, and so forth. For the features of this corpus, the encoding system in accordance with the automatic parts-of-speech

taggers, along with other structural properties in texts, such as headings or paragraphs, are provided for the selections of searching.[7]

On the other hand, regarding the Chinese native speaker corpus, the GW 2.0 was advanced from Chinese GigaWord 1 Corpus (GW 1.0), created by scholars at Academic Sinica, Taipei, Taiwan and collected from 1991 to 2004. Additionally, the GW 2.0 contains an archive of newswire texts from Central News Agency of Taiwan (CNA), Xinhua News Agency of Beijing (XIN), and Zaobao Newspaper of Singapore (ZBN). All of the data in GW 2.0 were tagged with the parts of speech in Chinese, and the accuracy of unknown words was improved, compared to the previous version Chinese GigaWord 1 Corpus (GW 1.0) (Hong & Huang, 2006). We adopted the second version as the Chinese native speaker corpus because the more various sources of Chinese, including China, Taiwan, and Singapore, can be taken into consideration, which can make the grammatical patterns searched in Chinese more objective and representative.[8]

3.1.2 Analyzing Synonyms of HAPPEN and its Chinese Counterpart *發生 fāshēng* 'happen'

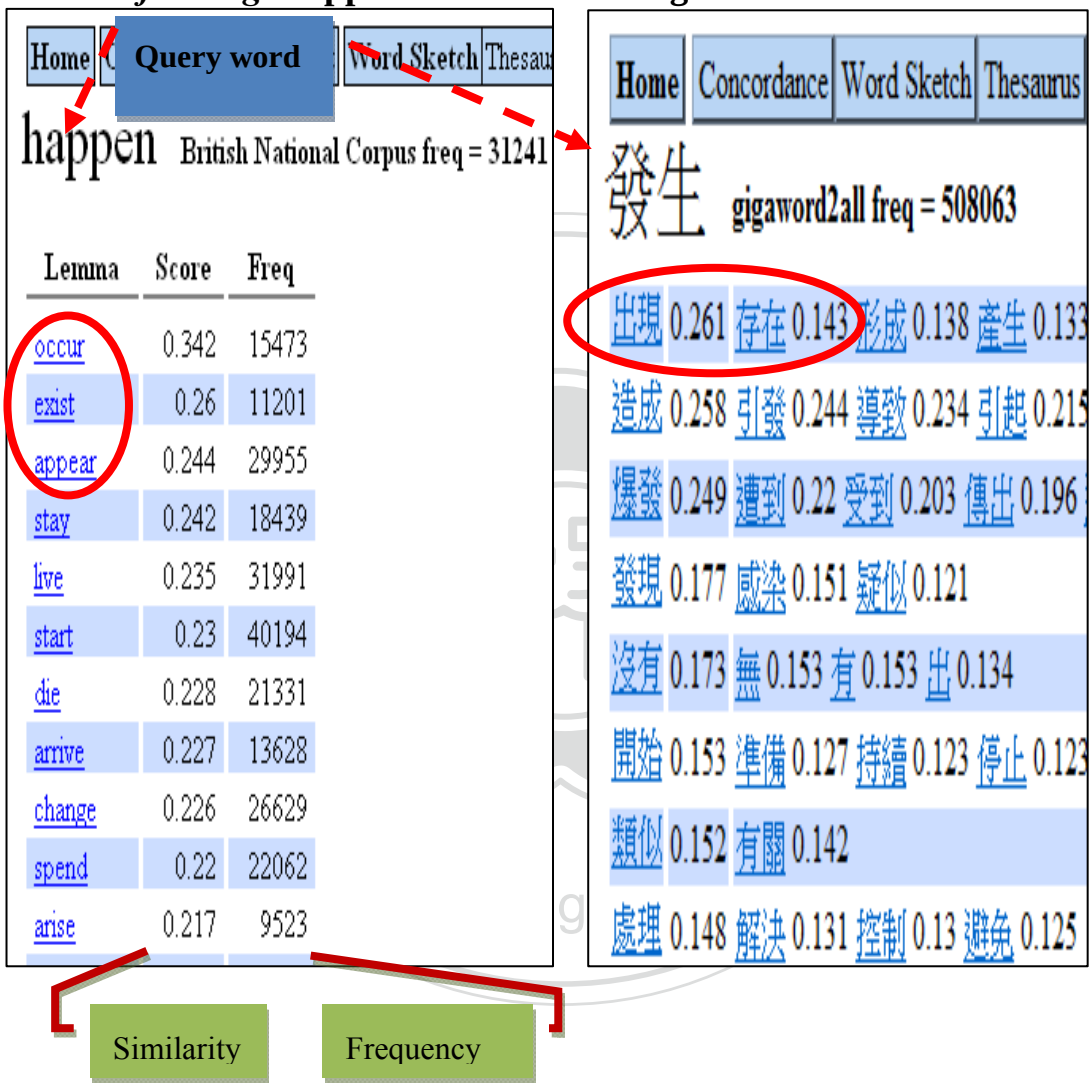
The first analysis via native speaker corpora is to display the synonym comparison for HAPPEN in English and *發生 fāshēng* 'happen' in Chinese. We would first demonstrate how we extracted the data from both native speaker corpora and show the general findings of the comparions between HAPPEN and *發生 fāshēng* 'happen', as well as the relationship with their synonyms (OCCUR, APPEAR, and EXIST with HAPPEN; *出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist' with *發*

[7] See http://www.natcorp.ox.ac.uk/.

[8] See http://www.ldc.upenn.edu/Catalog/CatalogEntry.jsp?catalogId=LDC2005T14 for more detail.

生 *fāshēng* ‘happen’) respectively. Figure 3.1 shows the methods of synonym analysis.

Figure 3.1 The Search Results for HAPPEN in BNC and *發生 fāshēng* ‘happen’ in GW 2.0 Using the Thesaurus Function

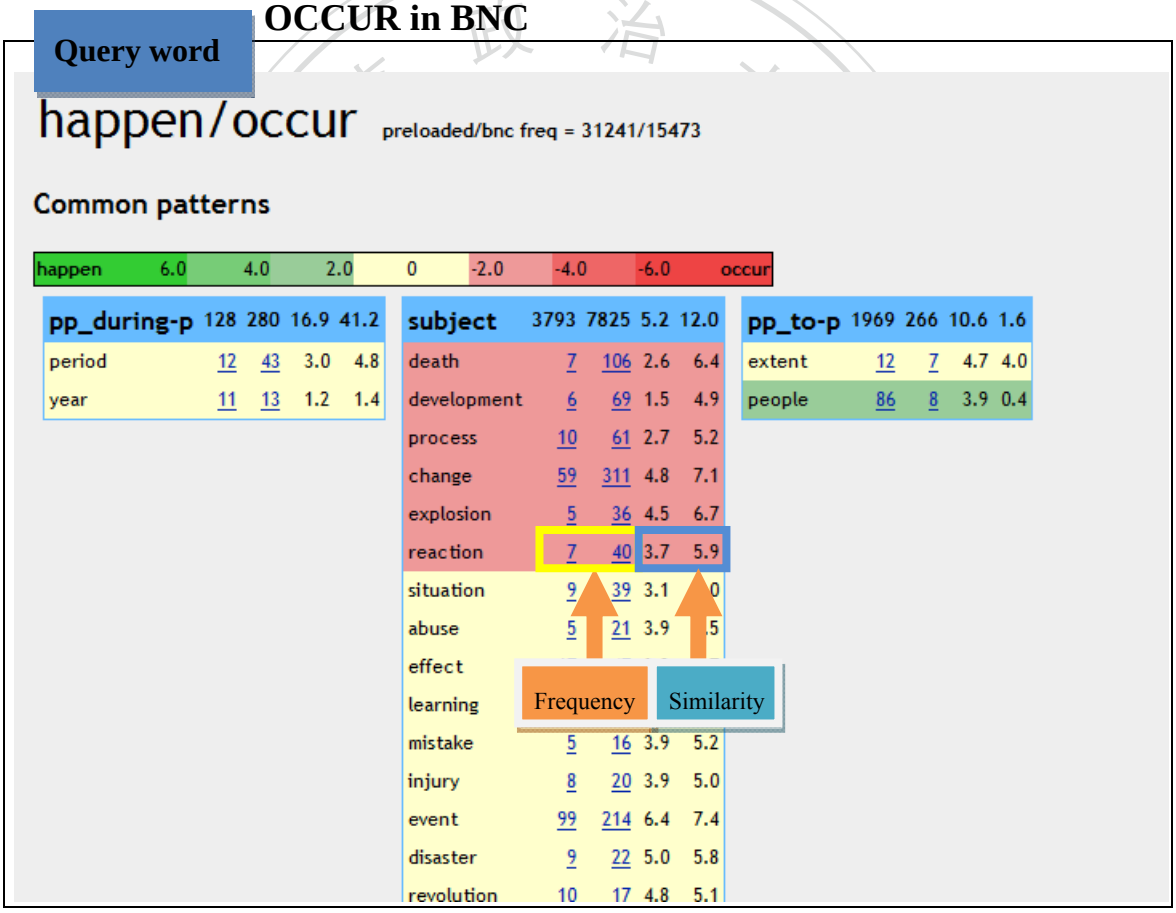


In Figure 3.1, the thesaurus in BNC and GW 2.0 is utilized to show the relationship of the synonyms with HAPPEN and *發生 fāshēng* ‘happen’ respectively. These two verbs in English and Chinese respectively within the *Happen* concept have different relationship with their synonyms in terms of the similarity and frequency scores, and therefore the priority order of the synonyms as to HAPPEN in English and

發生 fāshēng 'happen' in Chinese would vary as well. In this thesis, we set the English lexicon as the basis to compare the different synonym relationship in Chinese because knowing the different uses between English native speaker and L2 English learners is our main focus of the thesis.

On the other hand, in terms of how to generate the similarity score of each synonym with HAPPEN (e.g., the similarity score for OCCUR with HAPPEN is 0.342.), Figure 3.2 provides the relevant information.

Figure 3.2 Sentence Construction Comparison of HAPPEN and OCCUR in BNC



In Figure 3.2, the calculation of the similarity score for OCCUR with HAPPEN is displayed. As can be seen in this figure, all of the common parts of speech in terms of sentence construction, such as subjects, are taken into account to calculate the frequency and similarity score for both HAPPEN and OCCUR. The continuum with

one green extreme for HAPPEN and one red extreme for OCCUR represents the tendency of the similar senetence constructions with the two verbs. For instance, the subject *death* is in the red column, which means that *death* could be collocated with HAPPEN and OCCUR, yet it is slightly more frequent to be collocated with HAPPEN. With the finding for the thesaurus in both the BNC and the GW 2.0, the synonyms with similar senetnce constructions can be identified. The most salient three synonyms of HAPPEN are OCCUR, EXIST, and then APPEAR, while the Chinese counterpart (*發生 fāshēng* 'happen') of HAPPEN has different distributions for the synonyms, which indicates that, in terms of lexical meanings, there may be some differences of the *Happen* concept between English and Chinese, and these differences will be reflected on the synonyms of the two languages.

Specifically, for the results of synonym analysis from the thesaurus of the BNC, the main unaccusative existence/appearance verb HAPPEN possesses 31,245 instances from the native speaker corpus BNC, and the most closely related synonym of HAPPEN is OCCUR with the similarity score of 0.342 and the frequency of 15,477 instances. The second and third related synonyms of HAPPEN are EXIST and APPEAR, even though the frequency of APPEAR (29,956 instances) is over two times more than that of EXIST (11,203 instances), the similarity score of EXIST (0.26) is slightly higher than that of APPEAR (0.244), indicating that, in the BNC, the sentence construction of HAPPEN within per million words is more similar to that of EXIST than APPEAR.

In order to find some similar sentence constructions among these verbs above, the shared subjects selected from corpora are displayed and compared to realize the tendency for the meaning of HAPPEN and *發生 fāshēng* 'happen.' For HAPPEN and OCCUR, the subject *thing* are frequently combined with each of the two verbs.

However, HAPPEN and EXIST frequently share the word *situation* as their subject in a sentence, whereas HAPPEN and APPEAR tend to be combined with the subject *attack*.

Other than the synonym analysis of the English unaccusative verb HAPPEN with OCCUR, EXIST, and APPEAR, we would like to know the analysis of HAPPEN's Chinese counterpart *發生 fāshēng* 'happen' from the thesaurus of the GW 2.0. Since HAPPEN and OCCUR are usually translated into *發生 fāshēng* 'happen' in Chinese, thus *發生 fāshēng* 'happen' will be compared with the Chinese counterparts *出現 chūxiàn* 'appear' and *存在 cúnzài* 'exist' of APPEAR and EXIST respectively. Contrasted by the English data, the synonyms of *發生 fāshēng* 'happen' in Chinese would be slightly different. The most closely related synonym of *發生 fāshēng* 'happen' is *出現 chūxiàn* 'appear' with the frequency of 294,454 instances and the similarity score of 0.261, which are much higher than the frequency of 114,240 instances and the similarity score of 0.143 for *存在 cúnzài* 'exist', indicating that the frequent constructions among the synonyms for the English word HAPPEN and the Chinese word *發生 fāshēng* 'happen' may be diverse.

As for the shared subjects of *發生 fāshēng* 'happen' with its synonyms, *出現 chūxiàn* 'appear' and *發生 fāshēng* 'happen' usually co-occurred with the subject *豪雨 háoyǔ* 'heavy rain.' However, *存在 cúnzài* 'exist' and *發生 fāshēng* 'happen' are found to be combined with the subject *情況 qíngkuàng* 'situation', which is similar to the shared subjects of HAPPEN and EXIST, suggesting that HAPPEN and *發生 fāshēng* 'happen' might still share some similar senetnce constructions of subject-verb concepts across the two languages.

From the findings of comparing both English and Chinese native speaker corpora, within the *Happen* concept, we found that the Englsih HAPPEN concept may

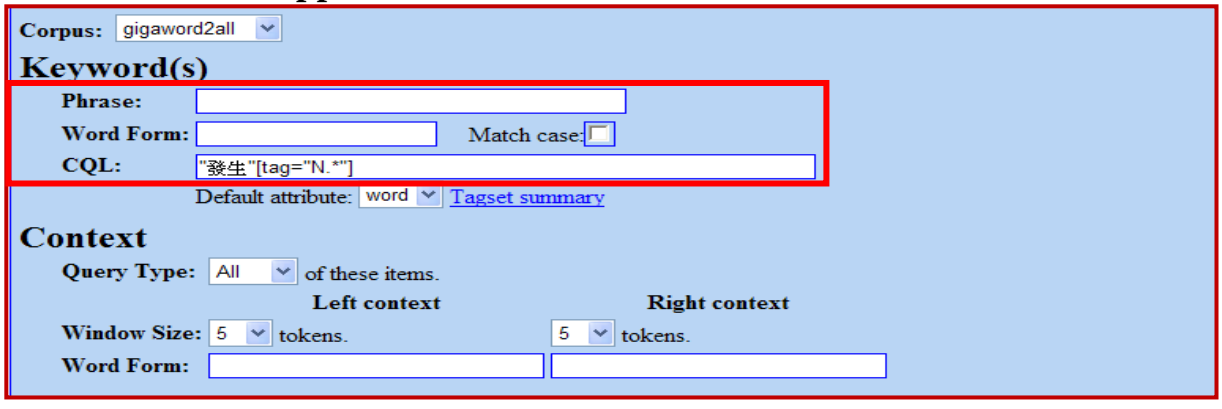
have some difference in synonym analysis with the Chinese *發生 fāshēng* 'happen' concept. In English, except for the most closely related verb OCCUR, HAPPEN is more close to the EXIST concept (something or someone is being in a certain place). However, in Chinese, *發生 fāshēng* 'happen' is more relevant to the *出現 chūxiàn* 'appear' concept (something or someone becomes to be in a certain place). Nonetheless, this does not indicate that the existence/appearance verbs with the same concept in two languages should be definitely distinguished. Rather, it provides a tendency of verb meaning when we would like to investigate the correlation among each verb within a verb type (in this thesis, it is the unaccusative existence/appearance verbs).

3.1.3 Analyzing Chinese Grammatical Patterns in GW 2.0

The second analysis with respect to the synonyms of *發生 fāshēng* 'happen' in Chinese focuses on the frequency and percentage of four grammatical patterns (V+-*zhe*, V+-*le*, N+V, and V+N).

With respect to the Chinese grammatical patterns for the Chinese native speaker corpus, Figure 3.3 displays the examples of *發生 fāshēng* 'happen' and the way to extract the Chinese grammatical patterns from GW 2.0.

Figure 3.3 The Chinese Grammatical Patterns of *發生 fāshēng* 'happen' in GW 2.0



As can be seen in Figure 3.3, it is the way we search for the frequency of each Chinese grammatical pattern for *發生 fāshēng* 'happen' and its synonyms. In this figure, we take the V+N patterns for *發生 fāshēng* 'happen' as an example. If we would like to search this pattern, "發生"[tag="N."] should be typed in, which means that the result will display all of the examples with the verb *發生 fāshēng* 'happen' collocated with the postverbal nouns. The other Chinese grammatical patterns were searched in the same way. All of the four Chinese grammatical patterns include the two Chinese perfective auxiliaries of unaccusative existence/appearance verbs (V+the impefective *–zhe* versus V+ the perfective *-le*) proposed by Liu (2007) and Laws and Yuan (2010), as well as the verb-noun grammatical patterns (N+V versus V+N) discussed by Fu (2007), Wang (2008), and Shei (2005). With the tool of concordance and corpus query language (CQL), we can precisely find out the different distributions of the four Chinese grammatical patterns. These Chinese grammatical patterns would also be utilized as reference for the stimuli of the psycholinguistic experiments, which will be discussed in great detail in Chapters Four.

The findings in terms of the frequency of the Chinese grammatical patterns are shown in Table 3.1.

TABLE 3.1 Frequency (and Percentages) of the Chinese Grammatical Patterns in GW 2.0

Chinese Unaccusative Verb	***Chinese Grammatical Pattern***				
	Total	*V +-zhe*	*V+-le*	*N+V*	*V+N*
***發生 fāshēng* 'happen'**	508063 (100%)	476 (0.093%)	22003 (4.337%)	287372 (56.562%)	223409 (43.972%)
***出現 chūxiàn* 'appear'**	294454 (100%)	3 (0.001%)	31209 (10.598%)	125057 (42.470%)	98886 (33.582%)
***存在 cúnzài* 'exist'**	114240 (100%)	10416 (9.117%)	549 (0.480%)	43795 (38.335%)	24975 (21.861%)

In Table 3.1, the result shows that, in terms of the four Chinese grammatical

patterns, the frequency and the percentage of the three verbs are different. As for the pair of the two Chinese grammatical patterns (V+-*zhe* and V+-*le*), for *發生 fāshēng* 'happen' and *出現 chūxiàn* 'appear', the percentages of the grammatical pattern V+-*le* (approximately 4% for *發生 fāshēng* 'happen' in column one and about 10% for *出現 chūxiàn* 'appear' in column two) are much higher than those of the V+-*zhe* (0.093% for *發生 fāshēng* 'happen' in column one and 0.001% for *出現 chūxiàn* 'appear' in column two), whereas the percentage of the grammatical pattern V+-*zhe* (9.117% in column three) is much higher than that of the V+-*le* (0.480% in column three) for *存在 cúnzài* 'exist', indicating that, in terms of the grammatical patterns related to perfectivity in Chinese, the three unaccusative existence/appearance verbs may be distinctive. That is, the two verbs *發生 fāshēng* 'happen' and *出現 chūxiàn* 'appear' tend to be combined with the perfective auxiliary *–le*, while *存在 cúnzài* 'exist' appears to co-occur with the imperfective auxiliary *–zhe*.

On the other hand, for the two verb with noun grammatical patterns (V+N and N+V), the three unaccusative existence/appearance verbs share a similar pattern. All of the three words tend to be used as the grammatical pattern N+V (56.562% for *發生 fāshēng* 'happen' in column one; 42.470% for *出現 chūxiàn* 'appear' in column two; 38.335% for *存在 cúnzài* 'exist' in column three), which is more frequent than its reverse grammatical pattern V+N (more than 43% for *發生 fāshēng* 'happen' in column one; approximately 33% for *出現 chūxiàn* 'appear' in column two; more than 21% for *存在 cúnzài* 'exist' in column three). This means that, for Chinese native speakers, V+N grammatical patterns among the three verbs are used more than N+V ones, even though the N+V grammatical patterns are not quite lower.

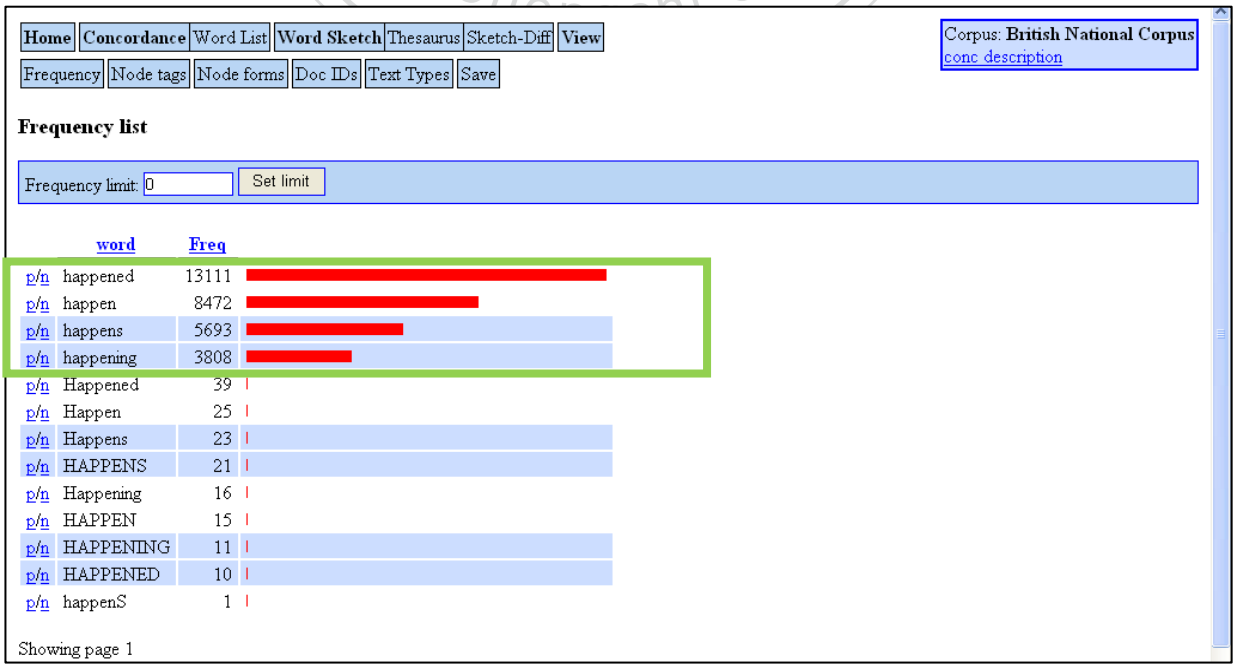
To summarize the Chinese grammatical patterns from the GW 2.0 corpus in section 3.1.3, for V +-*zhe* and V +-*le* grammatical patterns, *發生 fāshēng* 'happen'

and *出現 chūxiàn* 'appear' tend to be combined with the perfective auxiliary *–le* whereas *存在 cúnzài* 'exist' usually collocates with the imperfective auxiliary *–zhe*, which implies that *發生 fāshēng* 'happen' and *出現 chūxiàn* 'appear' are frequently used in the perfective clauses but *存在 cúnzài* 'exist' is likely to be used in the imperfective clauses. On the other hand, as for the word order of both V+N and N+V, all of the three verbs are shown to be frequent in both of the two grammatical patterns, indicating that the two types of patterns, such as *發生意外 fāshēngyìwài* 'The accident happened' or *意外發生 yìwàifāshēng* 'The accident happened' are used frequently by Chinese native speakers.

3.1.4 Grammatical Form Analysis in the BNC Corpus

The next step is to search the grammatical form distributions of the four unaccusative existence/appearance verbs from the English native speaker corpus BNC. An example of HAPPEN is provided in Figure 3.4.

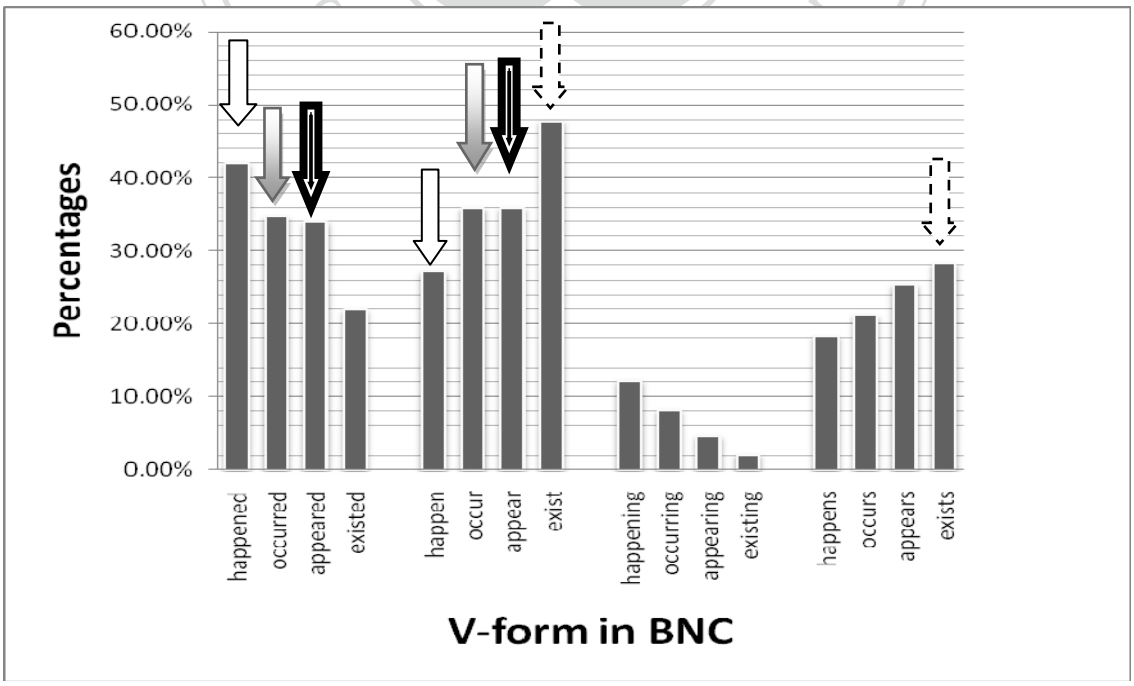
Figure 3.4 The Grammatical Forms of HAPPEN in BNC



In Figure 3.4, the example to analyze the different distributions of the grammatical forms as for the verb HAPPEN is shown. We choose the most frequent four grammatical forms (*V-ed*, *V-base*, *V-s*, and *V-ing*) because they may be more representative and frequently used by English native speaker. Moreover, other grammatical forms, such as *HAPPENS* may not be used as a verb, which would probably appear in the head of the sentence. The other three synonyms will be analyzed in the same manner so as to find out how English native speakers use these verbs and later compare the similarities and differences in terms of the grammatical forms.

The findings of the frequencies of the grammatical forms in terms of the four verbs are displayed in Figure 3.5. The two arrows of each verb refer to the two most frequent grammatical forms in the BNC corpus.

Figure 3.5 Verb-forms of HAPPEN, OCCUR, APEAR, and EXIST in BNC



From Figure 3.5, as for HAPPEN, OCCUR, and APPEAR, we can discover that both of the *V-ed* form and the *V-base* form account for the two most frequent grammatical forms, while EXIST has the tendency to be used in the *V-base* form (47.76%) and the third person *V-s* form (28.16% for *exists*), which indicates that native speakers of English tend to use the *V-ed* form and the *V-base* form for HAPPEN, OCCUR, and APPEAR, whereas they incline to use the *V-base* form and the *V-s* form for EXIST. However, even though the three unaccusative existence/appearance verbs (HAPPEN, OCCUR, and APPEAR) have higher percentages of the *V-ed* form and the *V-base* form, the most frequent one of the three is different.

Among the three, OCCUR and APPEAR possess the *V-base* form as the most frequent one (35.78% for *occur* and 35.83% for *appear*), though the base form of the two verbs is not extremely higher than the *V-ed* form (34.63% for *occurred* and 34.00% for *appeared*). On the other hand, HAPPEN shows a great discrepancy between the most frequent grammatical form (41.96 % for *happened*) and the second most one (27.11% for *happen*), which suggests that the salient percentage of the *V-ed* form may distinguish HAPPEN from its three other synonyms (OCCUR, APPEAR, and EXIST) in terms of the feature in the grammatical form. From the grammatical form distributions, we found that, for English native speakers, HAPPEN is frequently used in *V-ed* and *V-base* forms, OCCUR as well as APPEAR are frequently used in *V-base* and *V-ed* with near frequencies, and EXIST is frequently used in *V-base* and *V-s* forms. This implies the diverse verb form preferences for unaccusative verbs of English native speakers.

3.2 Methods of Analyzing Learner Corpora

In terms of the analysis of the learner corpora, two main focuses are emphasized. First, the grammatical form distributions along with the erroneous rates of HAPPEN, OCCUR, APEAR, and EXIST among the English native speaker corpus (BNC) and the three learner corpora will be investigated. The second focus is to analyze and categorize the error types of the four verbs from the three learner corpora. Some important information regarding the three learner corpora and the tool for extracting learner data will first be provided in the following sections.

3.2.1 Three Learner Corpora

With respect to the learner corpora, we utilized three L2 English learner corpora—the Language Training and Testing Learner Corpus (the LTTC), International Corpus of Learner English 2.0 (the ICLE, cf. Granger, Dagneaux, Meunier, & Paquot, 2009), and the National Chengchi University Foreign Language Learner Corpus (the NCCU, cf. Chung, Wang, & Tseng, 2010) All of the extracted data were produced by L1 Chinese learners, and the design and the organization of each corpus may possess some advantages for different purposes. The LTTC corpus selected in 2008 and was collected from an intermediate L2 English written texts with 1,990 samples containing 262,178 words (to date) collected from the General English Proficiency Test (GEPT), a formal English standardized test in Taiwan. Therefore, the L2 English data also have score metadata so that errors can be diagnosed according to the given scores. Part of the learner data were extracted from L2 learners' writing tests in the LTTC. As for the annotation of this learner corpus, the part of speech

(POS) tagging has been conducted after the analysis of this thesis was carried out. The ways of extracting L2 learners' writing data will be illustrated in the section 3.2.2. In addition, the LTTC corpus also has the well-organized randomly-selected samples, while the data were designed for exam purpose without classroom exercises (cf. Cheung et al., 2010; Chung & Wu, 2009). For the features of the LTTC, the L2 learners were selected from a variety of ages from 12 to 56 year old, with more representative and objective sampling of the subjects.

The second L2 English learner corpus (the ICLE) contains 3,753,030 words and is an L2 English learner corpus from a variety of L1 backgrounds, such as Bulgarian, Czech, Finnish, Japanese, Chinese, etc. The L2 learner data were mainly collected from argumentative academic writing, and each subcorpus contains approximately 200,00 word tokens. The Mandarin Chinese subcorpus has been adopted in the present thesis from 982 examples with 490,617 words. Therefore, the counts of the ICLE (490,617) are more numerous than those of the LTTC (262,178), and most of the L1 Chinese learners are mainly from Mainland China. All of L2 English learners in the ICLE were required to be the undergraduate students with advanced L2 English proficiency. There are two versions of the ICLE, whereas, in the thesis, we utilized Version 2.0 for the concern on the large size of samples.

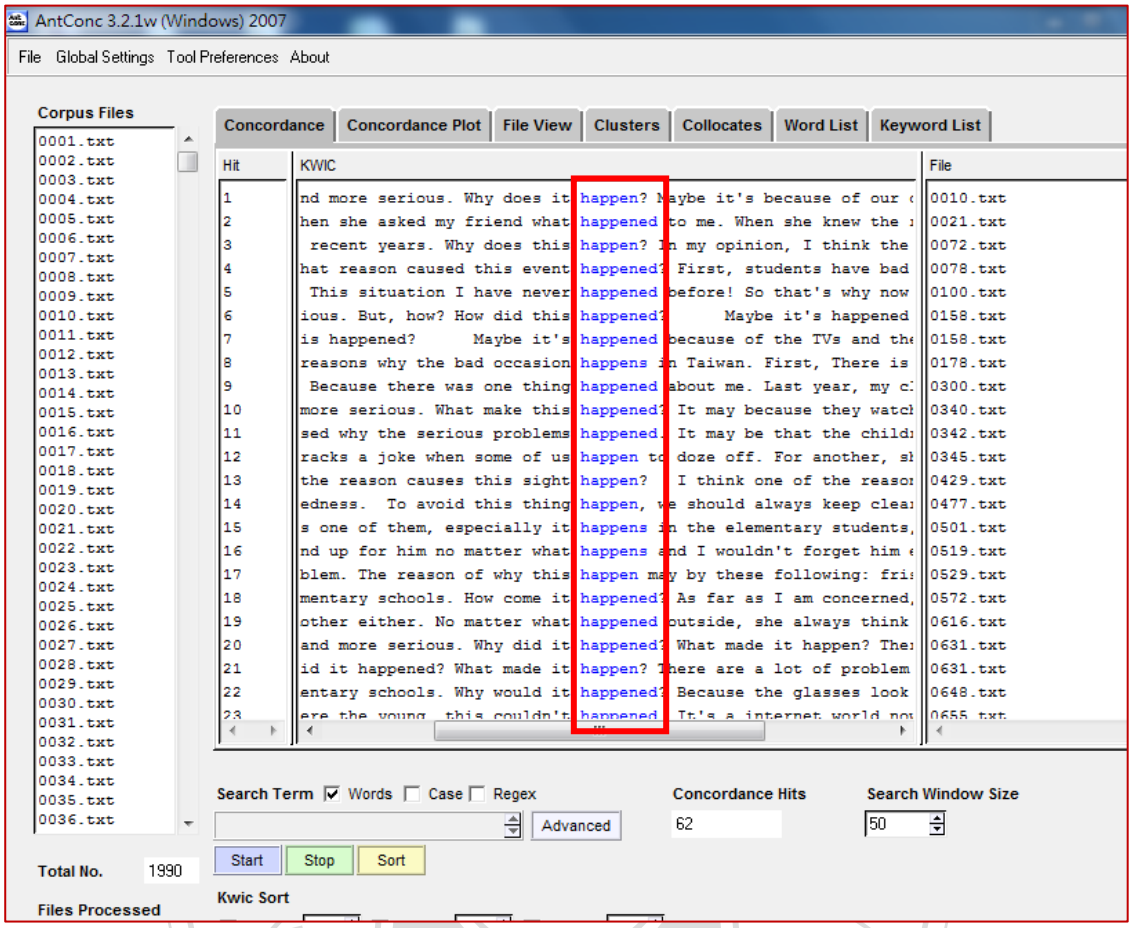
The third L2 English learner corpus in the present study is the NCCU Learner Corpus. It is a newly-established learner corpus in Taiwan with six languages—English, Japanese, Korean, French, Russian, and Arabic. The learner data were mainly collected from the written assignments of undergraduate students at NCCU. In this thesis, we utilize the subcorpus of English learner data, comprising 814 samples with 204,945 words (retrieved on Jan, 2010). Most of the subjects in English subcorpus of the NCCU were English majors, who possessed advanced proficiency of

L2 English. As for the feature of the NCCU learner corpus, the L2 English data were selected from a variety of English learning materials, such as classroom exams, take-home assignments, and blog writing, etc. Therefore, compared to the previous two learner corpora (the LTTC and the ICLE), the NCCU possesses different types of learning contexts of L2 English written data.

3.2.2 The Tool of Extracting Learner Data

In order to make consistent the procedure of extracting L2 learner data among the three learner corpora, all of the learner data were extracted through the AntConc 3.2.1w developed by Laurence Anthony (2005). This simple corpus extracting tool can help us select the linguistic data of HAPPEN, OCCUR, APPEAR, and EXIST from the three learner corpora. The main searching function we will utilize with AntConc is the grammatical form search of the four verbs on the comparison of the frequency for the grammatical form distribution of each verb in BNC. One example of extracting data for HAPPEN form the LTTC via AntConc is displayed in Figure 3.6.

Figure 3.6 The Grammatical Forms of HAPPEN in Learner Corpora



As can be seen in Figure 3.6, all of the instances of HAPPEN in the LTTC were extracted from the three learner corpora through the AntConc 3.2.1w, and all of the possible grammatical forms (*happen*, *happens*, *happening*, and *happened*) of each verb are taken into account. The other three unaccusative existence/appearance verbs (OCCUR, APPEAR, and EXIST) within the three learner corpora also follow the same procedure of data extraction. All of the learner data are then saved as the output for further analysis. For further analysis, we manually counted the grammatical form distributions as well as the erroneous rates (section 3.2.3) of HAPPEN, OCCUR, APPEAR, and EXIST among these the LTTC, the ICLE, and the NCCU learner corpora. Then categorizing error types of the four verbs was conducted (section 3.2.4).

3.2.3 Grammatical Form and Erroneous Rate Analysis

In order to compare the similarities and differences of HAPPEN, OCCUR, APPEAR, and EXIST in the native speaker corpus BNC as well as the three learner corpora, the grammatical forms and the erroneous rates of the verbs are analyzed. The four words in the three corpora were investigated and elicited through the frequency of the four grammatical forms (*V-base, V-s, V-ing,* and *V-ed*), which were also compared to those of the BNC corpus.

In addition to the grammatical form analysis, the erroneous rates of each grammatical form (*V-base, V-s, V-ing,* and *V-ed*) with respect to HAPPEN, OCCUR, APPEAR, and EXIST in the three corpora are taken into account so that L2 learners' difficulty in learning unaccusative existence/appearance verbs can be made clearer. The calculation of the grammatical form distributions and erroneous rates of each English verb was followed in a rigorous manual data collection. We first identified the erroneous instances from each grammatical form, and then calculated the percentage of these erroneous instances for the comparison of similarities and differences in terms of HAPPEN, OCCUR, APPEAR, and EXIST across the native speaker corpus and the three learner corpora.

3.2.4 Categorizing the Errors

After the analysis of the grammatical form distributions and erroneous rates of HAPPEN, OCCUR, APPEAR, and EXIST, the next step focuses on categorizing the extracted erroneous instances into the common errors of the four verbs in the three corpora. All of the erroneous instances were categorized and identified manually. In

terms of the categories of error types, this thesis follows a part of the result from a pilot study of HAPPEN in the LTTC corpus (Wang & Chung, 2009), which was previously shown in Table 2.1. However, in Table 3.2, the five most frequent errors of HAPPEN in the pilot study are re-categorized into two large-scaled error types, which could place more stress on the typical error types of unaccusative existence/appearance verbs in the present thesis.

TABLE 3.2 Examples of the Five Error Types from Learner Corpora

	Error Type	Freq. (%)	Examples
Schematic errors	**Type 1-Mismatches in subject-verb agreement**	15 (45.45%)	**__Why__ the 現象 xiànxiàng 'phenomenon' __happened__?*
	Type 2- Mismatches in infinitive usages	8 (24.24%)	**But you may say what is the reason __cause this happen__?*
	Type 3- Mismatches in present participle usages	5 (15.15%)	**__To avoid this thing happen__, we should always keep clearly in a good range.*
	Schematic errors total	**28 (84.84%)**	
Unaccusative errors	**Type 4-Overpassivization**	4 (12.12%)	**First problem __is always happened__. When you eat noddles you will find glass bluring*
	Type 5-Transitivization	1 (3.03%)	**This situation __I have never happened__ before!*
	Unaccusative errors total	**5 (15.15%)**	
	Grand total	33 (100%)	

As shown in Table 3.2, there are two larger scales—schematic errors and unaccusative errors. Schematic errors refer to the general error types which could be found in any verb type, such as unergative verbs (*laugh* or *talk*), during the learning process of the learners. In this larger scale, three error types are included, Type 1—mismatches in subject-verb agreement, Type 2—mismatches in infinitive usages,

Type 3—mismatches in infinitive usages. The other larger scale is unaccusative errors, containing two specific subtypes of errors usually found in the misuses of unaccusative existence/appearance verbs, Type 4—overpassivization and Type 5—transitivization. After re-calculating the percentages of the five errors within two scales, schematic errors account for 84.84% within the thirty-three instances from the LTTC learner corpus, while unaccusative errors possess 15.15%. However, since the schematic errors might belong to the general errors, our focus in this thesis will be placed more on the two specific unaccusative errors—overpassivization and transitivization errors and investigate which unaccusative error will be found frequently in the four L2 English verbs. The schematic errors are mainly displayed to see the general L2 learners' English proficiency.

As for the criterion to judge the errors, we observed the L2 English syntactic structures where the grammatical forms or the uses of HAPPEN, OCCUR, APPEAR, and EXIST are incorrect or less appropriate. For instance, the reason to categorize the erroneous sentence *But you may say what is the reason **cause this happen**?* into Type 3—mismatches in infinitive usages within the schematic errors is due to the fact that the correct grammatical form in this sentence should be *to-V*, and the *cause…to-V* is the type of L2 English infinitive syntactic structures. However, in the pilot study of Wang and Chung, the authors did not compare other learner corpora. Additionally, more unaccusative existence/appearance verbs should be included for realizing the learning difficulty of L2 learners. In the present thesis, all of the erroneous instances were categorized into these five error types within the schematic and unaccusative errors for the calculation of frequencies and percentages for HAPPEN, OCCUR, APPEAR, and EXIST across the three learner corpora, while some error types, hardly categorized into these five error types, will also grouped into the other error type. This

would be also analyzed and discussed with particular concern in section 3.4.2.

3.3 Findings of Learner Corpora Analysis

From the analysis in section 3.3, we have discovered the distributions of the grammatical forms of the four unaccusative verbs in the English native speaker corpus. In section 3.3.1, the comparison between native speaker corpus and the other three learner corpora will be stressed.

3.3.1 Findings of Grammatical Form and Erroneous Rate Analysis in Learner Corpora

This section is comparing the similarities and differences among the native speaker corpus (BNC) and the three learner corpora (the LTTC, the ICLE, and the NCCU). In order to clearly show the features of the four verbs among the four corpora, we utilized the bar chart to present the percentages of HAPPEN, OCCUR, APPEAR, and EXIST. The result is shown in the following four figures.

Figure 3.7 BNC Frequency of the Four Verbs

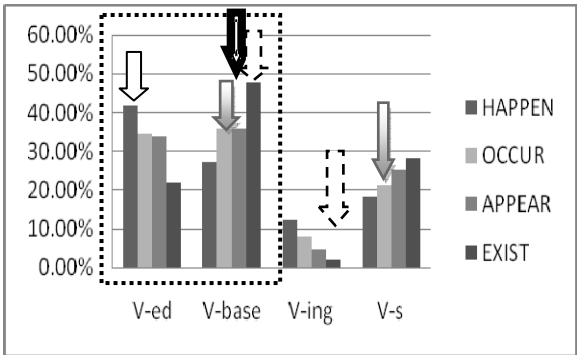


Figure 3.8 LTTC Frequency of the Four Verbs

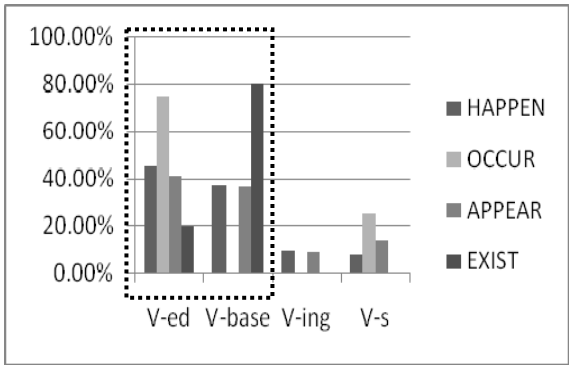


Figure 3.9 ICLE Frequency of the Four Verbs

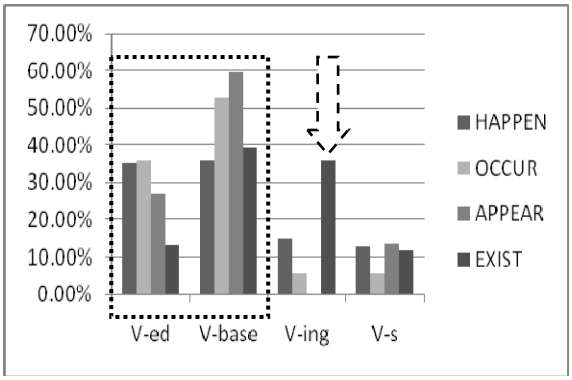
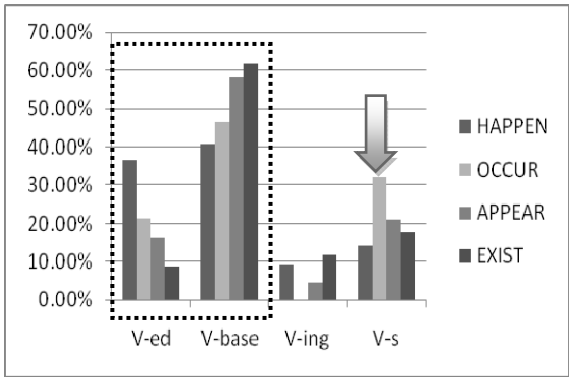


Figure 3.10 NCCU Frequency of the Four Verbs



Regarding the grammatical form distributions, the four figures (from Figure 3.7 to 3.10) present the percentages of the four frequent grammatical forms (*V-ed, V-base, V-ing, and V-s*) possessed by the four unaccusative verbs among the four corpora. As mentioned previously, the result shows that either *V-ed* or the *V-base* form of the four unaccusative verbs in BNC appears most frequently in the BNC even though only EXIST appears extremely frequent as the base form *exist*. This corresponds to a similar distribution of the other three learner corpora that the highly frequent grammatical forms almost appear in both *V-ed* and *V-base* forms. However, some grammatical forms distributions, such as *existing* (35.86%) in the ICLE corpus and *occurs* (32.14%) in the NCCU corpus possess higher percentages than those in BNC. Particularly for *existing* (35.86%) in the ICLE, this grammatical form shows a great difference with that of BNC with only 2.05% of occurrences, which is viewed as the striking variance between native speaker and learner corpora.

After the general analysis of the grammatical form in the four corpora, we then respectively analyze the frequency of the four verbs as well as their erroneous rates from each learner corpus and each verb. In the LTTC learner corpus, compared with the other three verbs, HAPPEN displays a similar pattern of the discrepancy between the *V-ed* form (45.16% for ***happened***) and the *V-base* form (37.09% for ***happen***), and

the erroneous rate of HAPPEN is proportional to the grammatical form. That is, the erroneous rate of the ***happened*** form (71.42% with 28 instances≒32.25% of all HAPPEN's instances) appears the most, and then the ***happen*** form (52.17% with 23 instances≒19.35% of all HAPPEN's instances) appears the second most in the LTTC corpus. On the other hand, the overall erroneous rate of HAPPEN in the LTTC corpus is more than 50% (53.22% from 62 instances), which indicates that the L2 learners may have some difficulty acquiring the uses of the specific grammatical forms for the unaccusative existence/appearance verb HAPPEN.

As for the other three synonyms of HAPPEN in the LTTC corpus, OCCUR has a dominant percentage of *V-ed* form (75% for ***occurred***) with the most erroneous rate (66.66 % with 3 instances≒50.00% of all OCCUR's instances) even though the frequency of OCCUR (4 instances) is much lower than that of HAPPEN (62 instances). APPEAR also presents its distributions on the *V-ed* form (40.90% for ***appeared***) and the *V-base* form (36.36% for ***appear***), while the two highest erroneous rates are on the base form ***appear*** (50.00% from 36.36%≒18.18% of all APPEAR's instances) and the *V-s* form ***appears*** (66.66% with 3 instances≒9.09% of all APPEAR's instances).

The last synonym EXIST shows its salient percentage of the grammatical forms on the *V-base* form ***exist*** (80% for *exist*) with the most erroneous rate (75% from 80% ≒60% of all APPEAR's instances), which may probably indicate that EXIST tends to be used in the *V-base* form ***exist***, whereas the overuse of a certain grammatical form would cause more errors. The next figure will display the verb form distributions of the four unaccusative verbs in the ICLE corpus.

As for the data from the ICLE corpus, HAPPEN also possesses the most percentages in terms of the grammatical forms on the *V-ed* form ***happened*** (35.20%)

and the *V-base* form ***happen*** (36.00%) with the greater erroneous rate (27.27% from 35.2%≒9.6% of all HAPPEN's instances for *happened* and 33.33% from 36%≒12% of all HAPPEN's instances for *happen* respectively). The second verb OCCUR shows the most frequent grammatical form on the *V-ed* form (36.11% for ***occurred***) as well as the *V-base* form (52.77% for ***occur***). However, the two highest erroneous rates are displayed on the highly frequent *V-ed* form ***occurred*** (76.92% from 36.11%≒27.78% of all OCCUR's instances) and the low frequent *V-s* form ***occurs*** (50% from 5.55%≒ 2.78% of all OCCUR's instances).

The third verb APPEAR in the ICLE corpus has its higher frequent grammatical forms on the base form (59.61% for ***appear***) and *V-ed* form (26.92% for ***appeared***), while the two highest erroneous rates are on the *V-ed* form ***appeared*** (28.57% from 26.92%≒7.69% of all APPEAR's instances) and the low frequent *V-s* form ***appears*** (14.28% from 13.4%≒1.91% of all APPEAR's instances). The same pattern in terms of the two highest erroneous rates can be found in EXIST, with 66.66% from 13% (≒ 8.67% of all EXIST's instances) for ***existed*** and 63.63% from 11.9% (≒7.57% of all EXIST's instances) for ***exists***, whereas the most frequent grammatical forms are the *V-base* form (39.13% for ***exist***) and the *V-ing* form (35.86% for ***existing***), which is the most distinctive finding in the ICLE corpus.

In a nut shell, as for the data from the ICLE corpus, some findings can be summarized. Different from its three synonyms, HAPPEN possesses two most frequent grammatical forms possessing the most erroneous rate (***happened*** and ***happen***). By contrast, EXIST displays separate distributions on highly frequent grammatical forms (***exist*** and ***existing***) and erroneous grammatical forms (***existed*** and ***exists***). On the other hand, OCCUR and APPEAR present a similar pattern on the two highest erroneous rates, including one of the most frequent grammatical forms of the

three verbs (***occurred*** and *occurs* for OCCUR, ***appeared*** and *appears* for APPEAR).

Regarding the third learner corpus NCCU, HAPPEN, similar to the previous two corpora, possesses the two most frequent grammatical forms on the base form and the *V-ed* form (40.84% for ***happen*** and 36.61% for ***happened***), with higher erroneous rates (15.51% from 40.8%≒3.14% of all HAPPEN's instances for ***happen*** and 13.72% from 36.61%≒5.02% of all HAPPEN's instances for ***happened***). On the other hand, OCCUR presents similar distributions in terms of the most highly frequent grammatical forms with the two highest erroneous rates on the *V-base* form ***occur*** and the *V-s* form ***occurs*** (16.66% from 46.42%≒7.14% of all OCCUR's instances for ***occur*** and 22.22% from 32.14%≒7.14% of all OCCUR's instances for ***occurs***). The rest of the two verbs (APPEAR and EXIST) have a similar tendency on only one grammatical form (the *V-base* form) with errors (16.00% from 58.13% for ***appear***≒9.3% of all APPEAR's instances and 9.52% from 61.76%≒58.8% of all EXIST's instances for ***exist***), which indicates that the other three grammatical forms (*V-ed* form, the *V-ing* form, and the *V-s* form) of APPEAR and EXIST suggest less difficulty in the NCCU corpus.

To summarize the findings of the grammatical forms as well as erroneous rate across the four corpora, we can look at Table 3.3. In this table, we chose two top grammatical forms in each corpus. The grammatical forms in bold-face type refer to the grammatical forms also found in BNC. Additionally, the grammatical forms with underlines refer to the grammatical forms possessing not only higher frequencies but higher erroneous rates as well.

TABLE 3.3 Two Top Grammatical Forms with High Frequency and Errors

	Corpora	Two top highly frequent grammatical forms	Two top erroneous grammatical forms
HAPPEN (6→6)	BNC	*happened* (41.96%) *happen* (27.11%)	
	LTTC	***happened*** (45.16%) ***happen*** (37.09%)	***happened*** (32.25%)***happen*** (19.35%)
	ICLE	***happen*** (36.00%) ***happened*** (35.20%)	***happen*** (9.6%) ***happened*** (12%)
	NCCU	***happen*** (40.84%) ***happened*** (36.61%)	***happen*** (3.14%)***happened*** (5.02%)
OCCUR (4→3)	BNC	*occur* (35.78%) *occurred* (34.63%)	
	LTTC	***occurred*** (75%) *occurs* (25%)	***occurred*** (50.00%)
	ICLE	***occurred*** (36.11%) ***occur*** (52.77%)	***occurred*** (27.78%) *occurs* (2.78%)
	NCCU	***occur*** (46.42%) *occurs* (32.14%)	***occur*** (7.14%) *occurs* (7.14%)
APPEAR (5→3)	BNC	*appear* (35.83%) *appeared* (34%)	
	LTTC	***appeared*** (40.90%) ***appear*** (36.36%)	***appear*** (18.18%) *appears* (9.09%)
	ICLE	***appear*** (59.61%) ***appeared*** (26.92%)	***appeared*** (7.69%) *appears* (1.91%)
	NCCU	***appear*** (58.13%) *appears* (20.93%)	***appear*** (9.3%)
EXIST (4→2)	BNC	*exist (47.76%) exists (28.16%)*	
	LTTC	***exist*** (80%) *existed* (20%)	***exist*** (60%)
	ICLE	***exist*** (39.13%) *existing* (35.86%)	*existed* (8.67%) *exists* (7.57%)
	NCCU	***exist*** (61.76%) ***exists*** (17.64%)	***exist*** (58.8%)

In Table 3.3, the two top grammatical forms with the highest frequencies and erroneous rates can be found and compared across the corpora. When comparing the grammatical forms, we can discover that the highly frequent grammatical forms in BNC bear a close resemblance to those in the three learner corpora. Among those highly frequent grammatical forms, more than half of them are highly erroneous. Therefore, the overuse of the L2 English verb forms can be observed from this section in corpora comparison. The next section 3.3.2 will focus on the types of errors for the four unaccusative existence/appearance verbs.

3.3.2 Findings of Categorizing the Errors

The second part of the learner corpora findings to show the result of the distributions of the error types among the four verbs based on Table 3.2. Each of the four verbs (HAPPEN, OCCUR, APPEAR, and EXIST) is displayed according to the

frequency and the percentages of the five error types within the schematic errors and the unaccusative errors. The schematic errors include Type 1 (mismatches in subject-verb agreement or tense marker, e.g., ***Why** the 現象 xiànxiàng 'phenomenon' **happened**?*), Type 2 (mismatches in infinitive usages, e.g., **But you may say what is the reason **cause this happen**?*), and Type 3 (mismatches in present participle usages, e.g., ***To avoid this thing happen**, we should always keep clearly in a good range.*), while the unaccusative errors contain Type 4 (overpassivization, e.g., **First problem **is always happened**. When you eat noddles you will find glass bluring*.), and Type 5 (transitivization, e.g., **This situation **I have never happened** before!*).

As for the grouping of the four verbs, since HAPPEN and OCCUR have closely related meaning, the two verbs are discussed as one group in Table 3.4. The other two unaccusative existence/appearance verbs (APPEAR and EXIST) shown in Table 3.5 are sorted as the other group. We first select two most frequent error types in each corpus and then observe the common error types across the three corpora.

TABLE 3.4 Frequency of Error Types in HAPPEN and OCCUR

HAPPEN			
Error type	LTTC	ICLE	NCCU
Schematic errors			
Total (Schematic errors)	**28 (84.84%)**	**18 (62.06%)**	**7 (41.17%)**
Type 1 (S-V agre.)	15 (45.45%)	13 (44.82%)	2 (11.76%)
Type 2 (Infinitive)	8 (24.24%)	1 (3.44%)	1(5.88%)
Type 3 (Pres. Part.)	5 (15.15%)	4 (13.79%)	4 (23.52%)
Unaccusative errors			
Total (Unaccusdative errors)	**5 (15.15%)**	**11 (37.93%)**	**5 (29.41%)**
Type 4 (Overpassivization)	4(12.12%)	10 (30.30%)	4 (23.52%)
Type 5 (Transitivization)	1(3.03%)	1(3.44%)	1 (5.88%)
Others			5 (29.41%)
Grand total	33 (100%)	29 (100%)	17 (100%)

OCCUR			
Error type	LTTC	ICLE	NCCU
Schematic errors			
Total (Schematic errors)	**0 (0%)**	**4 (33.33%)**	**3 (60%)**
Type 1 (S-V agre.)		2 (16.66%)	2 (40.00%)
Type 2 (Infinitive)			
Type 3 (Pres. Part.)		2(16.66%)	1 (20.00%)
Unaccusative errors			
Total (Unaccusdative errors)	**4 (100%)**	**8 (66.66%)**	**2 (40%)**
Type 4 (Overpassivization)		8 (66.66%)	1 (20.00%)
Type 5 (Transitivization)	2 (100%)		
Others			1 (20.00%)
Grand total	2 (100%)	12 (100%)	5 (100%)

From Table 3.4, it shows the distributions of the two large scales in terms of HAPPEN and OCCUR. As for HAPPEN, higher percentages of schematic errors (84.84% in the LTTC; 62.06% in the ICLE; 41.17% in the NCCU) indicate that the highly frequent unaccusative existence/appearance verb might be easily misused by L2 learners in general error types. On the other hand, with respect to the unaccusative errors of HAPPEN, the percentages of the overpassivization errors (12.12% in the LTTC; 30.30% in the ICLE; 23.52%) are comparatively higher than those of the transitivization errors (3.03% in the LTTC; 3.44% in the ICLE; 5.88% in the NCCU) across the three learner corpora, revealing that generally L2 English learners tend to make the overpassivization errors with HAPPEN.

As for the cross-corpora comparison of OCCUR, we found that the percentages of the schematic errors (0% in the LTTC; 33.33% in the ICLE) are generally lower than those of the unaccusative errors (100% in the LTTC; 66.66% in the ICLE), except for the NCCU Learner Corpus (60% for the schematic errors versus 40% for the unaccusative errors), which means that OCCUR might easily be misused by L2 learners in the unaccusative errors. Within the unaccusative errors, we found that the overpassivization errors with higher percentages in the two learner corpora (66.66%

in the ICLE; 20% in the NCCU) are generally the most frequent errors of OCCUR, even though the percentage of the transitivization errors (100%) in the LTTC dominates the whole error types, which may be partially due to the low frequency of the errors.

On the other hand, compared with HAPPEN, the other verb OCCUR has lower frequencies among the first three schematic error types (Type 1, 2 and 3), except for the outstanding frequency of Type 1 in the NCCU, which may indicate that L2 English learners of the LTTC and ICLE corpora seem to make less schematic errors, such as Type 1 (**Many family problems **will occurs**.), Type 2 (**Televisions **makes** *that incident* **occurred**.), and Type 3 (**There is a different opinion **occurs**.). However, this may be also because of the asymmetric frequencies between the two verbs. That is, the error frequencies of HAPPEN is usually approximately three times more than those of OCCUR, while this also indicates that L2 English learners tend to choose HAPPEN rather than OCCUR to illustrate the verb concept of the event becoming to exist. From the findings, we realized that, for HAPPEN and OCCUR, Type 4 (Overpassivizaton) of the unaccusative errors is the identically frequent error type across the three learner corpora.

Furthermore, to know how L2 learners misused the sentences with HAPPEN and OCCUR and to realize some features possessed in the overpassivization errors, we select some instances from the three learner corpora for further qualitative analysis. Four examples are shown in (1).

(1) a. **When **two reasons** above **are happened** frequently, students will get nearsighted soon.* (LTTC)
b. ***Few crimes** will **be happened**.* (ICLE)
c. ***The same condition is occurred** ion students, too, even more apparently*. (NCCU)
d. **In recents**, many **PC cafes are occurred** in the city*. (ICLE)

As shown in sentences (1), there are four overpassivization errors of HAPPEN or OCCUR extracted from the learner corpora. For the subjects of the sentences, L2 learners tend to combine some improper subjects, such as *two reasons* in (1a), or *PC café* in (1d), with HAPPEN or OCCUR, which are not usually used by English native speakers. Though we might not be sure whether the selection of subjects will increase the overpassivization errors, yet the misuses of the unaccusative errors of HAPPEN and OCCUR would probably not only be related to the English syntactic structures. The semantic lexical choices of the subjects or, perhaps, the effect brought by L1 Chinese might also be taken into account, which will be discussed in the psycholinguistic experiments in Chapter Four.

After realizing the frequencies and distributions of the five error types within schematic and unaccusative error scales for the first verb group (HAPPEN and OCCUR), we then display the result of the second verb group (APPEAR and EXIST) in Table 3.5.

TABLE 3.5 Frequency of Error Types in APPEAR and EXIST

APPEAR			
Error type	LTTC	ICLE	NCCU
Schematic errors			
Total (Schematic errors)	**3 (42.85%)**	**1 (11.11%)**	**0 (0%)**
Type 1 (S-V agre.)	1 (14.28%)		
Type 2 (Infinitive)			
Type 3 (Pres. Part.)	2 (28.57%)	1 (11.11%)	
Unaccusative errors			
Total (Unaccusative errors)	**4 (57.14%)**	**8 (88.88%)**	**4 (100%)**
Type 4 (Overpassivization)	2 (28.57%)	5 (55.55%)	
Type 5 (Transitivization)	1 (14.28%)	2 (22.22%)	4 (100%)
Others	1 (14.28%)	1 (11.11%)	
Grand total	7 (100%)	9 (100%)	4 (100%)

EXIST			
Error type	LTTC	ICLE	NCCU
Schematic errors			
Total (Schematic errors)	**1 (33.33%)**	**5 (22.72%)**	**2 (100%)**
Type 1 (S-V agre.)		3 (13.63%)	1 (50%)
Type 2 (Infinitive)			1 (50%)
Type 3 (Pres. Part.)	1 (33.33%)	2 (9.09%)	
Unaccusative errors			
Total (Unaccusative errors)	**2 (66.66%)**	**15 (68.18%)**	**0 (0%)**
Type 4 (Overpassivization)		12 (54.54%)	
Type 5 (Transitivization)	2 (66.66%)	3 (13.63%)	
Others		2 (9.09%)	
Grand total	3 (100%)	22 (100%)	2 (100%)

In terms of the other two verbs (APPEAR and EXIST), Table 3.5 shows the result of error distributions. As for APPEAR, the percentages of the schematic errors (42.85% in the LTTC; 11.11% in the ICLE; 0% in the NCCU) are comparatively higher than those of the unaccusative errors (57.14% in the LTTC; 88.88% in the ICLE; 100% in the NCCU), indicating that L2 learners tend to make unaccusative errors in the sentences with APPEAR. A further analysis of the unaccusative errors of APPEAR, the data possess an overlapping area on the two unaccusative errors—Type 4 (overpassivization) and Type 5 (transitivization)— across the three learner corpora when it comes to the two highly frequent errors (28.57% for Type 3 (schematic errors) and Type 4 (unaccusative errors) in the LTTC; 55.55% for Type 4 (unaccusative errors) and 22.22% for Type 5 (unaccusative errors) in the ICLE; 100% for Type 5 (unaccusative errors) in the NCCU), which implies that the two unaccusative error types may be the major or typical errors of APPEAR for L2 English learners.

On the other hand, in terms of the common frequent error types, EXIST has similar distributions in the transitivization errors (66.66% in the LTTC; 13.63% in the

ICLE), even though the overpassivization errors in the ICLE, accounting for 54.54% as the most highly frequent error. Thus, for APPEAR and EXIST, the common frequent errors across corpora are the transitivization errors (Type 5) within the unaccusative errors even though Type 4 (overpassivization) and Type 1 (subject-verb agreement) still have some impact on acquiring the two unaccusative verbs by L2 learners.

Furthermore, to display some particular features of the transitivization errors of APPEAR and EXIST, four erroneous instances are selected in (2) for discussion to show some specific L2 English differences from those of the native speakers.

(2)

a. **the tradition that can **appear the culture** there and can appeal many teenagers.* (LTTC)
b. **It **is** not only **appears the financial problems**.* (ICLE)
c. **Although recycling of waste **exists a few problems**.* (ICLE)
d. **The cabbages **exist a natural and special flave**.* (LTTC)

From sentences in (2), it appears that some errors cannot be completely placed in the transitivization errors. For example, in (2b), it reveals a combination of both overpassivization (**It **is** not only **appears**…*) and transitivization errors (***appears the financial problems***) in this case from the ICLE learner corpus. Another problem observed from these instances is that the inconsistency between the grammatical form choices of the verbs and nouns. For instance, in (2a), the grammatical form *appear* has no relation with either the subject *the trandition* or the erroneous object *the culture*. Lastly, the noun *problem* seems to be frequently used with both APPEAR (2b) and EXIST (2c) by L2 learners, and the particular L2 English patterns, such as **appear the culture* in (2a) and **exist a natural and special flave* (2d), may not be

used frequently by English native speakers. Thus, all of the four transitivization erroneous instances of APPEAR and EXIST reveal the difficulty for L2 English learners to completely acquire the two unaccusative existence/appearance verbs. However, the possible reasons for these transitivization errors might not be easily elicited via the only corpora comparison, which inspired us to incorporate the psycholinguistic experiments to examine to find out the cause of the unaccusative errors.

3.4 Summary of the Chapter

In a nutshell, in this chapter, several findings from corpora analysis can be included. First, for synonym analysis, from the findings of native speaker corpora, HAPPEN is closer to the English EXIST concept, while *發生 fāshēng* 'happen' is more related to the Chinese *出現 chūxiàn* 'appear' concept. Second, from the Chinese grammatical patterns found in the Chinese native speaker corpus, *發生了 fāshēng-le* 'happen-perfective auxiliary', *出現了 chūxiàn-le* 'appear- perfective auxiliary', and *存在著 cúnzà-zhe* 'exist-imperfective auxiliary' are found to be frequently used by Chinese native speakers. Additionally, both V+N and N+V patterns for *發生 fāshēng* 'happen', *出現 chūxiàn* 'appear', and *存在 cúnzà* 'exist', such as *發生意外 fāshēngyìwài* 'The accident happened' or *意外發生 yìwàifāshēng* 'The accident happened', are frequently used in Chinese. Third, in English native speaker corpus, we found that *V-ed* or *V-base* for the four unaccusative verbs are frequent, which is similar to the findings from learner corpora. The highly frequent grammatical forms, influenced by English, are usually overused by L2 learners, since the erroneous rates of those grammatical forms are comparatively higher. Fourth, for the error types of

the four verbs, HAPPEN and OCCUR are frequently misused in the unaccusative error—Type 4 (overpassivization), while APPEAR and EXIST are similarly misused in the unaccusative error—Type 5 (transitivization).

Despite the findings of L2 learners' frequent errors of HAPPEN and its synonyms through corpora comparison, there is still a doubt how these errors are caused. In order to test the possible reasons for L2 errors of the four unaccusative existence/appearance verbs, we will conduct psycholinguistic experiments based on the variables of L2 learners (e.g., their age differences) and L1 Chinese transfer.

In Chapter Four, we will demonstrate the methods of how we designed and did the psycholinguistic experiments as well as some detailed discussion related to the experiments. In addition, the results of statistical evidence for the psycholinguistic experiments will be shown as well.

CHAPTER 4

STUDY II— PSYCHOLINGUISTIC EXPERIMENTS

Chapters Three examines the results from corpora analysis, displaying the overuse of the highly frequent grammatical forms in which L2 learners usually make more errors of HAPPEN and its three synonyms. However, due to the limits of the corpora analysis that the variables within L2 learners (e.g., age differences) and the L1 Chinese transfer or effect (e.g., a particular word order *意外發生* y*iwaifāshēng* 'The accident happened') cannot be tested, we then conducted psycholinguistic experiments to re-examine the common errors with specific frequent grammatical forms in the corpora section.

In Study II of this thesis, we intend to investigate whether the ages of the L2 learners and their L1 possible Chinese transfer could actually influence the ratings of the grammatical forms within some problematic syntactic structures of unaccusative verbs. Through psycholinguistic experiments, we would like to provide some possible explanations for the common error types, where the phenomenon of overusing certain grammatical forms with higher erroneous rates would take place. Two empirical acceptability judgment tasks will be adopted to investigate the relationship among common errors of unaccusative existence/appearance verbs, possible L2 English influence, and L1 Chinese transfer. In the following section 4.1, we discuss the design of the L2 English syntactic structure acceptability tasks. In section 4.2, the design of the L1 Chinese grammatical pattern acceptability tasks will be displayed. Section 4.3 to 4.5 will display the findings in the two experiments.

4.1 Methods of L2 English Acceptability Judgment Tasks

The first acceptability judgment tasks, including Questionnaires A and B, will focus on finding the influence brought by L2 English syntactic structures, where L2 learners would easily make errors. Questionnaire A possesses sixteen questions within the three schematic errors (mismatches in subject-verb agreement, mismatches in infinitive usages, and mismatches in present participle usages) and one unaccusative error (overpassivization errors). Other verb types, such as unergative verbs *laugh* or *start*, will be selected in the schematic errors to examine whether these error types are not specific to unaccusative existence/appearance verbs. Questionnaire B, on the other hand, adopts four questions to examine the other unaccusative error (transitivization errors) because we assumed that this unaccusative error type is rather peculiar and is required for L2 learners to pay more attention to the verb grammatical form choices. Each question of the two questionnaires has five grammatical form (*to-V*, *V-base*, *V-s*, *V-ed*, and *V-ing*) choices provided for L2 learners to rate their degree of acceptability and one blank for alternative answers. Our hypothesis is that: When L2 learners feel confused with the English syntactic structures with unaccusative existence/appearance verbs, they will feel difficult to rate the five grammatical forms. Thus, the correct grammatical form may have no significant differences with the other erroneous grammatical forms via inferential statistical measures. Additionally, when they identify that all of the grammatical forms we provided are not appropriate for the verbs in the English syntactic structures, they will provide alternative verb forms for a better answer, which will be emphasized in Questionnaire B with transitivization errors.

Through the design of experiments, we can understand which structure might be

misused by L2 learners. Furthermore, these acceptability tasks serve as the re-examination of the result of the error types of HAPPEN, OCCUR, APPEAR, and EXIST from the previous corpora analysis. In other words, when we find out some similar patterns of the unaccusative verbs in the psycholinguistic experiments, then we can assure that the results from corpora analysis will be more convincing.

4.1.1 Selected Stimuli of Questionnaires A and B

The first acceptability task contains two questionnaires (Questionnaires A & B), based on the findings of error types in the learner corpora analysis. These two questionnaires aim to investigate L2 English syntactic influence on grammatical form ratings and to find out the relation between the grammatical form choices and the five error types within the schematic and unaccusative error scales in the corpora section. Questionnaire A is the L2 English syntactic structure judgment task, including the three schematic error types (Type 1-subject-verb agreement, e.g., **Why **did** this **happened**?*, Type 2-infinitive, e.g., ** What is the reason **cause this happen**?*, and Type 3-present participle, e.g., ****To avoid this thing happen**, we should always keep clearly in a good range.*) and one unaccusative error (Type 4-overpassivization, e.g., **First problem **is always happened**.*), while Questionnaire B includes the remaining unaccusative error (Type 5-transitivization, e.g., **This situation **I have never happened** before!*). One correct grammatical form and four erroneous ones are included in the sentences of Questionnaire A, while most of the grammatical forms are inappropriate in the sentences of Questionnaire B. Thus, the subjects will be specially instructed to provide alternative answers for the sentences. The stimuli of Questionnaires A are shown in Table 4.1, and those in Questionnaire B are shown in

Table 4.2.

TABLE 4.1 Stimuli Used in Questionnaire A

Schematic errors
Type 1-Mismatches in subject-verb agreement
1. Why did the situation _____? (happen) (happened in LC)
2. Many family problems will _____ if the members do not get along well. (occur) (occurs in LC)
3. Where did John _____ last summer vacation? (travel) (unergative verbs)
4. When you went to see a doctor yesterday, what did he _____ to you? (explain) (unergative verbs)
Type 2- Mismatches in infinitive usages
5. Bad habits would make nearsightedness _____. (happen) (happened in LC)
6. What reason caused this car accident _____?(to happen) (happened in LC)
7. We discussed what caused the Vietnam War _____ in the history class. (to start) (unergative verbs)
8. My sister's jokes always make me _____ (laugh) (unergative verbs)
Type 3- Mismatches in present participle usages
9. There are some drawbacks _____ in the new product. (existing) (exist in LC)
10.Technology can deal with some problems _____ in our daily lives. (occurring) (occurred in LC)
11. Did you know the guy_____ in the park? (jogging) (unergative verbs)
12. Seventy people _____ in the company were rescued from a fire. (working) (unergative verbs)
Unaccusative errors
Type4-Overpassivization
13. When you eat noodles, the first problem is always_____. You will find your glasses unclear. (happening) (happened in LC)
14. In recent years, many cyber cafes are _____in the city. (occurring) (occurred in LC)
15. In the modern society, financial problems have been _____ in some families. (appearing) (appeared in LC)
16. The issue of abolishing the death penalty is still _____ nowadays. (existing) (exist in LC)

In Table 4.1, each sentence possesses one blank, and the grammatical form in the parenthesis is the correct answer, but the frequently found wrong grammatical form in the learner corpora (LC) is highlighted. Take the first sentence *Why did the situation _____?* as an example; we found the erroneous sentence **Why did the situation **happened**?* in learner corpora and compared the correct sentence *Why did the situation **happen**?* from English native speaker corpus. Since schematic errors

might occur due to a general learning difficulty, we selected two other sentences with other verb types, such as TRAVEL and EXPLAIN as shown in Type 1, for fear that those three schematic errors would probably be used in other types of verbs. As for one of the unaccusative error—overpassivization errors in Questionnaire A, the four unaccusative existence/appearance verbs in this thesis are adopted as the stimuli to examine whether L2 learners would feel difficult to judge the correct grammatical form. After introducing the design of Questionnaire A, the next table will display the stimuli of Questionnaire B, with the remaining unaccusative error—transitivization errors.

TABLE 4.2 Stimuli Used in Questionnaire B

Unaccusative errors
Type5-Transitivization
1. This is a special situation I have never _____ before. (encountered) (happened in LC)
2. When southern Asia_____ the earthquake, many charities came to help the victims. (suffered from, faced) (occurred in LC)
3. When you chose a topic casually on the English learning website, it could _____ an English dialogue. (show, be) (appear in LC)
4. The cabbages _____ a natural and special flavor. (have, contain) (exist in LC)

In Table 4.2, the four unaccusative existence/appearance verbs are tested in the structure of the unaccusative error—transitivization, e.g. **it <u>happened a car accident</u>*. However, since the grammatical forms of verbs provided for rating would make the transitivization structures become ungrammatical in English (e.g., **It <u>to happen/happen/happens/happened/happening</u> a car accident*.), we informed the subjects with special care and hoped them to provide possible other verbs as the correct answer. This intends to test whether L2 learners can actually sense the ungrammatical patterns under the tranisitivization structure.

4.1.2 Samples of Questionnaires A and B

The two instructions for Questionnaire A and B are displayed in examples (1).

(1) (a) Questionnaire A：此問卷共有 16 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

Translations: There are sixteen questions in this questionnaire. Please read each sentence carefully and, from the 'items', circle the acceptability rating of each item. Be aware that you need to circle one figure from the 1-5 scale. **1 means it is unacceptable for you <----------> 5 means it is acceptable for you**. **If you think that there is still an alternative answer**, please fill it in the blank.

(b)Questionnaire B：此問卷 4 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

Translations: There are four questions in this questionnaire. Please read each sentence carefully and, from the 'items', circle the acceptability rating of each item. Be aware that you need to circle one figure from the 1-5 scale. **1 means it is unacceptable for you <----------> 5 means it is acceptable for you**. **If you think that there is still an alternative answer**, please fill it in the blank.

As can be seen in these two instructions of Questionnaires A and B, generally both are similar. As for the sample answer, actually we provided some different examples for Questionnaires A and B so as to meet the need of the different error types in the two questionnaires. The following samples in examples (2) are those in the two questionnaires, which will make the instructions clearer.

(2) (a) Questionnaire A

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 to be playing，則填入劃線中。

Translations: In the blank of this question, if *to play/play/plays/playing* is filled in, which one is more acceptable for you? If there is still an alternative answer other than these five items, such as *to be playing*, please fill it in the underlined blank.

Example	**Items**	**unacceptable < ----------->acceptable**
1. These boys have been _____ soccer in the park for five hours.	to play	1 2 **(3)** 4 5
	play	1 **(2)** 3 4 5
	plays	1 2 **(3)** 4 5
	played	1 2 3 **(4)** 5
	playing	1 2 3 4 **(5)**
	Alternative answer (please fill it in the blank)	to be playing _____

(b) Questionnaire B

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 kicking，則填入劃線中。

Translations: In the blank of this question, if *to play/play/plays/playing* is filled in, which one is more acceptable for you? If there is still an alternative answer other than these five items, such as *kicking*, please fill it in the underlined blank.

Example	**Items**	**unacceptable < ---------->acceptable**
1. We need _____ dinner this Friday.	to cook	1 2 3 4 **(5)**
	cook	1 **(2)** 3 4 5
	cooks	1 2 **(3)** 4 5
	cooked	1 2 **(3)** 4 5
	cooking	1 2 3 **(4)** 5
	Alternative answer (please fill it in the blank)	to be cooking _____
2. These boys have been _____ soccer in the park for five hours.	to play	1 2 **(3)** 4 5
	play	1 **(2)** 3 4 5
	plays	1 2 **(3)** 4 5
	played	1 2 3 **(4)** 5
	playing	1 2 3 4 **(5)**
	Alternative answer (please fill it in the blank)	kicking _____

In examples (2), two samples are displayed. Similarly in both samples, five grammatical forms are provided for subjects to rate the degree of acceptability if they are filled in the L2 English syntactic structures. The added infinitive grammatical form *to-V* in the questionnaires was used for the convenience of eliciting subjects' comprehension of grammatical forms. Every grammatical form should be rated by subjects. As to the 1-5 scores of each grammatical form, 1 means that subjects cannot accept the grammatical form in the L2 English syntactic structure, whereas 5 means that the subjects can totally accept the grammatical form in the L2 English syntactic structure. The other scores 2-4 in between can show the degree of hesitation for subjects to rate the grammatical forms. When subjects come up with alternative answers for the stimuli, they can provide their answers in the underlined blank. However, as for the differences, we only provided one example to demonstrate how to change the grammatical form (e.g., *to be playing*) for the sentence *These boys have been _____ soccer in the park for five hours.* in Questionnaire A, while there is an additional example provided to demonstrate how to use another verb as the other answer for the sentence *These boys have been _____ soccer in the park for five hours.* (*play* →*kicking*) in Questionnaire B. Our hypotheses for Questionnaires A and B are addressed as follows:

(3) (a) Hypothesis 1: For Questionnaire A, if the subjects rate the correct grammatical form higher than the other four erroneous ones, then we confirm that the subjects could correctly identify the uses of unaccusative verbs and these L2 English syntactic structures (subject-verb agreement, infinitive usages, present participle usages, and overpassivization structures) will not influence the L2 unaccusative acquisition.

By contrast, if the subjects rate the correct grammatical form lower than the other four erroneous ones, or there is no significant difference between the correct and the erroneous grammatical forms, then we confirm that the subjects could not correctly identify the uses of

unaccusative verbs and these L2 English syntactic structures will probably influence the L2 unaccusative acquisition.

(b) Hypothesis 2: For Questionnaire B, if the subjects lowly rate all of the grammatical forms and even provide some other verbs as the answers, then we confirm that they really identify the differences of the transitivization structures from HAPPEN in English (**I happened a car accident.*) and *發生 fāshēng* 'happen' in Chinese (*我發生意外 wǒfāshēngyìwài* 'A car accident happened to me'), and this L2 English syntactic structure did not influence the L2 unaccusative acquisition.

By contrast, if L2 learners highly rate all of the grammatical forms and do not provide alternative answers for this syntactic structure, then we affirm that L2 learners may have difficulty in sensing the transitivization errors of unaccusative verbs.

4.1.3 Subjects and Procedures of Questionnaires A and B

As for the subjects in the first L2 English acceptability judgment tasks, there were two groups. Group A is the college group containing 39 subjects and Group B is the senior high group containing 37 subjects. All of the subjects in college group were students taking the freshman English course, while all of the subjects were students randomly selected in a senior high school. Regarding the language proficiency, the subjects in the college group generally had the intermediate English level, while the subjects in the senior high group had the basic or low-intermediate level. The two groups were recruited to investigate whether subjects with different ages would perform differently in judging L2 English grammatical form with the syntactic structures where common error types occur.

As for the procedures of the acceptability judgment tasks, both Questionnaires A and B were conducted for one college group and one senior high group respectively.

Additionally, all the procedure for both groups in this experiment was the same. The total time span given was thirty minutes for the subjects to finish these two questionnaires. The two groups were in the original classroom of their schools. The subjects were told to first finish Questionnaire A at their own pace and then kept doing Questionnaire B without reviewing the questions in Questionnaire A. In Questionnaire B with transitivization erroneous sentences, subjects were informed to notice whether the grammatical forms provided were appropriate for the sentences in the questionnaire. If they were not satisfied with the provided five grammatical forms, all of the grammatical forms could be rated as 1 (unacceptable) and then provided alternative answers for the sentences.

4.2 Methods of L1 Chinese Acceptability Judgment Tasks

After introducing the first acceptability judgment tasks of L2 English, we then provide some detailed information regarding the second one. Since some studies indicate that L1 Chinese would transfer some specific L1 lexical features, such as the lexical grammatical patterns, e,g., *發生意外 fāshēngyiwai* 'The accident happened' or *意外發生 yiwaifāshēng* 'The accident happened' (Liu, 2000; Wu & Liu, 2002) or perfective auxiliary selections *–著 –zhe* versus *–了 –le* (Liu, 2007), which have been analyzed through corpora analysis in this present thesis, and thus the second acceptability judgment task of L1 Chinese intends to whether the grammatical form rating would be influenced by the L1 transfers brought by the two Chinese perfective auxiliaries *–著 –zhe* versus *–了 –le* and Chinese verb-noun grammatical patterns N+V versus. V+N. The stimuli designed in the second task are shown in the next section 4.2.1.

4.2.1 Selected Stimuli of Questionnaires C and D

As for the stimuli used in Questionnaires C and D, they are displayed in Table 4.3. All of the stimuli are sixteen sentences within four groups of Chinese grammatical patterns, and they are arranged and grouped into different Chinese grammatical patterns, including Pattern 1—V+*-zhe* (e.g., *存在著 cúnzà-zhe* 'exist-imperfective auxiliary'), Pattern 2—V+ *-le* (e.g., *出現了 chūxiàn-le* 'appear-perfective auxiliary'), Pattern 3—N+V (e.g., *意外發生 yìwàifāshēng* 'The accident happened'), and Pattern 4—V+N (e.g., *發生意外 fāshēngyìwài* 'The accident happened').

TABLE 4.3 Stimuli Used in Questionnaires C and D

Pattern 1-V+-*zhe*

1. 台灣正**發生著**複雜的變化。
   The change is _____ in Taiwan now. (happening)
2. 悲觀的人總覺得世界上一直**發生著**不公平的事。
   Pessimistic people may think that the unfair issues keep _____ in this world. (occurring)
3. 國人生活壓力造成社會上**出現著**心理疾病的盛行。
   The increasing pressure in citizens' life makes the prevailing psychological diseases ____. (appear)
4. 民主國家目前仍**存在著**種族歧視。
   The racial discrimination still _____ in the current democratic countries. (exists)

Pattern 2-V+ *–le*

5. 他還不知道**發生了**什麼事。
   He didn't know what _____. (happened)
6. 近年來，社會上**發生了**許多兒童受虐事件。
   In recent years, there are many incidents of child abuse_____ in the society. (occurring)
7. 金融海嘯過後，政治上與經濟上**出現了**不可預測的因素。
   The unpredictable factors _____ after the financial crisis. (appeared)
8. 二手煙問題已經**存在了**很多年，但卻很難徹底解決。
   The problem of second-hand smoke has been _____ for several years, while it is really difficult to solve it. (existing)

Pattern 3- N+V

9. 這件**意外發生**於上午八時三十分。
   The accident _____ at 8:30 A.M. (happened)
10. 鄰居必須發揮守望相助的精神才能防止**刑案發生**。
    Neighbors should help each other to prevent the criminal events _____ in the neighborhood. (occurring)
11. 即使病人已經昏迷數日，醫生仍努力搶救，希望有**奇蹟出現**。
    Although the patient has been in a coma for many days, the doctor still made efforts and expected the miracle _____. (to appear)
12. 921 地震暴露了台灣地理環境上的**風險存在**。
    The 921 earthquake uncovered the risk of geographic environment_____ in Taiwan. (existing)

Pattern 4-V+N

13. 高速公路**發生車禍**。
    There is a car accident _____ on the highway. (happening)
14. 如果世界上**發生戰爭**，人類將無法安心生活。
    If there is a war _____ in the world, humans cannot live peacefully. (occurring)
15. 這間老房子因爲年久失修而**出現許多裂縫**。
    There are many cracks_____ in the old house that is long neglected and in disrepair. (appearing)
16. 立法委員指出這項公共工程**存在許多缺失**。
    The lawmakers indicated that many pitfalls _____ in this public engineering project. (existed)

All of the sixteen stimuli in Table 4.3 were first adapted from the Chinese sentences in the Chinese native speaker corpus (GW 2.0). Then the Chinese sentences were translated into English with the erroneous patterns found in L2 English learner corpora. Take the first sentence *台灣正**發生著**複雜的變化 Táiwān zhèng **fāshēngzhe** fùzá de biànhuà* 'Taiwan now **happen-zhe** complicated of change' as example, we translated it into the English sentence *The change is _____ in Taiwan now.* (expected answer: *happening*), for we found that the present participle in *the subject+be+Ving* was frequently misused by L2 English learners. Two versions of the questionnaires were given. Questionnaire C contained the only English sentences for the subjects to rate the grammatical forms, while Questionnaire D contained the English sentences with Chinese translations. For the sentence *The change is _____ in Taiwan now.* (expected answer: *happening*), the subjects might highly rate *happening* and **happened* as the acceptable answers, while they were expected to highly rate the correct answer *happening* only affected by the Chinese grammatical pattern with the imperfective auxiliary *發生著 fāshēngzhe* 'happen-zhe' within the Chinese translation *台灣正**發生著**複雜的變化 Táiwān zhèng **fāshēngzhe** fùzá de biànhuà* 'Taiwan now **happen-zhe** complicated of change.' In some other examples, such as *He didn't know what _____.* (expected answer: *happened*), the subjects might first highly rate **happen*, **happens*, and *happened* as the acceptable answers, while they were expected to highly rate the correct answer *happened* only affected by the Chinese grammatical pattern with the perfective auxiliary *發生了 fāshēngle* 'happen-le' within the Chinese translation *他還不知道**發生了**什麼事 Tā hái bùzhīdào **fāshēngle** shénmeshì* 'He not yet know **happen-le** what.' The way for subjects to rate the grammatical forms in Questionnaires C and D was similar to that of Questionnaires A and B.

4.2.2 Samples of Questionnaires C and D

After showing the stimuli in both questionnaires C and D, we then demonstrate the instruction in these two questionnaires. The two instructions are displayed in examples (4).

(4) (a) Questionnaire C：此問卷共有 16 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

Translations: There are sixteen questions in this questionnaire. Please read each sentence carefully and, from the 'items', circle the acceptability rating of each item. Be aware that you need to circle one figure from the 1-5 scale. **1 means it is unacceptable for you <----------> 5 means it is acceptable for you**. **If you think that there is still an alternative answer**, please fill it in the blank.

(b) Questionnaire D：此問卷共有 16 題。請仔細閱讀每一個句子，尤其是粗體的字，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

Translations: There are sixteen questions in this questionnaire. Please read each sentence carefully and **particularly for the words in bold-face type**. From the 'items', circle the acceptability rating of each item. Be aware that you need to circle one figure from the 1-5 scale. **1 means you are unacceptable <----------> 5 means you are acceptable**. **If you think that there is still an alternative answer**, please fill it in the blank.

Examples (4) are the instructions in Questionnaires C and D, and the information is similar to that of Questionnaires A and B. However, since the stimuli in Questionnaire D possess the Chinese sentence with highlighted Chinese grammatical patterns in bold-face type (see (5b)), there is some special notice in the instruction of

the Questionnaire D so as to make the subjects aware of L1 Chinese grammatical patterns while they are answering the questions. Two samples are given as follows in examples (5).

(5) (a) Questionnaire C

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 kicking，則填入劃線中。

Translations: In the blank of this question, if *to play/play/plays/playing* is filled in, which one is more acceptable for you? If there is still an alternative answer other than these five items, such as *kicking*, please fill it in the underlined blank.

Example	**Items**	**unacceptable < ---------->acceptable**
1. These boys have been _____ soccer in the park for five hours.	to play	1 2 **(3)** 4 5
	play	1 **(2)** 3 4 5
	plays	1 2 **(3)** 4 5
	played	1 2 3 **(4)** 5
	playing	1 2 3 4 **(5)**
	Alternative answer (please fill it in the blank)	kicking _____

(b) Questionnaire D

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 kicking，則填入劃線中。

Translations: In the blank of this question, if *to play/play/plays/playing* is filled in, which one is more acceptable for you? If there is still an alternative answer other than these five items, such as *kicking*, please fill it in the underlined blank.

Example	**Items**	**unacceptable < ---------->acceptable**
1. 這些男孩們**已經**踢足球**踢了五個小時**。 These boys have been _____ soccer in the park for five hours.	to play	1 2 **(3)** 4 5
	play	1 **(2)** 3 4 5
	plays	1 2 **(3)** 4 5
	played	1 2 3 **(4)** 5
	playing	1 2 3 4 **(5)**
	Alternative answer (please fill it in the blank)	kicking _____

In 5(a), the ratings of the grammatical forms are similar. However, we expect that the ratings between Questionnaires C and D could be different because of the L1 Chinese grammatical patterns as the highlighted linguistic cues. Questionnaire C serves as the control test, which will be compared to Questionnaire D. In (5b), we would like to make the subjects pay more attention to the highlighted Chinese grammatical patterns and then decide to rate each grammatical form. In this sample, an example is provided to give another verb as the alternative answer for the sentence. Our hypothesis of Questionnaires C and D is addressed as follows:

(6) (a) Hypothesis 1: For Questionnaire C and D, if the subjects change the grammatical form rating, we confirm that L1 Chinese linguistic cues within the Chinese grammatical patterns might have some effect on L2 English unaccusative acquisition.

By contrast, if the subjects do not change the grammatical form rating, we confirm that L1 Chinese linguistic cues within the Chinese grammatical patterns might have little effect on L2 English unaccusative acquisition.

(b) Hypothesis 2: For Questionnaire C and D, if the subjects change the grammatical form rating and highly rate the correct grammatical form because of the Chinese linguistic cues, we confirm that there would be some positive transfer from L1 Chinese in L2 English unaccusative acquisition.

By contrast, if the subjects change the grammatical form rating and lowly rate the correct grammatical form because of the Chinese linguistic cues, we confirm that there would be some negative transfer from L1 Chinese in L2 English unaccusative acquisition.

4.2.3 Subjects and Procedures of Questionnaires C and D

In the second acceptability judgment task of L1 Chinese, there was only one college group of 49 subjects, who were instructed to accomplish Questionnaires C and D during their freshman English course in the college. Similar to the college group subjects in the acceptability judgment task of L2 English, they are also in the

freshman English course and their language proficiency is roughly intermediate level. On the other hand, concerning the procedure of the second acceptability judgment task, the subjects first finished Questionnaire C, and after a week, they did Questionnaire D for fear that they might still remember how they did in Questionnaire C if the interval between the two questionnaires were too short. The total time span given to finish the two questionnaires respectively was within thirty minutes, while the subjects were informed in Questionnaire D to pay attention to the Chinese linguistic cues in bold-face type (e.g., ***發生著*** *fāshēngzhe* 'happen-zhe') before they rated each question.

In the second section of this chapter, we would like to display the main findings of the two acceptability judgment tasks, including Questionnaires A, B, C, and D, respectively, through three-way and one-way ANOVAs statistical measures as well as the Tamhane post hoc test for comparing the significant differences. Via this procedure, we can understand the differences of grammatical form acceptability of the subjects towards the four L2 English syntactic error types (Questionnaire A in section 4.3), one particular error type **transitivization** (Questionnaire B in section 4.4), and four Chinese lexical grammatical patterns (Questionnaires C and D in section 4.5). Section 4.6 will summarize the findings of this chapter. In the next section 4.3, we will first display the findings in Questionnaire A.

4.3 Results of Questionnaire A

In this section, we will provide the results of Questionnaire A regarding grammatical form ratings of the three schematic errors (Type 1-subject-verb agreement, e.g., **Why **did** this **happened**?*, Type 2-infinitive, e.g., ** What is the reason **cause this happen**?*, Type 3-present participle, e.g., *****To avoid this thing happen**, we should always keep clearly in a good range.*) and one unaccusative error (Type 4-overpassivization, e.g., **First problem **is always happened**.*). Since the grammatical form ratings of error types were judged by college and senior high school subjects, therefore, there will be three different factors in the overall three-way ANOVA measure. The result is shown in Table 4.4.

TABLE 4.4 Overall Three-Way ANOVA of Colloge_High Group, Error Type, and Grammatical Form in Questionnaire A

Source of variation	*SS*	*df*	*MS*	*F*	*P value*
College_High group (G)	46.731	1	46.731	25.231***	.000
Error type (T)	49.207	3	16.402	8.856***	.000
Grammatical form (F)	1714.789	4	428.697	231.463***	.000
G×T	3.297	3	1.099	.593	.619
G×F	108.761	4	27.190	14.681***	.000
T×F	1669.298	12	139.108	75.107***	.000
G×T×F	117.767	12	9.814	5.299***	.000

***p<.001

In Table 4.4, the leftmost row displays the source of variables, including college group versus senior high school group (G), four error types (T), and five grammatical forms (*to-V, V-base, V-s, V-ing, V-ed*) (F). The *SS* refers to the sum of the squares among the ratings of three variables. The *df* refers to the degree of freedom, and the *MS* means the square of the mean ratings. The rightmost row displays the *P*-value of each variable or the interaction of the three variables, which can reveal whether these grammatical form ratings for the three variables are statistically significant. If the

P-value is lower 0.001, we will use three asterisks to represent its significant difference shown in the second right column. The result of Questionnaire A can be summarized with a 2 (College_High school Group) × 4 (Error type) × 5 (Grammatical form) mix-measures ANOVA, revealing an overall significant effect $F(39, 5856)= 51.728$, $p<.001$. The main effects can be found in all of the three variables (College_High group $F(1, 5856)=25.231$, $p<.001$; Error type $F(3, 5856)= 8.856$, $p<.001$; Grammatical form $F(4, 5856)= 231.463$, $p<.001$). Furthermore, there are also two interaction effects of found between college_high school groups (G) and grammatical forms (F) $F(4, 5856)= 14.681$, $p<.001$, and between error types (T) and grammatical forms (F) $F(12, 5856)= 75.107$, $p<.001$. A three-way interaction among these three variables can be found significantly $F(12, 5856)= 5.299$, $p<.001$, which indicates that, in terms of grammatical form rating, the two design groups show different tendencies towards the four error types.

Through the findings, several interpretations can be attained. First, the total rating score of grammatical forms of the college student group ($M= 2.506$) is lower than that of the high school student group ($M= 2.681$), including the ratings of one correct grammatical form and four wrong ones. For further analysis, the comparison of grammatical form ratings in the four error types between the two subject groups will be displayed later.

Second, the mean acceptability ratings of the four error types were found to be significantly different (Type 1-subject-verb agreement (M=2.440); Type 2-infinitive (M=2.667); Type 3-present participle (M=2.622); Type 4-overpassivization (M=2.654)), indicating that L2 English learners may have different degree of acceptability with regard to the different error types. Third, all of the ratings in the five grammatical forms are found to be different (*to-V* (M=1.989); *V-base* (M=3.285);

V-s (*M*=1.951); *V-ing* (*M*=3.016); *V-ed* (*M*=2.737)).

Since the grammatical forms were found to be varied with different error types as well as the two subject groups, the next section is to discuss the result of the Questionnaire A and focus on comparing the different ratings in terms of the five grammatical forms between subject groups and errors types. We will use the one-way ANOVA measure to examine whether the ratings of each error type by college or by senior high groups respectively will be statistically significant. The result is shown in Table 4.5.

TABLE 4.5 Mean Rating (and Standard Deviation) of Grammatical Form Rating in Questionnaire A[9]

Error Type (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
Schematic errors						
1.S-V agreement (*V-base*)	College	1.75 (1.192)	**4.54 (1.044)**	1.56 (1.049)	1.96 (1.255)	2.04 (1.460)
	Senior High	1.65 (.964)	**4.42 (1.028)**	2.13 (1.268)	2.18 (1.255)	2.17 (1.487)
	Total	1.70 (1.086)	**4.48 (1.036)**	1.84 (1.194)	2.07 (1.258)	2.10 (1.472)
2.Infinitive ((*to*) *V*)	College	**2.86 (1.55)**	**3.54 (1.602)**	1.70 (1.140)	2.32 (1.388)	***2.62 (1.531)***
	Senior High	**2.18 (1.460)**	**3.44 (1.573)**	2.28 (1.240)	2.79 (1.417)	***2.95 (1.522)***
	Total	**2.53 (1.545)**	**3.49 (1.587)**	1.98 (1.222)	2.55 (1.420)	2.78 (1.533)
3.Present participle (*V-ing*)	College	1.84 (1.292)	2.44 (1.504)	1.74 (1.186)	**4.08 (1.300)**	2.41 (1.577)
	Senior High	1.92 (1.254)	***3.05 (1.507)***	2.31(1.435)	**3.47 (1.399)**	2.96 (1.568)
	Total	1.88 (1.272)	2.74 (1.533)	2.02 (1.341)	**3.78 (1.381)**	2.68 (1.593)
Unaccusative errors						
4.Overpassivization (*V-ing*)	College	1.88 (1.223)	2.14 (1.411)	1.62 (1.127)	**3.80 (1.363)**	***3.30 (1.594)***
	Senior High	1.85 (1.118)	2.70 (1.444)	2.26 (1.338)	**3.53 (1.443)**	***3.45 (1.490)***
	Total	1.86 (1.171)	2.42 (1.45)	1.93 (1.274)	**3.67 (1.406)**	***3.37 (1.544)***

[9] **One-way ANOVA & Tamhane test of Questionnaire A**

Error Type (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V- s(c)*	*V-ing (d)*	*V-ed (e)*
1.S-V agreement (*V-base*)	College	*F*(4,753)=154.936*** b>a, c, d, e				
	Senior High	*F*(4,709)=116.796*** a>b, c, d				
	Total	*F*(4,1467)=264.975*** b>a, b, c, e				
2.Infinitive ((to) V)	College	*F*(4,755)=33.194*** **a>c, d; a≒ e**			**b>a, c, d, e**	
	Senior High	*F*(4,704)=18.141*** **a<b, d, e**			**b>a, c, d; b≒ e**	
	Total	*F*(4,1464)=41.027***a> c; b>a, b, c, e				
3.Present participle (Ving)	College	*F*(4,752)=70.098*** d>a, b, c, d				
	Senior High	*F*(4,713)=26.674*** **d>a, c, e ; d≒ b**				
	Total	*F*(4,1470)=82.367***d>a, b, c, e				
4.Overpassi-vization (Ving)	College	*F*(4,755)=74.439*** **d>a, b, c ; d≒ e**				
	Senior High	*F*(4,715)=41.255***d>a, b, c ; d≒ e				
	Total	*F*(4,1475)=107.329***d>a, b, c; d≒ e				

***p<.001

Before taking a look at the data in Table 4.5, some particular markings should be paid attention to, which will be similar to other tables of the following sections. The figures in bold-face type are the ratings of the correct answers in the L2 English syntactic error types, and the non-bolded figures are the ratings of the wrong answers. But if the wrong turned out to be more significant, they are marked in italicized bold-face. Note that some error types possess two correct grammatical forms, such as the infinitive error type, since the infinitive with *to* (*to* ***cause*** *the car accident* ***to happen***) as well as the infinitive without *to* (*to* ***make*** *the situation* ***happen***) were included in this error type.

If some significant differences can be found between the two subject groups, we will highlight the figures for the convenience of comparing the difference between the two subject groups in each error type. As for the *F*-value with the asterisks to show the degrees of significant differences as well as the Tamhane post hoc test for the comparisons among ratings, we will show them in the footnotes. The alphabetic order from *a* to *e* represents the five grammatical forms (*to-V (a), V-base (b), V-s (c), V-ing (d), V-ed (e)*) for the convenience of post hoc multiple comparison as shown in the footnotes. For instance, the marking a>c, d; a≒e in the mean rating of infinitive error type of the college subject column implies that the mean rating of the *to-V* form is more than that of *V-s* and *V-ing* forms, while this mean rating is not more or less than that of *V-ed* form, indicating that there is no difference within the infinitive structures by the subjects between the ratings of *to-V* and *V-ed* forms.

From Table 4.5, in order to compare the five grammatical form ratings for the four error types given by the college students or the senior high school students, 15 one-way ANOVAs were conducted to examine the significant differences among the grammatical form ratings across the four error types. Tamhane tests as the post hoc

test were used to compare the differences between the five grammatical form groups. As displayed in Table 4.5, in terms of the subject-verb agreement structures, the correct answers (*V-base*) were found to be significantly different from the rest of the wrong ones across the two subject groups, revealing that the difficulty of the subject-verb agreement error type would be comparatively lower than that of the other three error types. Second, for the present participle structures, the result shows that the college students have higher rating of the correct answer (*M*=4.08, SD=1.300) than that of the senior high school students (*M*=3.47, SD=1.399). Further, from the comparison of the other grammatical forms, in the senior high group, we can discover that the rating of the *V-base* form has no significant difference from that of the present participle, indicating that senior high school students may have more difficulty in choosing the grammatical forms of the L2 English present participles, and they may regard the *V-base* form and the *V-ing* form as the acceptable grammatical forms.

Third, concerning one of the schematic errors—the infinitive and one of the unaccustaive errors—the overpassivization, both college and senior high groups similarly show that the *V-ed* form is either insignificantly different or higher than the correct answers, particularly in the infinitive error type. While the infinitive structure has two possible correct grammatical forms (*to-V* and *V-base*), the *V-ed* form was found either insignificantly different or even higher than the *to-V* form, indicating that both college and senior high groups have a similar dilemma in choosing the correct answers in the infinitive structure, and the overuse of the *V-ed* form can be discovered in both infinitive and overpassivization error types, which will be discussed in the following two tables.

In order to know the cause of overuse of the *V-ed* form in the two error types, we then conducted a one-way ANOVA test through the different verb types in the

infinitive structure to discover the differences between the unaccusative verbs versus the non-unaccusative verbs across the two subject groups.

TABLE 4.6 Mean Rating (and Standard Deviation) of Grammatical Form Rating in the Infinitive Error Type in Questionnaire A[10]

Unaccusativity (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
Unaccusativeverbs (to happen, happen)	College	**2.99 (1.604)**	**3.36 (1.671)**	1.83 (1.248)	2.21 (1.310)	***2.68 (1.585)***
	Senior High	**2.35 (1.494)**	**3.24 (1.572)**	***2.34 (1.230)***	***2.69 (1.390)***	***3.24 (1.488)***
Non-unaccusative verbs (to start, laugh)	College	**2.72 (1.502)**	**3.72 (1.520)**	1.57 (1.011)	***2.42 (1.463)***	***2.55 (1.482)***
	Senior High	**2.00 (1.414)**	**3.65 (1.559)**	***2.23 (1.256)***	2.90 (1.446)	***2.66 (1.511)***

In Table 4.6, the result shows that the distributions of grammatical forms are diverse between the two subject groups. In general, the *V-ed* form (*happened*) is still found no difference with the correct answers (i.e., *to happen* or *happen*) regardless of the unaccusative (*M*=2.68 for the college group; *M*=3.24 for the senior high group) and the non-unaccusative groups (*M*=2.55 for the college group; *M*=2.66 for the senior high group), whereas the mean ratings of the unaccusative group were slightly higher than those of the non-unaccusative groups, and the rating of the *V-ed* form in the unaccusative group were found the same as the correct answer *V-base* (*M*=3.24) in the senior high school group. From these findings, we discovered that, particularly for the senior high school students, *V-ed* and *V-base* forms could be accepted as the answers in the infinitive structures, and *V-ed* can be accepted much more than the

[10] **One-way ANOVA & Tamhane test of the Infinitive Error Type of Questionnaire A**

Unaccusativity (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
Unaccusative verbs (to happen, happen)	College	*F*(4,375)=12.546*** a >c, d; a ≒ b, e; b> c, d; b ≒ a, e				
	Senior High	*F*(4,350)=6.925*** **a<b, e ; a ≒ c, d; b> a, c; b ≒ d, e**				
Non-unaccusative verbs (to start, laugh)	College	*F*(4, 375)= 22.798*** **a<b >c; a ≒ d, e**; b> a, c, d, e				
	Senior High	*F*(4, 349)= 14.135*** **a<b, d**; **a ≒ c, e**; b> a, c, d, e				

***p<.001

other correct answer *to-V* (*M*=2.35). Thus, the *V-ed* form in the infinitive structure of schematic errors seems to cause some learning difficulty in L2 English unaccusative acquisition, especially for the senior high school students.

After showing the data of the grammatical form ratings of the infinitive error, the next focus is to discuss the result of the unaccusative error— the overpassivization. In Table 4.5, we have known that the subjects may have the tendency to give higher scores for the *V-ed* form even though this grammatical form in the overpassivized structure (*Subject+be-V+*_____ , e.g., **The accident is happened.*) is ungrammatical. For this reason, in order to discover the overratings of the *V-ed* form in the overpassivization error and to compare the difference among the four unaccusative verbs (HAPPEN, OCCUR, APPEAR, and EXIST), one-way ANOVAs and post hoc tests were utilized to elicit which verb might be highly rated when collocated with the *V-ed* form. The result of the five grammatical forms regarding the four verbs in the overpassivization error is shown in Table 4.7. Additionally, the multiple comparisons through the Tamhane test for the grammatical forms are also provided in the footnote.

TABLE 4.7 Mean Rating (and Standard Deviation) of the Overpassivization Error Type in Questionnaire A[11]

Verb Type (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (happening)	College	2.03 (1.365)	***2.47 (1.656)***	1.79 (1.277)	**3.24 (1.478)**	***3.39 (1.620)***
	Senior High	1.92 (1.228)	***3.08 (1.519)***	***2.69 (1.600)***	**3.25 (1.538)**	***3.25 (1.481)***
OCCUR (occurring)	College	1.58 (.889)	2.11 (1.410)	1.45(.950)	**3.89 (1.290)**	***3.58 (1.500)***
	Senior High	1.44 (.695)	***2.69 (1.489)***	2.03(1.183)	**3.61 (1.358)**	***3.61 (1.440)***
APPEAR (appearing)	College	1.84 (1.197)	1.76 (1.025)	1.55 (1.108)	**3.74 (1.309)**	***3.87 (1.417)***
	Senior High	1.89 (1.116)	***2.36 (1.397)***	1.69 (.951)	**3.11 (1.563)**	***4.17 (1.207)***
EXIST (existing)	College	2.80 (1.363)	2.24 (1.441)	1.68 (1.165)	**4.32 (1.188)**	2.34 (1.457)
	Senior High	2.14 (1.268)	2.67 (1.331)	2.64 (1.313)	**4.17 (1.082)**	2.78 (1.514)

As displayed in Table 4.7, for both college and senior high school groups, the overuse of the *V-ed* form can be discovered in the three unaccusative existence/appearance verbs (HAPPEN, OCCUR, and APPEAR). EXIST was found to have fewer problems in the overpassivization error types based on the significantly higher mean rating of the *V-ing* form than that of the *V-ed* form. Concerning the overuse of the *V-ed* form, the mean ratings of the *V-ed* form are either the same as those of the correct grammatical form—the *V-ing* form (*M*=3.25 for both *V-ed* and *V-ing* of the senior high group in HAPPEN; *M*=3.61 for both *V-ed* and *V-ing* of the senior high group in OCCUR), or even higher than those of the *V-ing* form (*M*=3.39 for *V-ed* and *M*=3.24 for *V-ing* of the college group in HAPPEN; *M*=3.87 for *V-ed*

[11] **One-way ANOVA & Tamhane test Overpassivization Error Type of Questionnaire A**

Verb Type (Answer)	***Subjects***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (*happening*)	College	*F*(4,185)=8.763***d>a, c; **d≒ b, e**				
	Senior High	*F*(4,175)=5.224***d>a; **d≒ b, c, e**				
OCCUR (*occurring*)	College	*F*(4,185)=32.635***d>a, b, c; **d≒e**				
	Senior High	*F*(4,175)=20.689***d>a, c; **d≒b, e**				
APPEAR (*appearing*)	College	*F*(4,185)=33.624***d>a, b, c; **d≒e**				
	Senior High	*F*(4,175)=22.994***d<e>a, c; d≒b				
EXIST (*existing*)	College	*F*(4, 185)= 22.757***d>a, b, c, e				
	Senior High	*F*(4, 175)= 12.181***d>a, b, c, e				

***p<.001

and *M*=3.74 for *V-ing* of the college group and *M*=4.17 for *V-ed* and *M*=3.11 for *V-ing* of the senior high group in APPEAR). Deducing from the result, it may imply that, except for the specific unaccusative verb EXIST, the other verbs (HAPPEN, OCCUR, and APPEAR) may have a greater tendency to be combined with the *V-ed* form in the overpassivization structures to make overpassivization errors. The next section will present the results of Questionnaire B.

4.4 Results of Questionnaire B

In the section 4.4, the result from the questionnaire B will be displayed. This questionnaire includes only an unaccusative error type-the transivization, whereas the analysis would be slightly different from the previous four error types (subject-verb agreement, infinitive, present participle, and overpassivization). In the sentences, because the four unaccusative verbs are all intransitive verbs and therefore they would be considered to be the wrong answers in the English transitivization structures. The analysis of the grammatical form ratings would focus on the higher ratings of the grammatical forms among the four unaccusative existence/appearance verbs. The frequency of the alternative answers by the subjects would also be taken into account to determine the learning difficulty of the transitivization errors. For instance, we would like to find out which grammatical form among *to-happen*, *happen*, *happens*, *happened*, and *happening*, will be highly rated in the sentence *This is a special situation I have never_____ before*. If the subjects discover that all of the grammatical forms are inappropriate for this sentence, then we were wondering how many of them would provide an alternative answer, such as *encounter*.

The overall three-way ANOVA is displayed in Table 4.8, and the overall 2 (College_High school Group) × 4 (Verb type) × 5 (Grammatical form) mix-measures

ANOVA was conducted and revealed a significant effect $F(39, 1433)= 15.824$, $p<.001$, indicating that the five grammatical forms among the four unaccusative verbs between the two subject groups may be distributed differently.

TABLE 4.8 Overall Three-Way ANOVA of Colloge_High Group, Verb Type, and Grammatical Form Rating in Questionnaire B

Source of variation	*SS*	*df*	*MS*	*F*	*P value*
College_High group (G)	9.957	1	9.957	5.766*	.016
Verb type (T)	6.715	3	2.238	1.296	.274
Grammatical form (F)	618.301	4	154.575	89.515***	.000
A×B	.190	3	.063	.037	.991
A×C	1.885	4	.471	.273	.896
B×C	401.104	12	33.425	19.357***	.000
A×B×C	21.108	12	1.759	1.019	.429

*p<.05 ***p<.001

As in Table 4.8, there was a main effect of both College_High school groups $F(1, 1433)= 5.766$, $p<.05$, and subjects in the college group (M=2.428) accepted the wrong answers less than those in the senior high group (M=2.592). A main effect can be found in the grammatical forms (M=1.676 for *to-V*; M=3.311 for *V-base*; M=2.127 for *V-s*; M=2.203 for *V-ing*; M=3.233 for *V-ed*). There was also a two-way interaction effect found in the verb types and the grammatical forms $F(12, 1433)= 19.357$, $p<.001$, indicating that the grammatical form ratings among the four unaccusative existence/appearance verbs are statistically different. There is no significant difference among the interaction of the three variables and no main effect was found in the verb types. Hence the focus of the discussion would later shift to the comparison of the grammatical forms among the four unaccusative verbs. The result is shown in Table 4.9. In order to observe whether the subjects sensed all of the granmmatical forms of the unaccusative existence/appearance verbs are not appropriate to be filled in the transitivization structures, we calculated the number of

alternative answers along with the subject items in Table 4.9.

TABLE 4.9 Mean Rating (and Standard Deviation) of the Transitivization Error Type in Questionnaire B[12]

Verb Type (Answer)	***Subjects*** (Alternative answers/ Total)	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (encounter)	College (27/37)	1.76 (1.240)	2.47 (1.538)	1.66 (.994)	1.89 (1.203)	***4.03 (1.404)***
	Senior High (18/35)	1.58 (1.079)	2.78 (1.570)	2.14 (1.073)	1.97 (1.183)	***4.14 (1.397)***
OCCUR(suffered from, faced)	College (14/37)	1.58 (1.130)	2.19 (1.411)	2.47 (1.572)	2.42 (1.445)	***3.92 (1.440)***
	Senior High (9/35)	1.77 (1.060)	2.60 (1.418)	2.42 (1.461)	2.68 (1.492)	***3.83 (1.424)***
APPEAR (show, be)	College (13/37)	1.61 (1.001)	***4.24 (1.283)***	1.87 (1.455)	2.08 (1.217)	1.92 (1.323)
	Senior High (6/35)	1.83 (1.231)	***4.36 (1.150)***	1.94 (1.068)	2.19 (1.142)	2.39 (1.358)
EXIST (have, contain)	College (15/37)	1.55 (1.058)	***4.18 (1.449)***	2.18 (1.540)	2.03 (1.384)	2.50 (1.484)
	Senior High (8/35)	1.72 (.944)	***3.67 (1.309)***	2.33 (1.394)	2.36 (1.355)	***3.14 (1.397)***

As shown in Table 4.9, the result includes the grammatical form ratings among the four unaccusative existence/appearance verbs as well as the alternative answers by the subjects.[13] One-way ANOVAs were also conducted to compare the grammatical form ratings of each verb. Generally, two main groups can be classified among the four verbs. The first two unaccusative verbs (HAPPEN and OCCUR), compared with the other four grammatical forms, showed a greater tendency to be combined with the

[12] **One-way ANOVA & Tamhane test of the Transitivization Error Type of Questionnaire B**

Verb Type (Answer)	***Subjects*** (Alternative answers/ Total questions)	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (*encounter*)	College (27/37)	$F(4,185)=22.038^{***}$	**e>a, b, c, d**			
	Senior High (18/35)	$F(4,175)=22.194^{***}$	**e>a, b, c, d**			
OCCUR (*suffered from, faced*)	College (14/37)	$F(4,184)=14.231^{***}$	**e>a, b, c, d**			
	Senior High (9/35)	$F(4,170)=10.200^{***}$	**e>a, b, c, d**			
APPEAR (*show, be*)	College (13/37)	$F(4,185)=27.353^{***}$	**b>a, c, d, e**			
	Senior High (6/35)	$F(4,175)=27.236^{***}$	**b>a, c, d, e**			
EXIST (*have, contain*)	College (15/37)	$F(4, 184)= 19.821^{***}$	**b>a, c, d, e**			
	Senior High (8/35)	$F(4, 175)= 20.853^{***}$	**b>a, c, d; b≒e**			

***p<.001

[13] The alternative answers by the subjects may only reveal that the subjects sensed the syntactic structures cannot be filled in with the four unaccusative verbs, while some of the wrong answers found in the alternative answers, such as **be happened*, can also imply that the subjects did not actually notice the transitivization error type.

V-ed form regardless of the two subject groups (*M*=4.03 for the college group and *M*=4.14 for the senior high group in HAPPEN; *M*=3.92 for the college group and *M*=3.83 for the senior high group in OCCUR). The other two verbs (APPEAR and EXIST), on the other hand, were considerably used the *V-base* form by both of the two subject groups (*M*=4.24 for the college group and *M*=4.36 for the senior high group in APPEAR; *M*=4.18 for the college group and *M*=3.67 for the senior high group in EXIST), only with an exception for senior high group's higher rating of the *V-ed* form in EXIST. This means that the acceptability for the two subject groups may be different in terms of grammatical form ratings in the transitivization structures.

Another angle to show the differences between the two groups of verbs is to observe the alternative answers of the four unaccusative verbs. From the result, we can discover that the verb group (HAPPEN and OCCUR) possesses higher frequencies of the alternative answers (27 from the 37 instances and 18 from the 35 instances for HAPPEN; 14 from the 37 instances and 9 from the 35 instances for HAPPEN), compared with the other verb group of APPEAR and EXIST (13 from the 37 instances and 6 from the 35 instances for APPEAR; 15 from the 37 instances and 8 from the 35 instances for HAPPEN), which suggests that subjects may have higher possibility to consider the transitivization structures to be inappropriate for the unaccusative verbs in HAPPEN and OCCUR than APPEAR and EXIST, though it may also because of the effect brought by the word frequency of these four verbs.

From the findings of Questionnaires A and B, we obtained some crucial findings. First, the infinitive (a schematic error) and the overpassivization (an unaccusative error) are the two main problematic errors, for both college and senior high school subjects have difficulty in rating the correct grammatical forms. They almost always overrated the *V-ed* forms for these two error types, and this

phenomenon can also be found in the present participle error type (e.g., **Technology can deal with some problems **occurred** in our daily lives.*) by the senior high school group. This suggests that the senior high school group probably has more difficulty in judging grammatical forms than the college group did. In the next section, we will display the findings of Questionnaires C and D regarding the grammatical form possibly ratings influenced by the L1 Chinese transfer.

4.5 Results of Questionnaires C and D

This section will focus on the analysis of the two questionnaires—Questionnaires C and D. The difference between the two versions of the questionnaires was that Questionnaire C contained only sixteen English sentences, while Questionnaire D contained these sixteen English sentences with the Chinese translation linguistic cues.

Since the Chinese linguistic cues were included in Questionnaire D, the analysis would be emphasized on the change of grammatical form ratings among the four unaccusative existence/appearance verbs, which may be influenced by the Chinese lexical transfers. Table 4.10 displays the overall three-way ANOVA of L1 Chinese transfer. The result shows that a 2 (Chinese transfer) × 4 (Grammatical pattern) × 5 (Grammatical form) mix-measures ANOVA revealed an significant effect among the three variables, $F(39, 7690)= 28.976$, $p<.001$.

TABLE 4.10 Overall Three-Way ANOVA of Chinese Transfer, Grammatical Pattern, and Grammatical Form in Questionnaires C and D

Source of variation	*SS*	*df*	*MS*	*F*	*P value*
Chinese transfer (T)	1.455	1	1.455	.648	.421
Grammatical pattern (P)	2.642	3	.881	.393	.758
Grammatical form (F)	2017.194	4	504.298	224.783***	.000
T×P	.900	3	.300	.134	.940
T×F	35.960	4	8.990	4.007**	.003
P×F	470.383	12	39.199	17.472***	.000
T×P×F	6.900	12	.575	.256	.995

**p<.005 ***p<.001

From Table 4.10, there was a main effect found in the grammatical forms, $F(4, 7690) = 224.783$, $p<.001$. A 2-way interaction effect can be found between the Chinese transfer and the grammatical forms, $F(4, 7690) = 8.990$, $p<.01$, as well as between the grammatical patterns and the grammatical forms, $F(12, 7690) = 39.199$, $p<.001$. There was no main effect found in the Chinese transfer and the grammatical patterns individually. Also, the 3-way interaction effect among the three variables was not significantly different. From the result, it appears that the interaction of the two variables among the three were (the Chinese transfer and the grammatical forms or the grammatical patterns and the grammatical forms) significantly different, while the interaction of all these three variables were not, which suggests that the two questionnaires would be indirectly influenced by the Chinese transfer and the effect may be reflected on the grammatical forms across the four grammatical patterns. Thus, the next step would center on the comparison of the grammatical form ratings among the four grammatical patterns between the two questionnaires.

While we have known that there are some interactions between the Chinese transfer and the grammatical forms as well as the grammatical patterns and the grammatical forms, yet we still have little knowledge of how the subjects rated the grammatical forms. In order to compare the grammatical form ratings, one-way ANOVAs were also adopted to examine the differences among the five grammatical

forms. The result was displayed in Table 4.11, including the multiple comparisons of Tamhane tests, which will help discover the differences among each grammatical form.

TABLE 4.11 Mean Rating (and Standard Deviation) of the Grammatical Form Rating in Questionnaires C and D[14]

Grammatical Pattern (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
1.V+ *-zhe* (*happening, occurring, appear, exists*)	Without Chinese	1.84 (1.300)	**2.78 (1.599)**	**2.47 (1.507)**	**3.55 (1.631)**	***2.49 (1.518)***
	With Chinese	1.71 (1.224)	**2.79 (1.515)**	**2.48 (1.500)**	**3.67 (1.572)**	***2.20 (1.444)***
	Total	1.78 (1.263)	**2.78 (1.555)**	**2.48 (1.502)**	**3.61 (1.601)**	2.34 (1.487)
2.V+ *-le* (*happened, occurring, appeared, existing*)	Without Chinese	1.64 (1.141)	***2.80 (1.581)***	2.08 (1.273)	**2.94 (1.644)**	**3.58 (1.606)**
	With Chinese	1.54 (1.036)	***2.87 (1.540)***	2.34 (1.363)	**3.03 (1.667)**	**3.27 (1.705)**
	Total	1.59 (1.089)	***2.84 (1.559)***	2.21 (1.324)	**2.98 (1.654)**	**3.42 (1.661)**
3.N+V (*happened, occurring, to appear, existing*)	Without Chinese	**2.18 (1.561)**	***2.49 (1.440)***	***2.39 (1.399)***	**3.10 (1.566)**	**3.15 (1.712)**
	With Chinese	**2.20 (1.549)**	***2.51 (1.422)***	***2.48 (1.444)***	**3.03 (1.631)**	**2.90 (1.711)**
	Total	**2.19 (1.553)**	2.50 (1.429)	***2.44 (1.421)***	**3.06 (1.597)**	**3.03 (1.714)**
4.V+N (*happening, occurring, appearing, existed*)	Without Chinese	1.54 (1.065)	***2.79 (1.559)***	2.34 (1.495)	**3.36 (1.637)**	**3.18 (1.611)**
	With Chinese	1.59 (1.129)	***2.84 (1.547)***	2.39 (1.433)	**3.40 (1.558)**	**2.91(1.662)**
	Total	1.57 (1.096)	***2.81 (1.551)***	2.37 (1.463)	**3.38 (1.596)**	**3.05 (1.640)**

According to the result in Table 4.11, among the four grammatical patterns, the two grammatical patterns, V+*-zhe* (e.g., *發生著 fāshēngzhe* 'happen-zhe') and N+V(e.g., *風險存在 fēngxiǎncúnzài* 'The risk exists'), have less change of the grammatical form ratings between Questionnaire C (without Chinese) and

[14] **One-way ANOVA & Tamhane test of the Grammatical Form Rating of Questionnaires C and D**

Grammatical Pattern (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
1.V+ *-zhe* (*happening, occurring, appear, exists*)	Without Chinese	*F*(4,961)=32.566*** b>a, e; b≒c; **c>a ; c≒e** ; d>a, b, c, e				
	With Chinese	*F*(4,958)=48.881***b>a, e; b≒c; **c>a ; c≒e;** d>a, b, c, e				
	Total	*F*(4,1924)=79.692***b>a, e; b≒c; c>a ; d>a, b, c, e				
2.V+ *-le* (*happened, occurring, appeared, existing*)	Without Chinese	*F*(4,960)=51.126***d>a, c; d≒b; e>a, b, c, d				
	With Chinese	*F*(4,959)=41.390***d>a, c; d≒b; e>a, c; e≒b, d				
	Total	*F*(4,1924)=91.197***d>a, c; d≒b; e>a, b, c, d				
3.N+V (*happened, occurring, to appear, existing*)	Without Chinese	*F*(4,963)=15.797***a≒b, c ; d>a, b, c; d≒e; e>a, b, c; e≒d				
	With Chinese	*F*(4,966)=9.000***a≒ b, c; d>a, b, c; d≒e; e>a; e≒b, c				
	Total	*F*(4,1934)=57.416***a<b, d, e; a≒c; d>a, b, c; d≒e; e>a, b, c				
4.V+N (happening, occurring, appearing, existed)	Without Chinese	*F*(4,961)=46.523***d>a, b, c; d≒e; e>a, c; e≒b				
	With Chinese	*F*(4,962)=40.858***d>a, b, c, e; e>a, c; e≒b				
	Total	*F*(4,1928)=86.538***d>a, b, c, e; e>a, c; e≒b				

***p<.001

Questionnaire D (with Chinese), since the three grammatical forms (*V-base, V-s*, and *V-ing*) as the expected answers in the V+-*zhe* grammatical pattern revealed no significant difference with the *V-ed* form in both questionnaires, and the three correct grammatical forms (*to-V*, *V-ing*, and *V-ed*) of the N+V grammatical pattern showed no difference with the *V-base* form between Questionnaires C and D, indicating that the Chinese linguistic cues did not significantly change the ratings of the five grammatical forms in these two grammatical patterns. However, significant differences were found in the other two grammatical patterns— the V+-*le* (e.g., *出現了 chūxiànle* 'appear-le') and the V+N (e.g., *發生戰爭 zhànzhēngfāshēng* 'The war occurred'). We found a similar tendency in both of the two grammatical patterns. Even though the expected answers of the two grammatical forms (*V-ing* and *V-ed*) in either V+-*le* or V+N pattern showed no significant difference with the *V-base* form between Questionnaires C and D, the ratings of two correct grammatical forms has changed. The *V-ed* form (*M*= 3.58) of the V+-*le* pattern in Questionnaire C was originally found to be significantly higher than the *V-ing* (*M*= 2.94), while, in Questionnaire D with Chinese, the mean ratings of these two grammatical forms had no difference. By contrast, in the V+N pattern, the mean ratings of both correct forms *V-ed* and *V-ing* were originally insignificantly different, whereas the mean rating of the *V-ing* form (*M*= 3.40) became significantly higher than that of the *V-ed* form (*M*=2.91) in Questionnaire D, which suggests that the Chinese linguistic cues in Questionnaire D would probably effect the grammatical form ratings, particularly in the V+-*le* pattern and the V+N grammatical patterns.

In order to investigate the cause of the change in the grammatical form ratings among the four unaccusative existence/appearance verbs, the following two tables (Table 4.12 and Table 4.13) will focus on the comparison of the meaning ratings

among the four verbs. Table 4.12 will first show the data of the grammatical form ratings in the V+-*le* grammatical pattern influenced by the Chinese linguistic cues.

TABLE 4.12 Mean Rating (and Standard Deviation) of the V+ *-le* Grammatical Pattern in Questionnaires C and D[15]

Verb Type (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (happened)	Without Chinese	1.57 (1.016)	2.83 (1.655)	2.29 (1.398)	1.92 (1.272)	**4.10 (1.544)**
	With Chinese	1.47 (.981)	2.98 (1.604)	2.48 (1.368)	2.15 (1.288)	**4.00 (1.581)**
OCCUR (occurring)	Without Chinese	2.04 (1.368)	2.48 (1.414)	1.96 (1.237)	**3.63 (1.564)**	***3.06 (1.577)***
	With Chinese	1.65 (1.128)	2.51 (1.386)	2.49 (1.431)	**3.56 (1.662)**	***2.88 (1.671)***
APPEAR (appeared)	Without Chinese	1.52 (1.052)	***3.94 (1.449)***	2.17 (1.291)	***2.58 (1.541)***	**3.25 (1.644)**
	With Chinese	1.53 (.975)	***3.83 (1.310)***	***2.49 (1.473)***	***2.63 (1.606)***	**2.74 (1.674)**
EXIST (existing)	Without Chinese	1.40 (1.005)	1.96 (1.079)	1.90 (1.153)	**3.63 (1.537)**	***3.90 (1.462)***
	With Chinese	1.52 (1.072)	2.18 (1.364)	1.90 (1.096)	**3.77 (1.646)**	***3.43 (1.646)***

***p<.001

The result is shown in Table 4.12 for the grammatical pattern V+-*le* and Table 4.13 for the V+N pattern. From the data, the mean ratings of three unaccusative verbs HAPPEN, OCCUR, and EXIST, were less affected by the Chinese grammatical patterns *發生了 fāshēngle* 'happen-le' and *存在了 cúnzàile* 'exist-le' respectively. In both questionnaires, for HAPPEN, the expected answer *happened* was significantly higher than the other grammatical forms; for OCCUR, the expected answer *occurring* had no difference from the *occurred*; for EXIST, similarly, the expected answer *existing* was less high than the *existed* form.

[15] **One-way ANOVA & Tamhane test of the V+ *-le* Grammatical Pattern in Questionnaires C & D**

Verb Type (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (*happened*)	Without Chinese	$F(4,236)=24.276$*** e>a, b, c, d				
	With Chinese	$F(4,237)=23.028$*** e>a, b, c, d				
OCCUR (*occurring*)	Without Chinese	$F(4,237)=11.848$*** d>a, b, c; d≒e				
	With Chinese	$F(4, 238)= 10.792$*** d>a, b, c; d≒e				
APPEAR (*appeared*)	Without Chinese	$F(4, 235)= 21.374$*** **e>a, c; e≒b, d**				
	With Chinese	$F(4, 232)= 15.608$*** **e <b >a; e≒c, d**				
EXIST (*existing*)	Without Chinese	$F(4, 237)= 38.374$***d>a, b, c; d≒e				
	With Chinese	$F(4, 237)= 24.865$***d>a, b, c; d≒e				

***p<.001

Compared with the three unaccusative existence/appearance verbs (HAPPEN, OCCUR, and EXIST), APPEAR revealed more differences of the grammatical forms between the two questionnaires. In Questionnaire C, the mean rating of the expected answer *V-ed* (*appeared*) showed no difference with that of the *V-base* and the *V-ing* form, while, in Questionnaire D, the mean rating of the expected answer *appeared* became lower and also insignificantly different from the that of the wrong grammatical form *appears*, indicating that the L1 Chinese linguistic cues in Questionnaire D might have some effect on L2 English learners' acceptability towards the grammatical forms of APPEAR. Another point regarding the change of the mean ratings is that the wrong grammatical form *appearing* in Questionnaire D with Chinese linguistic cues became higher (*M*=2.58 in Questionnaire C ; *M*=2.63 in Questionnaire D), which suggests that the Chinese linguistic cue *出現了 chūxiànle* 'appear-le' in the V+-*le* grammatical pattern may probably influence the grammatical form mean rating of APPEAR.

In addition to the effect brought by L1 Chinese linguistic cues in the grammatical pattern V+-*le*, there is another grammatical pattern V+N, which was found to be different when the Chinese linguistic cues of Questionnaire D were involved. Thus, to investigate whether there would be some change in the mean rating of the grammatical forms will be our next focus. Table 4.13 displays the result of grammatical form ratings in terms of the V+N grammatical pattern, attached with the Tamhane post hoc tests in the footnote, providing some detailed information of multiple comparison of each grammatical form mean rating.

TABLE 4.13 Mean Rating (and Standard Deviation) of the V+ N Grammatical Pattern in Questionnaires C and D[16]

Verb Type (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (*happening*)	Without Chinese	1.44 (.92)	1.98 (1.225)	***2.53 (1.542)***	**3.35 (1.678)**	***3.47 (1.634)***
	With Chinese	1.47 (.981)	***2.60 (1.440)***	***2.67 (1.546)***	**3.08 (1.686)**	***3.25 (1.682)***
OCCUR (*occurring*)	Without Chinese	1.79 (1.237)	***2.44 (1.367)***	2.69 (1.573)	**3.46 (1.637)**	***2.88 (1.679)***
	With Chinese	1.81 (1.347)	2.21 (1.304)	2.69 (1.461)	**3.63 (1.525)**	2.59 (1.656)
APPEAR (*appearing*)	Without Chinese	1.31 (.879)	2.88 (1.716)	2.11 (1.448)	**4.13 (1.299)**	2.77 (1.448)
	With Chinese	1.79 (.181)	3.14 (1.555)	1.83 (1.117)	**4.04 (1.322)**	2.54 (1.557)
EXIST (*existed*)	Without Chinese	1.63 (1.149)	***3.83 (1.277)***	2.02 (1.346)	2.52 (1.544)	**3.61 (1.552)**
	With Chinese	1.29 (.798)	***3.39 (1.631)***	***2.36 (1.436)***	***2.84 (1.434)***	**3.23 (1.666)**

***p<.001

As for the V+N grammatical pattern, from Table 4.13, it presents an opposite direction to the V+-*le* pattern in terms of the change of the grammatical form mean ratings in Questionnaires C and D. Among the four unaccusative verbs, APPEAR in this grammatical pattern *房子出現裂縫 fángzi* ***chūxiàn lièfèng*** 'House **appear cracks**' showed no difference between the two questionnaires and the expected answer *appearing* was significantly higher than the other wrong grammatical forms. However, with respect to the other three verbs, they were comparatively affected more by the Chinese linguistic cues. For HAPPEN, the mean rating of the expected answer *happening* was originally insignificant from that of the two grammatical forms (*happened* and *happens*) under the L2 English syntactic structure (*There is a car*

[16] **One-way ANOVA & Tamhane test of the V+ N Grammatical Pattern of Questionnaires C and D**

Verb Type (Answer)	***Chinese Transfer***	***Grammatical Form Rating***				
		To-V (a)	*V-Base (b)*	*V-s (c)*	*V-ing (d)*	*V-ed (e)*
HAPPEN (*happening*)	Without Chinese	*F*(4,237)=17.843*** **d>a, b; d≒c, e**				
	With Chinese	*F*(4,237)=10.647*** **d>a; d≒b, c, e**				
OCCUR (*occurring*)	Without Chinese	*F*(4,236)=7.852*** **d>a, b; d≒c, e**				
	With Chinese	*F*(4, 237)= 10.251*** **d>a, b, c, e**				
APPEAR (*appearing*)	Without Chinese	*F*(4, 235)= 26.972*** d>a, b, c, e				
	With Chinese	*F*(4, 237)= 23.152*** d>a, b, c, e				
EXIST (existed)	Without Chinese	*F*(4, 238)= 23.861*** **e>a, c, d; e≒b**				
	With Chinese	*F*(4, 236)= 16.762*** **e>a; e≒b, c, d**				

***p<.001

accident _____.) in Questionnaire C, but it showed no difference with one additional wrong grammatical form (*happen*) with the presence of the Chinese linguistic cue *高速公路**發生車禍*** *gāosùgōnglù* ***fāshēng chēhuò*** 'Highway **happen car accident**' in Questionnaire D. The same phenomenon can be found for EXIST. The expected answer *existed* revealed no difference with only of the wrong answers *exist* under the L2 English syntactic structure (*The lawmaker indicated that many pitfalls _____ in this public engineering project.*) in Questionnaire C, whereas it turned lower (from *M*=3.61 to *M*=3.23) and insignificantly different from two additional wrong answers *exists* and *existing* with the presence of the Chinese linguistic cue *公共工程**存在許多缺失*** *gōnggòonggōngchéng* ***cúnzài xǔduōquēshī*** 'Public engineering project **exist many pitfall**' in Questionnaire D. On the other hand, for OCCUR, the expected answer *occurring* was insignificantly different from the two wrong answers (*occur* and *occurred*) under the English syntactic structure (*If there is a war_____,...*) in Questionnaire C, while it was found to be significantly different from all of the other wrong answers with the presence of the Chinese linguistic cue *如果 世界上 **發生戰爭*** *rúguǒ shìjièshàng* ***fāshēng zhànzhēng*** 'If world **occur a war**' in Questionnaire D.

From the result, it appears that the Chinese linguistic cues within the V+N grammatical pattern might have some effect on the grammatical form ratings of the three unaccusative existence/appearance verbs (HAPPEN, OCCUR, and EXIST). However, the effect may be varied with the verb types. As for HAPPEN and EXIST, it appeared that the L1 Chinese transfer was more negative, which made L2 English learners have more learning difficulty in determining the correct grammatical forms. However, a more positive Chinese transfer seemed to be found in OCCUR, which helped L2 English learners identify the correct grammatical form.

4.6 Summary of the Chapter

In this chapter, first we demonstrated how to conduct the two acceptability judgment tasks in the psycholinguistic experiment section. They were L2 English syntactic structure task (Questionnaires A and B) focusing on how L2 learners rated the grammatical forms in those structures where common errors of unaccusative verbs would occur, and L1 Chinese transfer tasks (Questionnaires C and D) emphasizing the effect brought by L2 learners' native language. Then, we displayed the results of the psycholinguistic experiments.

To summarize what we found in this chapter, some points could be specially addressed. First, in Questionnaires A and B regarding the L2 English syntactic structures, where unaccusative verbs would be frequently misused, we found that an schematic error (the infinitive error) and an unaccusative error (the overpassivization error) were the two main problematic error types, in which both college and senior high subjects found difficult to use unaccusative verbs properly. Second, as for the other unaccussative error—the transitivization in Questionnaire B, we found that, for the four unaccusative verbs, APPEAR and EXIST were more problematic than HAPPEN and OCCUR due to the fact that there were fewer alternative answers and the higher mean ratings of the incorrect *V-ed*, which was not inappropriate in the *Subject+be-V+*_____ structure.

On the other hand, as for Questionnaires C and D testing possible L1 Chinese transfer, we discovered that the Chinese linguistic cues within the two grammatical patterns, such as the *出現了 chūxiànle* 'appear-le' within the V+-*le* grammatical pattern and the *發生戰爭 zhànzhēngfāshēng* 'The war occurred' within the grammatical pattern V+N, have some effect on the L2 learners' grammatical form rating. Specially, the Chinese linguistic cue *出現了 chūxiànle* 'appear-le' in the

V+-*le* grammatical pattern affected the grammatical form ratings of APPEAR, while the three Chinese linguistic cues, *發生戰爭 fāshēngzhànzhēng* 'A war occurred', *發生車禍 fāshēngchēhuò* 'A car accident happened', and *存在許多缺失 cúnzàixǔduōquēshī* 'Many pitfalls existed' within the V+N grammatical patterns, influenced the grammatical form ratings of HAPPEN, OCCUR, and EXIST respectively, suggesting that these L1 Chinese linguistic cues would frequently cause difficulties for L2 learners to acquire English unaccusative existence/appearance verbs.

In Chapter Five, we would discuss and synthesize the findings of both Study I (the corpora analysis) and Study II (the psycholinguistic experiments) so as to solve the problems of distinguishing the four unaccusative verbs with their Chinese counterparts as well as clarifying the reasons why L2 learners may have learning difficulty in acquiring L2 unaccusative existence/appearance verbs.

CHAPTER 5
DISCUSSION

From the previous four chapters, the issues of how to distinguish the unaccusative existence/appearance verbs and how L2 learners acquire them are the two main focuses of this thesis. In this chapter, we will discuss the results found in the present study and compare them with previous studies so as to produce a possible solution to the distinction and acquisition of unaccusative existence/appearance verbs.

In the following section, we would first provide a short summary of the major findings in this thesis (5.1). There will be a detailed discussion of these findings based on the comparison of previous studies in section 5.2 to answer the two research questions in this thesis.

5.1 Major Findings of the Study

In literature, there seemed to be a puzzle on how to distinguish unaccusative existence/appearance verbs through using L2 English syntactic approaches such as syntactic structures, thematic roles, and causative alternations as well as L1 Chinese lexical semantic differentiations based on perfectivity and grammatical patterns. This thesis, therefore, proposes a combined approach of syntax and lexical semantics with additional perspectives from L2 learner data. We adopt a quantitative method and blend both corpora analysis and psycholinguistic experiments to make the distinction and the acquisition of unaccusative existence/appearance verbs more objective and concrete. As for the selection of unaccusative existence/appearance verbs, we focus on the English verb HAPPEN because of its highest frequency and yet high

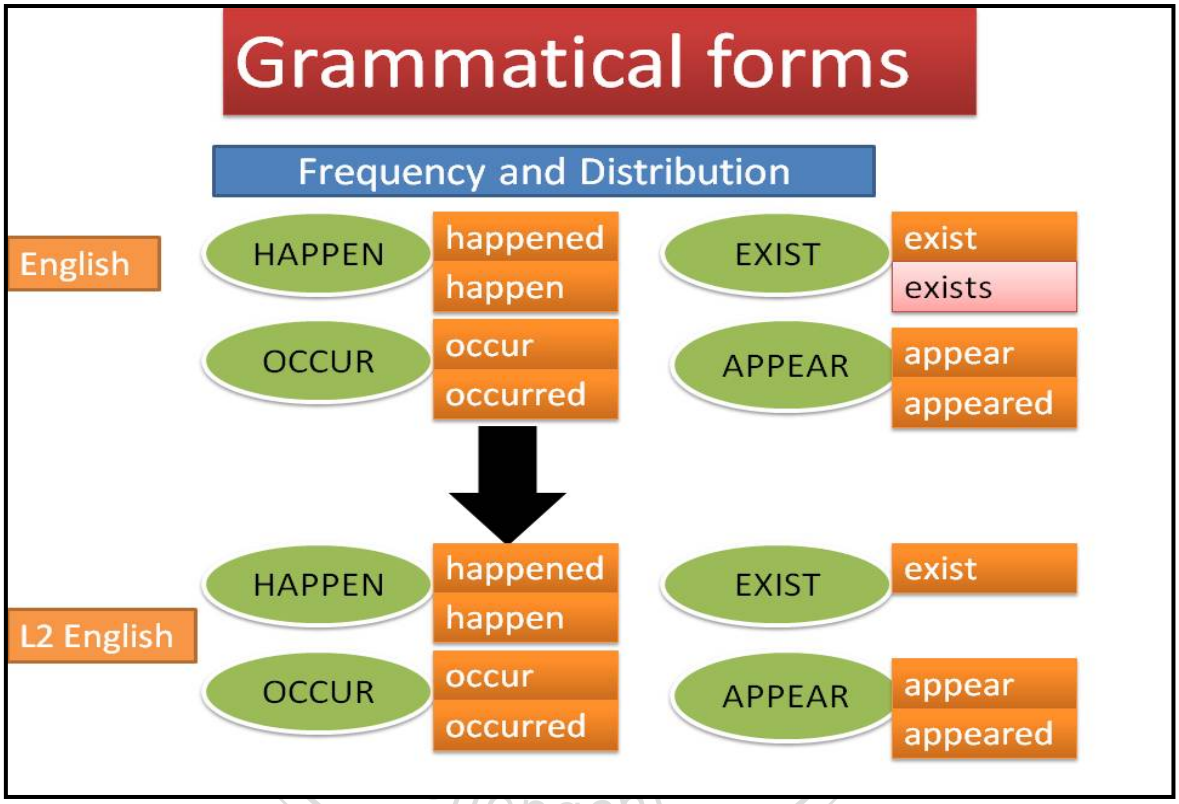
occurrences of misuses. Additionally, we also compare HAPPEN with its three other synonyms (OCCUR, APPEAR, and EXIST) as well as its Chinese counterpart *發生 fāshēng* 'happen' for the reason that L2 English learner data serve as the major linguistic evidence to get more insights into the distinctions as well as the acquisition of unaccustaive verbs. This type of analyzing approach is different from those of related previous studies because they mostly either distinguish unaccusative verbs through L1 or apply L2 learner data without the comparison of L1 differences. In this section, the major findings of the present thesis will be summarized.

First, regarding the synonym analysis of the *Happen* concept from both English and Chinese native speaker corpora, the result showed that the English unaccusative existence/appearance verb HAPPEN bore a closer resemblance to the English EXIST concept, while the Chinese unaccusative existence/appearance verb *發生 fāshēng* 'happen' seemed to be more related to the Chinese *出現 chūxiàn* 'appear' based on the frequencies and similarity scores as well as the shared elements (e.g., the shared subject *situation* in the sentence *The situation happens/exists.*) of both HAPPEN and *發生 fāshēng* 'happen' with their synonyms. From this analysis of synonyms, we could sense some different senses between English HAPPEN and Chinese *發生 fāshēng* 'happen' according to their different concordances with synonyms.

Second, as for the differences between the different grammatical form distributions between the English native speakers and L2 English learners, the two grammatical forms, *V-ed* and *V-base*, for the four English unaccusative existence/appearance verbs were equally frequent from the analysis of English native speaker corpus. This phenomenon was found similarly in L2 English learner corpora. These highly frequent grammatical forms seemed to be usually overused by L2 learners yet, according to the calculation of erroneous instances in the learner data.

Figure 5.1 summarizes the findings of the grammatical form distributions of the four English unaccusative verbs from corpora comparison.

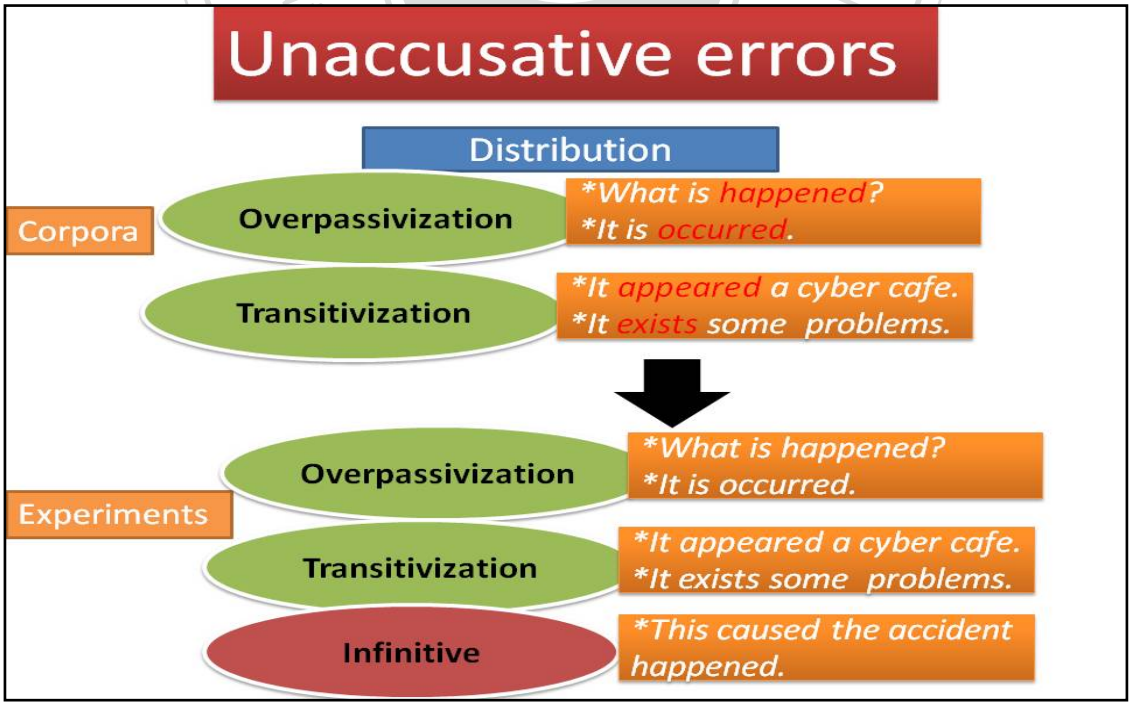
Figure 5.1 Grammatical Forms of Unaccusative Existence/appearance Verbs in English and L2 English



Third, following the findings of the misuses of the grammatical forms, we investigated the error types of the four verbs from L2 learner data and conducted a psycholinguistic experiment as to the acceptability judgment task of L2 English syntactic structures. From the corpora analysis, HAPPEN and OCCUR were frequently misused in the unaccusative error—overpassivization, while APPEAR and EXIST were usually misused in the unaccusative error—transitivization. As for the results in the acceptability judgment task L2 English syntactic structures, the infinitive

error (one of the schematic errors) and the overpassivization error (one of the unaccusative errors) are the two main problematic error types. For instance, the ratings of the grammatical form *V-ed* for HAPPEN, OCCUR, and APPEAR were found to be higher in the *Subject+be-V+*_____ structure, (*The first problem is always* *<u>*happened*</u> [*happening*]). On the other hand, for the other unaccusative error—the transitivization, we found that APPEAR and EXIST were more problematic than HAPPEN and OCCUR since fewer alternative answers could be provided by L2 learners, which means that they could hardly sense the inappropriateness of APPEAR and EXIST filled in the English transitivization structures. Figure 5.2 summarizes the findings of the errors for L2 unaccusative existence/appearance verbs.

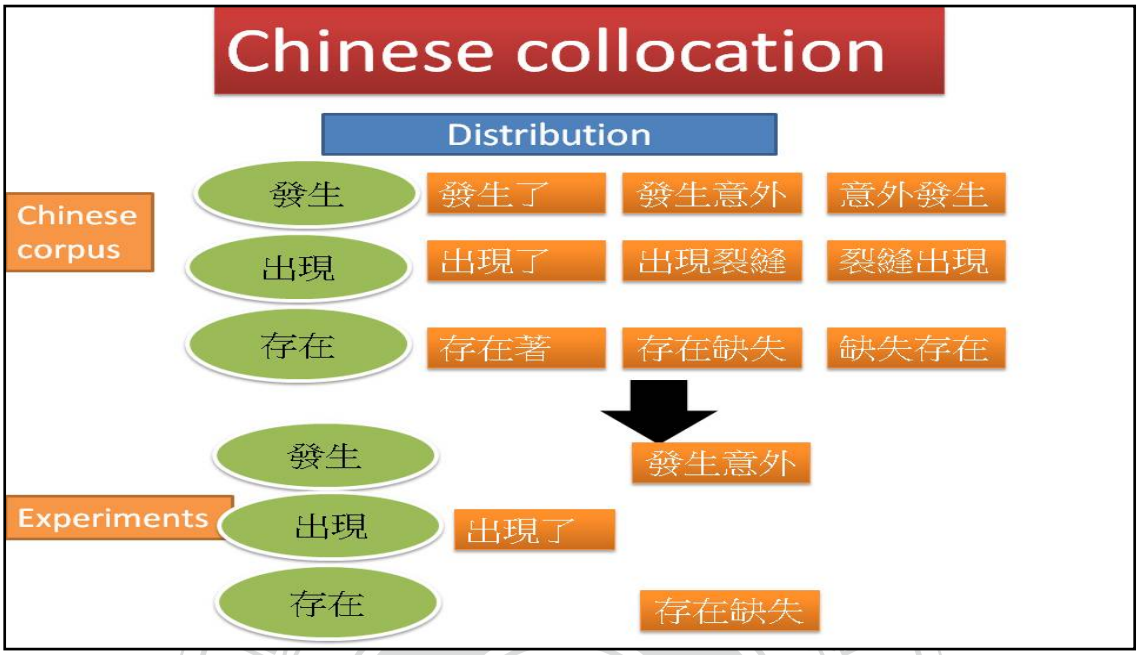
Figure 5.2 Errors of Unaccusative Existence/appearance Verbs in Corpora and Psycholinguistic Experiments



Fourth, in order to investigate the possible effect from L1 Chinese, we analyzed

the distributions of the four frequent Chinese grammatical patterns—V+-*le* versus V+-*zhe* and V+N versus N+V from the Chinese native speaker corpus and then applied them to the acceptability judgment task of L1 Chinese. According the results of corpora analysis, Chinese native speakers tended to use the Chinese grammatical patterns *發生了 fāshēng-le* 'happen-perfective auxiliary', *出現了 chūxiàn-le* 'appear- perfective auxiliary', and *存在著 cúnzà-zhe* 'exist-imperfective auxiliary' with unaccusative existence/appearance verbs to indicate perfectivity. Additionally, both V+N and N+V grammatical patterns, such as *發生意外 fāshēngyìwài* 'The accident happened' or *意外發生 yìwàifāshēng* 'The accident happened', were found to be frequent in Chinese, which means that the transitivity of V+N in the Chinese unaccusative existence/appearance verbs seemed to be acceptable and used by Chinese native speakers. On the other hand, from the results of the L1 Chinese acceptability task, the two grammatical patterns, V+-*le* , such as the *出現了 chūxiànle* 'appear-le', and the V+N, such as *發生戰爭 zhànzhēngfāshēng* 'The war occurred', might have influenced the L2 learners' grammatical form rating. In particular, the V+-*le 出現了 chūxiànle* 'appear-le' grammatical patterns might have affected the rating of APPEAR, while the V+N grammatical patterns, such as *發生戰爭 fāshēngzhànzhēng* 'A war occurred', *發生車禍 fāshēngchēhuò* 'A car accident happened', and *存在許多缺失 cúnzàixǔduōquēshī* 'Many pitfalls existed', might have affected the ratings of HAPPEN, OCCUR, and EXIST respectively based on examining the change of the grammatical form ratings between the Questionnaires C and D. Figure 5.3 summarizes the finding we found in terms of L1 Chinese grammatical patterns.

Figure 5.3 Chinese Grammatical Patterns of Unaccusative Existence/appearance Verbs



In Figure 5.3, we summarize the findings of the Chinese grammatical patterns found in the corpora analysis. Those Chinese grammatical patterns with effect on L2 English grammatical form ratings in the psycholinguistic experiments are listed as well.

5.2 Discussion of the Results

After the summary of the major findings, in this section, we focus on some interpretations of the findings, and in order to do so we compare the findings with other previous studies. Section 5.2.1 will discuss the perfectivity issue as well as the transitivity of distinguishing and acquiring unaccusative existence/appearance verbs.

5.2.1 Perfectivity with Transitivity of Unaccusative Existence/appearance Verbs

In this section, we will discuss the perfectivity with transitivity features of

distinguishing and acquiring unaccusative existence/appearance verbs based on our findings from Study I and Study II. This can help interpret and distinguish the differences among HAPPEN, OCCUR, APPEAR, and EXIST.

Due to the salient similarity of grammatical patterns (*發生了 fāshēng-le* 'happen-perfective auxiliary') to the grammatical forms (*happened* or *occurred*), L2 learners might feel confused with the perfectivity feature between Chinese and English unaccusative verbs. This could be related to how overpassivization errors are produced. For overpassivization errors, first, since HAPPEN (including OCCUR) with *發生 fāshēng* 'happen' are easily misused, the salient [+Perfective] feature of *—了 –le* 'perfective auxiliary' might probably strengthen the overuse of the *V-ed* forms of HAPPEN and OCCUR, both of which contains more *V-ed* errors.

Second, the differences of transitivity between English and Chinese (**happened a car accident.* versus *發生車禍 fāshēngchēhuò* 'A car accident happened'), to some extent, trigger the L2 learners' uses of this error type. The Chinese grammatical patterns *發生戰爭 fāshēngzhànzhēng* 'A war occurred' and *發生車禍 fāshēngchēhuò* 'A car accident happened' involve the passivized effect to L2 English (L1 Chinese transfer).

On the other hand, the differences of transitivity between APPEAR versus *出現 chūxiàn* 'appear' as well as EXIST versus *存在 cúnzà* 'exist' might be the main reason why these APPEAR and EXIST are found to be less frequent in overpassivization errors yet highly frequent in transitivization errors. The feature of L1 Chinese transitivized grammatical patterns, such as *出現裂縫 chūxiànlièfèng* 'The cracks appeared' as well as *存在缺失 cúnzàiquēshī* 'Pitfalls existed' might be directly transferred to L2 English and cause the increase of the transitivization errors.

Among the five main error types, the two unaccusative errors—overpassivization and transitivization—was found to be frequent among the three learner corpora, and even for advanced L2 English learners, these two error types would still be challenging to acquire. According to the previous studies, the most frequent error types for the unaccusative existence/appearance verbs are overpassivization (e.g., Yuan, 1999; Ju, 2000; Oshita, 2001; Wu & Liu, 2002) and transitivization (e.g., Lozano & Mendikoetxea, 2008; Liu, 2000). In this thesis, some findings of the error types corresponded to the claims in these previous studies. In addition, Wu and Liu (2002) investigated the [±Animacy] and [±Human] features of the nouns that co-appeare with unaccusative existence/appearance verbs and the effect of these features on the overpassivization and transitivization. The result showed that the verbs of existence/appearance (EXIST or APEAR) would be more difficult than the verbs of occurrence (HAPPEN or OCCUR) from the findings of this thesis, and thus, for L2 English learners, EXIST and APEAR require more time to be fully acquired. Compared this point with the present thesis, we found that the long time period for L2 acquisition was also examined in the transitivization error, whereas, it appears that, from either corpora analysis or empirical psycholinguistic experiments, all of the three verbs (HAPPEN, OCCUR, and APPEAR), except for EXIST, were found to be frequent in the overpassivization errors.

CHAPTER 6
LIMITATIONS, PEDAGOGICAL IMPLICATION, AND CONCLUSION

In this chapter, we will conclude the whole thesis. Section 6.1 will give an overall summary of what were done in the whole thesis. Section 6.2 will discuss the limitations found in the corpora analysis as well as the procedure of the psycholinguistic experiments. In section 6.3, we will discuss the pedagogical implications according to the findings in our study and conclude all of the discussion concerning the acquisition of unaccusative existence/appearance verbs.

6.1 Overall Summary

Through the six chapters of this thesis, we have first, in Chapter One, pointed out the difficulties as well as the problems of distinguishing and acquiring unaccusative existence/appearance verbs from L2 errors, such as overpassivization errors **What is happened?* or transitivization errors **A car happened an accident.* For this reason, in Chapter Two, we reviewed some previous studies from the L2 English syntax-based distinctions, L1 Chinese semantic-based distinctions, perfectivity of unaccusative existence/appearance verbs across languages, corpora-analyzing grammatical patterns of collocations with unaccusative verbs, and some issues regarding second language acquisition. Based on these studies, we attempted to conduct a combined approach of the corpora analysis (Study I) and the psycholinguistic experiments (Study II) with syntax-semantic focuses. In our studies,

discovering the distinctions among the unaccusative existence/appearance verbs and acquisition of these verbs based on language users' perspectives stresses the importance of the integrated corpora-based analysis and its application on psycholinguistic experiments.

For the choice of the unaccusative verbs, we focused on the most frequent unaccusative existence/appearance verb HAPPEN in English and compared it with its other synonyms OCCUR, APPEAR, and EXIST from corpus instances with similarity of the sentence constructions. Equivalent Chinese counterpart *發生 fāshēng* 'happen', *出現 chūxiàn* 'appear', and *存在 cúnzà* 'exist' were also analyzed for the comparison of the differences between English and Chinese. Thus, in Chapter Three of Study I, we first demonstrated the methodology of analyzing HAPPEN with its three synonyms and its Chinese counterpart through native speaker and L2 learner corpora. The findings showed that the grammatical forms, which are frequent in native speaker corpora, are also similarly frequent in L2 learner corpora. However, more errors were found in those frequent grammatical forms. Both unaccusative errors—overpassivization and transitivization errors—were found in our data, while HAPPEN and OCCUR have different distributions when compared to APPEAR and EXIST. While the corpora analysis may not directly explain the relationship between L1 Chinese transfer and L2 English influence, hence, in Chapter Four of Study II, psycholinguistic experiments were conducted to examine the impact on L2 English as well as their transfer of L1 Chinese when learning these verbs. From the findings, we discovered that the English syntactic structure may have some influence on L2 English so that L2 learners would constantly overuse a certain grammatical form, such as the overused *V-ed* form in the overpassivization errors. On the other hand, the L1 Chinese transfer brought by the frequent Chinese grammatical patterns was found

to have significantly influenced the grammatical form rating in the original English syntactic structures. Most of the time, the transfers were found to be negative for unaccusative verb acquisition, i.e., the Chinese linguistic cues within the grammatical patterns, such as *出現了 chūxiàn-le* 'appear- perfective auxiliary', were examined to have some effect on L2 learners' lower ratings on the correct grammatical forms.

In Chapter Five, we interpreted how unaccusative existence/appearance verbs in both English and Chinese are used so as to distinguish these verbs as well as to realize how they are acquired by L2 learners, which served as the solutions to L2 errors. In the following sections, we discuss some limitations, which can be areas for further research, along with some pedagogical implications to be applied to some teaching tasks in language education.

6.2 Limitations and Suggestions for Future Linguistic Studies

We adopted an integrative approach combining corpora comparisons (Study I) and psycholinguistic experiments (Study II). However, some limitations exist in the two methodological approaches and they are discussed below. We provide these limitations for the purpose of improving the designs of analyses and experiments in future related studies.

First, for the scope of linguistic data, though we investigated the *V-ed* forms of English unaccusative verbs, we did not distinguish between the past tense forms (e.g., *The accident* ***happened***.) versus the past participle forms in perfective tenses or passive tenses (e.g., *The accident* ***has happened***.) because we attempted to investigate the restricted patterns of L2 English unaccusative verbs (e.g., **What <u>is happened</u>?* and

**It happened a car accident.*). In future studies, it could be one of the extended topics to differentiate the diverse uses of a certain grammatical form.

Second, concerning the Chinese grammatical patterns of unaccusative existence/appearance verbs, some Chinese locative structure (e.g.,*台北發生地震 táiběifāshēngdìzhèn* 'The earthquake happened in Taipei') as well as other particular structures with no sentence subject (e.g., *就發生了 jiùfāshēngle* 'It just happened') were not included in this thesis. More attentions were placed on investigating post-verb positions in the Chinese grammatical patterns with unaccusative verbs, such as V+-*le* or V+N. In future studies, these Chinese grammatical patterns of unaccusative verbs could be undertaken and whether they would influence L2 English acquisition could be examined.

Third, as for the corpora analysis section, we only focused on four unaccusative existence/appearance verbs (HAPPEN, OCCUR, APPEAR, and EXIST) for the controlling of the verb types in our analyses. However we still expect the future studies can broaden the verb types, such as incorporating other unaccusative existence/appearance verbs *die* or comparing the unaccusative existence/appearance verbs with positive (*appear*) and negative (*disappear*) differences.

Fourth, in terms of technical limitations to select L2 learner data, we only adopted the L2 data with L1 Chinese background because of the necessity of manual analysis and the limit of time. However, with more computational assistance, we also expect more analyses of unaccustive existence/appearance verbs with different L1 backgrounds in the future. For instance, for Japanese L2 learners, we expect *ある aru* 'happen' or *出る deru* 'appear' will also cause similar L2 errors based on the perfectivity differences. Also, there were only three groups of the subjects with L1 Chinese background in the present thesis for those who participated in the

psycholinguistic experiments. Thus, we suggest that future studies could focus on a larger scale of subject groups across different L1 backgrounds so that the influence brought by the perfectivity and transitivity differences across the languages can be carried out.

Fifth, with respect to the psycholinguistic experiments, the stimuli of the L1 Chinese transfer were not always consistent in the English structures. For instance, one English sentence *There are many incidents of child abuse _____ in the society.* (expected answer: occurring) was chosen in Questionnaire D, while its expected answer *occurring* does not conform to the Chinese linguistic cue *發生了 fāshēng-le* 'happen-perfective auxiliary' because originally we attempted to test the grammatical forms in more syntactic structures. However, when analyzing the result, we found that if the English syntactic structures could be controlled, the attribution of L1 Chinese transfer would be more precise.

Last but not least, we only discovered the L1 Chinese transfer to L2 English unaccusative existence/appearance verbs, while investigating the effect of L2 English unaccusative existence/appearance verbs on the choices of L1 Chinese grammatical patterns would be worth deeper investigating. For future research, we recommend to conduct an empirical elicitation of L1 Chinese translation based on the L2 English sentences or an acceptability task for L1 Chinese grammatical patterns based on a translation of L2 English, both of which could possibly examine the L2 influence on L1 Chinese for EFL learners. After realizing the limitations and offering some suggestions to future linguistic and SLA studies, we will discuss some pedagogical implications of the thesis in the next section.

6.3 Conclusion and Pedagogical Implications

In this thesis, from our findings, some implications for the pedagogical practice could be generated. First, concerning corpora analysis, language teachers, particularly in the EFL contexts, should pay more attention to L2 learners' awareness of highly frequent grammatical forms in terms of the unaccusative existence/appearance verbs. The result of this study suggests that L2 learners would probably make some errors due to the mismatches of L2 English syntactic structures with those of Chinese, and therefore, distinguishing the uses of grammatical forms for the four unaccusative existence/appearance verbs and combining suitable linguistic contexts with each grammatical form of these verbs may be crucial in English teaching.

Second, for the section of psycholinguistic experiments, we found that L1 Chinese grammatical patterns may have more negative transfer. Therefore, we suggest that language teachers or educators should be more cautious in applying Chinese translation in English teaching. It does not mean that L1 Chinese would always interfere with L2 English acquisition. Rather, when determining the grammatical patterns of Chinese translation, such as *意外發生 yiwaifāshēng* 'The accident happened' or *發生意外 fāshēngyiwai* 'The accident happened', English teachers should take more into account the appropriateness of both L2 English syntactic structures and L1 Chinese lexical choices owing to the differences of the lexical concept (HAPPEN versus *發生 fāshēng* 'happen') between the two languages.

Lastly, in terms of L2 learners across different ages, we suggest that senior high L2 learners should be instructed through more examples with different grammatical forms of unaccusative verbs. For instance, the *V-ing* form of HAPPEN in *What is happening?* should be highlighted in English grammar instruction, which can help

senior high L2 learners distinguish the grammatical form uses of unaccusative verbs and to reduce the impact of overpassivization errors in acquiring HAPPEN. On the other hand, for college L2 learners, the transitivization errors should be the main focus in acquiring unaccusative verbs, particularly for APPEAR and EXIST because, according to our data, this error type requires more time to be fully acquired. Thus, the sentence *Pitfalls existed in this public construction.* for EXIST should be noticed and emphasized in English courses, which can help reduce the misuses of transitivized patterns for L2 English unaccusative verbs.

In sum, this thesis presents a corpus-based empirical research method and it utilizes a quantitative approach to identify the four frequent unaccusative verbs HAPPEN, OCCUR, APPEAR, and EXST. Chinese counterparts of these verbs, grammatical forms, the typical errors, their erroneous rate, and grammatical patterns along with some implications have been discussed for the varieties of L2 English in the EFL contexts. Results obtained in this thesis can be utilized by linguistic scholars in cross-linguistic comparisons. In addition, language teachers and educators could attain some insights for enhancement of their teaching as well as the design of teaching materials.

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APPENDIX ONE –Errors of Unaccusative Existence/appearance Verbs in Learner Corpora

HAPPEN			
Error Type	**LTTC**	**ICLE**	**NCCU**
Type1-Subject-verb agreement or tense marker (including modal verb) problems	**15(45.45%)** 1. The reason of why this happen may by these following: frist, children play to m 0529.txt= 2. Why this situation happen in Taiwan? I think there are some reasons to expl 1148.txt 3. No matter why it happen, we should take some useful measure now.1584.txt 4. No matter what happen, he will protect us. No matter what questions I a 1482.txt 5. How did this happened? 0158.txt 6. Thus, the nearsightedness will not happened anymore. 1467.txt 7. But why this happened? First, I think students spend two much time on c 1577.txt 8. Why the 現象 happened? I think it maybe relate high 科技 products' disc 1646.txt 9. No matter what happened outside, she	**13(44.82%)** 1. The parents should ask them 'Why this **happen** and help them to solve the questions. If the stud CNHK1531.txt 2. Pregnancy **happen** more and more on them. After pregnancy, as they d CNHK1684.txt 3. one can resist the temptation of know the big new **happen** nowadays immediately, you are unable not to watch CNUK1021.txt 4. and more people and situations. You can know what **happen** on the world immediately, you can know the weathe CNUK1033.txt 5. so get much information from TV. We can know what **happen** around us and in the world through the news showe CNUK1057.txt 6. Knowing what **happen** around you from the TV is not enough, you	**2(11.76%)** 1. earn how to take care myself when **the accident happen**. 84.txt 2. **The last thing I thought was really amazing happening** in FSA booth. At that time I was chatting in the 25.txt

always think to me in the first time 0616.txt

10. When the thing happened, my father becomes my idol and I always learn to 1091.txt
11. Why did it happened? What made it happen? There are a lot of problem 0631.txt
12. Why would it happened? Because the glasses look fashion? Of course not. 0648.txt
13. when our parents were the young, this couldn't happened. 0655.txt
14. "How to predict this problem happen in my family?" 1148.txt
15. I think the problem maybe happen in the following reasions. At first, I think it i1256.txt

should CNUK1057.txt

7. that television bring us convenience to know what **happen** in our world and entertain us a lot. But we shoul CNUK1057.txt
8. m a day's hard work and relax. They can know what **happen** about politic from news, how is social developed, CNUK1076.txt
9. This kind of thing had never **happen** in China. And I have heard of a story of my forei CNUK1100.txt
10. Take color-blind for example, it more likely **happen** to male. If the father is a color-blind, his son CNUK1127.txt
11. society will be when the fredom of choosing sex **happen**. As we know, the nature keeps balance on everythi CNUK1165.txt
12. **people only know what will happened now**. But they don't know the future it will be. S CNUK4010.txt
13. ions may be too violence and fantasy.

		It does not **happening** in the real world. The teenages cannot anlanisy w CNHK1148.txt	
Type2- **Infinitive usage**	**8(24.24%)** 1. What is the reason causes this sight happen? 0429.txt 2. But you may say what is the reason cause this happen? According to many reports, there are about two r 0962.txt 3. What reason caused this event happened? First, students have bad watching habbit, they r 0078.txt 4. What make this happened? It may because they watch television in a near d 0340.txt 5. There are so many causes to made this happened. 0767.txt 6. What causes it happened? Element school students have more presure than b 1861.txt 7. However, what causes it to be happened? In the modern society, it seems that everything 1930.txt 8. There are some reasons what cause it happening. First, childen are always sitting in front of th 1165.txt	**1(3.44%)** 1. rd, it is the television that makes that incident **happened**. Then, television becomes the tool of some compan CNUK1124.txt	**1(5.88%)** 1. factors that will **cause unemployment situation happen**. The most important and obvious factor that we ca E025005_checked.txt

Type3- **Present participle usage**	**5(15.15%)** 1. To avoid this thing happen, we should always keep clearly in a good range wh 0477.txt 2. The best way to prevent this situation to happen is that don't watch too much TV or use the comp0661.txt 3. How to prevent it happen? The best way is decrase to use this products and 1646.txt 4. We have many ways to protect it happened on you. You can go out and play or looking at the 1365.txt 5. Because there was one thing happened about me. Last year, my classmate, Sara, who want 0300.txt	**4(13.79%)** 1. a good way to chose to avoid the unwanted things **happen**. This choice also can assist Hong Kong to reduce CNHK1744.txt 2. hich can prevent the violent or serious crimes to **happen**. It is because the execution can be more efficien CNUK1090.txt 3. There are many different situations **happen** in the cases of murder which can be divided into CNUK4004.txt 4. They prefer to believe in things **happened** in television rather than believe in the actualit CNUK4019.txt	**4(23.52%)** 1. go to smoking areas. To prevent such situation **to happen**, I think our university can set more smoking area E003004_checked.txt 2. d more quickly and therefore we can **learn things happened** in the world beyond limitation. I have always bel E008011_checked.txt 3. result, I felt quite relieved from **the supposedly happened family crisis** and thought that not to tell the tr E010009_checked.txt 4. **But by the thing happened**, it also give me some inspirations to type this o 97204032_checked.txt

Type4- **Overpassivization**	**4(12.12%)** 1. I think it is happen because the development of technologize. On this 1256.txt 2. Maybe it's happened because of the TVs and the computers. More and mo 0158.txt 3. First problem is always happened. When you eat noddles you will find glass bluring 1269.txt 4. When two reasons above are happened frequently, students will get nearsighted soon. S 1645.txt	**10(30.30%)** 1. you can easily to know if something was **happen** in your country or in the world, it is more livelCNUK1097.txt 2. ard appropriately, such disadvantages will not **be happened**. As a result, I think students using credit card CNHK1081.txt 3. s hacking, fraud and real-life violence have **been happened.** Many and Many parents tried to oppose their sons CNHK1145.txt 4. fes. But we also find that illegal activities **are happened** in cyber cafes. In Taiwan, members of triad treat CNHK1241.txt 5. ting is legalized here, the same situation may **be happened** in Hong Kong. And it is good that the tax income CNHK1440.txt 6. uch more money back to school. Few crimes will **be happened**. It is unfortunate that if the students' parents CNHK1637.txt 7. d still upset even though the abortions have **been happened** some	**4(23.52%)** 1. nefits on condition that the personal behavior **is happened** in private area, we still have to obey the basic E003011_checked.txt 2. The above-mentioned side effects **are mostly happened** on smokers. Then what about the risk of secondhan E003011_checked.txt 3. On the way,the earthquake **was happen**. The buildings all was shaking. I am very shock 84.txt 4. The earthquake **was happen** , many people came to pay attention to the small 95.txt

		time ago. The next consideration on abortion CNHK1685.txt 8. ot the function. We all know, when some thing **was happened** it must had the good side and bad side, the disad CNUK1097.txt 9. at happened everydays. We can understand what **was happened** in the rest of world. We can also learn a lot thrCNUK1099.txt 10. he world in time. For example, can we know **what's happened** to people in the war of Irqic in time if there is CNUK1177.txt	
Type5- **Transitivization**	**1(3.03%)** 1. This situation I have never happened before! So that's why now I am a fan to the write 0100.txt	**1(3.44%)** 1. If **you happens** to be busy at the time that the series is on, you CNUK1161.txt	**1(5.88%)** 1. ed that if the earthake happened next time ,don't **happen** that thing again. Because it maybe unconvient 181.txt

Other types	0	0	**5(29.41%)** 1. uildings fall down and **that earthquake occur just happen to happen at the same time**. E025014_checked.txt 2. all down and **that earthquake occur just happen to happen at the same tim**e. And to attribute the falling do E025014_checked.txt 3. old man. Whenever the old man ask the family **what happened with his body**, their family members did not menti E010011_checked.txt 4. e to meet the earthquake,because **Kinmen has never happen** in my memory. I did'n know how could I do ? Luc 84.txt 5. they didn't have the feeling **what the earthquake happened**. However,if they sayw the road, they would know 130.txt
Total	**33(100%)**	**29(100%)**	**17(100%)**

OCCUR			
Error Type	**LTTC**	**ICLE**	**NCCU**
Type1- **Subject-verb** **agreement or tense** **marker (including** **modal verb)** **problems**		2(16.66%) 1. please compair the good ones with the bad ones it **occur** to people. And you will find, if we say no to TV, CNUK1173.txt 2. their children's life, many family problems will **occurs**. However, there is medical reserch argue that abo CNHK1323.txt	2(40.00%) 1. he shanky buildings fall down and that **earthquake occur** just happen to happen at the same time. And to at E025014_checked.txt 2. hing the news or **the unempoyment problem may just occurs** in your home. There are some factors that will E025005_checked.txt
Type2- **Infinitive usage**			
Type3- **Present participle** **usage**		2(16.66%) 1. tic technology to deal with the physical problems **occurred** in the etuses at the early stage, but not to chCNUK1187.txt 2. repayment. In addition, there is another problem **occurred** after the students get into debts. If they do not	1(20.00%) 1. However, **there is a different opinion occurs**, saying that it is better for children to grow up E009002_checked.txt

	CNHK1518.txt	
Type4- **Overpassivization**	8(66.66%) 1. ned by using credit cards and health problems **are occured** regarding to recover the debts. Students may feel CNHK1191.txt 2. miss to separate them and wrong separation **may be occured**. Then, it affects the collection time slower and CNHK1209.txt 3. to show that manpower shortage problem **is really occured** in Hong Kong. Many companies are lack of professi CNHK1590.txt 4. lution. <R>points out that breat**hing problems are occurred in** the restaurant and bar workers. A study has be CNHK1170.txt 5. yment oppurtunitiy. In recent**s, many PC cafes are occurred in the city**. It is because this industry don't ne CNHK1221.txt 6. y encourage more gambling. **A chain effect is then occurred**, many people lose their money on gambling, then t	1(20.00%) 1. **The same condition is occurred** ion students, too, even more apparently. Some stu E004005_checked.txt

	CNHK1441.txt 7. es and the negative sides, accordingly, have **been occurred**. As both two sides have strong reasons to support CNHK1500.txt 8. lso a great invention. I hope those problems **were occurred** no longer. CNUK1097.txt	

Type5- **Transitivization**	2(100%) 1. ed helps, 慈濟 is there". For example, south-asia **occured** earthquake, many 慈濟's people went to there to he 1706.txt 2. herself and very hard-working. Last year, she **occurred** a music concert. I will not forget what I learn a 0278.txt		
Other types			1(20.00%) 1. the situation complicated. **All these friends may occur** on different occasions, inviting others to join t 37.txt
Total	**2(100%)**	12(100%)	5(100%)

APPEAR			
Error Type	**LTTC**	**ICLE**	**NCCU**
Type1- Subject-verb agreement or tense marker (including modal verb) problems	1(14.28%) 1. most. When it comes to say italy, the first Food **appear** in my mind is pizza. I like pizza because of his 1794.txt		
Type2- Infinitive usage			
Type3- Present participle usage	2(28.57%) 1. He is always the first person **appears** (appearing)in the baseball court after the sun rises up, and 0270.txt 2. We can see the fish and vegetable **appears**(appearing) in Japan foods very often. In conclusion that 1572.txt	1(11.11%) 1. Today, there are different types of tourism sites **appear** in Hong Kong. The Hong Kong Heritage Museum which CNHK1723.txt	

Type4- **Overpassivization**	2(28.57%) 1. easy or you can say difficult. But she is been **appear** for 14 years. By this reason you can understand o 0788.txt 2. Although the TV **is appeared** and common, we still have many ways prevent kids 0014.txt	5(55.55%) 1. A lot of cyber **was appeared** in these serval years. It is an new idea for the CNHK1155.txt 2. anagement. Then, a new style cafe, cyber cafe, **is appear** all round the world. It is a place that provide c CNHK1387.txt 3. the employer. In resulting it, redundancy will **be appeared** very often nowadays in order to cut down their ex CNHK1308.txt 4. ficulties and environmental problems will also **be appeared**. In my opinion, poorer economy of Hong Kong would CNHK1758.txt 5. so closed like before. So some problems has **been appeared** in some families. But I think we also can make ou CNUK4036.txt	

Type5- **Transitivization**	1(14.28%) 1. ly its good taste but also the tradition that can **appear** the culture there and can appeal many teenagers. 1911.txt	2(22.22%) 1. Technology develop very fast, **appear a lot of cyber café on** many big city, cyber cafe i CNHK1152.txt 2. ome money, the deemster could help the person and **appear** wrong judgment. So now many people bribery by oth CNUK1078.txt	4(100%) 1. truth by the attitude they held or **sincerity they appear**. Thus, traditional dating helps people build up m E005010_checked.txt 2. lish. When you clicked a topic casually, **it could appear a English dialogue.** You had to listen it to try t97103008_checked.txt 3. e, this website is used for English, **it might not appear some words** about Asian people, stars, events and 97202007_checked.txt 4. es voluntarily restricting trans fats, **it doesn't appear that restaurants** in New York are willing to switc 97207338_checked.txt
Other types	1(14.28%) 1. gets hurt badly, and his doctor doesn't let him **appear** for a few months. His fans always give him suppor 0356.txt (present 出席)	1(11.11%) 1. use many problems and bad effects**. It is not only appears the financial problems** but also the physical prob CNHK1536.txt	
Total	**7(100%)**	9(100%)	4(100%)

EXIST			
Error Type	**LTTC**	**ICLE**	**NCCU**
Type1- Subject-verb agreement or tense marker (including modal verb) problems		3(13.63%) 1. best example to illustrate this. Moreover, **there exists many other ways** out other than legalizing footbal CNHK1429.txt 2. ng the positions. It shows that staff **shortage do exists**. The main advantages on importing professionals f CNHK1498.txt 3.s and greatly reduce the pollution problems which **exists** under those previous methods in waste management. CNHK1020.txt	1(50%) 1. Interesting though, isn't it a kind of advertisement, **for such product really exist** in the real world? And what's the hotel Tomoko 35.txt
Type2- Infinitive usage			1(50%) 1. Rabobank's effort on cyclocroos will not **allow** a lousy product **exist** in the course. 25.txt
Type3- Present participle usage	1(33.33%) 1. t, too. It's really appreciated to have such food **exist** in the world. 1634.txt	2(9.09%) 1. he environment. However, there **are some drawbacks exist.** For example, the high production cost and low ec CNHK1006.txt	

	2. s and manage their own time. Cyber cafes **have its exist value,** if we use it in useful way, cyber cafes is CNHK1647.txt	
Type4- **Overpassivization**	12(54.54%) 1. ards which make our life more comfortable **must be exist** and in use. CNHK1635.txt 2. desdroy the balance of nature. **The issue is still exist** up to now. Nowadays, the scientists major in gene CNUK1165.txt 3. ersity degree, due to do another one **which is not exist**, and sell them to the socialise, tell lie to the CNUK2034.txt 4. staurants. As a result, many conflicts have to **be existed**. There is no solution until now, because there ar CNHK1176.txt 5. smoking, greater disappointed **of smokers will be existed.** According to a survey conducted by KPMG Consulti CNHK1179.txt 6. information, cafefor some business	

should not **be existed**. As a whole, economy in the world trends to infor CNHK1240.txt

7. PF scheme even through the above **disadvantages is existed**, with autonomy in saving and not fexible for retr CNHK1307.txt
8. there are many advantages, **the disadvantages are existed**. I know the information from the extract which is CNHK1364.txt
9. Different kinds of **betting has been existed** in Hong Kong for many years like horse racing and CNHK1442.txt
10. for murder because some possib**le conditions were existed**. For example, if murderers were mental disorder, CNUK1053.txt
11. or the real world. Admittedly, **some loopholes are existed** in the current university education system. There CNUK4023.txt
12. ce goods and services. **The university degrees are exists** primarily to teach and do research. And the publi CNUK2020.txt

Type5- **Transitivization**	2(66.66%) 1. favorit dish that I have ever eaten. The cabbages **exist** a natural and special flave. In addition, the spi 0141.txt 2. e, if the light don't spread the shine which they **exist**, the chid's eyes would be hurt and can't cure any 1353.txt	3(13.63%) 1. ht into question as a result of labour **strains it exist** on local workers. This essay examines arguments w CNHK1111.txt 2. of waste management. Although recycling of waste **exists** a few problems, the benefits of providing a comfo CNHK1024.txt 3. inland Professional Scheme. **This scheme, in fact, exists both bad points and good points**. For the bad poin CNHK1560.txt	
Other types		1(9.09%) 1. itical power any more. Some people think that **the exist of the royal family** is unnecessary and waste taxp CNUK2014.txt 2. sset to our society and environment. However, **the exists** of country park has been blamed, for limit the de CNHK1098.txt	
Total	**3(100%)**	22(100%)	2(100%)

指 導 語

親愛的同學您好，

謝謝您協助填寫，本問卷目的為了解同學們使用英文的習慣，並不是智力或語言測驗，請憑直覺作答即可。

基本資料

姓名：　　性別：☐男☐女　　年齡：　　學校系級：

1.您會使用幾種語言？

語言種類	何時開始學的？	在哪學的？	跟誰學的？	流利程度 （只會一點--------非常流利）
國語				1　2　3　4　5　6　7
台語				1　2　3　4　5　6　7
英語				1　2　3　4　5　6　7
				1　2　3　4　5　6　7
				1　2　3　4　5　6　7

2.您於_____年參加

☐國中基本學力測驗(高中);☐大學學科能力測驗;☐大學入學指定學科考試

英文科的分數為：_____

或有參加過其他英文檢定

英文檢定名稱：_____；分數或級數為：_____

A 卷

作答說明：此問卷共有 16 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

舉例如下：

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 to be played，則填入劃線中。

例題	選擇項目	不接受 <----------->接受				
1. These boys have been _____ soccer in the park for five hours.	to play	1	2	(3)	4	5
	play	1	(2)	3	4	5
	plays	(1)	2	3	4	5
	played	1	2	3	(4)	5
	playing	1	2	3	4	(5)
	其它動詞(請填入空格)	to be playing				

如果有任何問題請您現在提出來，開始作答之後就不能發問。再次提醒您，等一下開始作答後，請不要使用電子辭典或字典，也請不要與旁人交談。

最後謝謝您寶貴的時間與協助。

例句	選擇項目	不接受 <----------->接受
1. The issue of abolishing the death penalty is still _____ nowadays.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
2. In the modern society, financial problems have been _____ in some families.	to appear appear appears appearing appeared 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
3. In recent years, many cyber cafes are _____in the city.	to occur occur occurs occurring occurred 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
4. When you eat noodles, the first problem is always_____. You will find your glasses unclear.	to happen happen happens happening happened 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 < ----------->接受
5. Bad habits would make nearsightedness _____.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
6. What reason caused this car accident _____?	to appear appear appears appearing appeared **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
7. We discussed what caused the Vietnam War _____ in the history class.	to start start starts starting started **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
8. My sister's jokes always make me _____	to laugh laugh laughs laughing laughed **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
9. There are some drawbacks _____ in the new product.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
10. Technology can deal with some problems _____ in our daily lives.	to occur occur occurs occurring occurred 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
11. Did you know the guy_____ in the park?	to jog jog jogs jogging jogged 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
12. Seventy people _____ in the company were rescued from a fire.	to work work works working worked 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
13. When you went to see a doctor yesterday, what did he _____ to you?	to explain	1 2 3 4 5
	explain	1 2 3 4 5
	explains	1 2 3 4 5
	explaining	1 2 3 4 5
	explained	1 2 3 4 5
	其它動詞(請填入空格)	_____
14. Where did John _____ last summer vacation?	to travel	1 2 3 4 5
	travel	1 2 3 4 5
	travels	1 2 3 4 5
	traveling	1 2 3 4 5
	traveled	1 2 3 4 5
	其它動詞(請填入空格)	_____
15. Many family problems will _____ if the members do not get along well.	to occur	1 2 3 4 5
	occur	1 2 3 4 5
	occurs	1 2 3 4 5
	occurring	1 2 3 4 5
	occurred	1 2 3 4 5
	其它動詞(請填入空格)	_____
16. Why did the situation _____?	to happen	1 2 3 4 5
	happen	1 2 3 4 5
	happens	1 2 3 4 5
	happening	1 2 3 4 5
	happened	1 2 3 4 5
	其它動詞(請填入空格)	_____

B 卷

姓名：　　性別：□男□女　　年齡：　　學校系級：

作答說明：此問卷 4 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

舉例如下：

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例題	選擇項目	不接受 <----------->接受
1. We need _____ dinner this Friday.	to cook	1 2 3 4 **(5)**
	cook	1 **(2)** 3 4 5
	cooks	**(1)** 2 3 4 5
	cooked	1 2 **(3)** 4 5
	cooking	1 2 3 **(4)** 5
	其它動詞(請填入空格)	to be cooking
2. These boys have been _____ soccer in the park for five hours.	to play	1 2 **(3)** 4 5
	play	1 **(2)** 3 4 5
	plays	**(1)** 2 3 4 5
	played	1 2 3 **(4)** 5
	playing	1 2 3 4 **(5)**
	其它動詞(請填入空格)	kicking

如果有任何問題請您現在提出來，開始作答之後就不能發問。再次提醒您，等一下開始作答後，請不要使用電子辭典或字典，也請不要與旁人交談。

最後謝謝您寶貴的時間與協助

例句	選擇項目	不接受 <----------->接受
1. This is a special situation I have never _____ before.	to happen	1 2 3 4 5
	happen	1 2 3 4 5
	happens	1 2 3 4 5
	happening	1 2 3 4 5
	happened	1 2 3 4 5
	其它動詞(請填入空格)	_____
2. When southern Asian _____ the earthquake, many charities came to help the victims.	to occur	1 2 3 4 5
	occur	1 2 3 4 5
	occurs	1 2 3 4 5
	occurring	1 2 3 4 5
	occurred	1 2 3 4 5
	其它動詞(請填入空格)	_____
3. When you chose a topic casually on the English learning website, it could _____an English dialogue.	to appear	1 2 3 4 5
	appear	1 2 3 4 5
	appears	1 2 3 4 5
	appearing	1 2 3 4 5
	appeared	1 2 3 4 5
	其它動詞(請填入空格)	_____
4. The cabbages _____ a natural and special flavor.	to exist	1 2 3 4 5
	exist	1 2 3 4 5
	exists	1 2 3 4 5
	existing	1 2 3 4 5
	existed	1 2 3 4 5
	其它動詞(請填入空格)	_____

指 導 語

親愛的同學您好，

謝謝您協助填寫，本問卷目的為了解同學們使用英文的習慣，並不是智力或語言測驗，請憑直覺作答即可。

基本資料

姓名：　　性別：☐男☐女　　年齡：　　學校系級：

1.您會使用幾種語言？

語言種類	何時開始學的？	在哪學的？	跟誰學的？	流利程度 （只會一點--------非常流利）
國語				1　2　3　4　5　6　7
台語				1　2　3　4　5　6　7
英語				1　2　3　4　5　6　7
				1　2　3　4　5　6　7
				1　2　3　4　5　6　7

2.您於_____年參加

☐國中基本學力測驗(高中);☐大學學科能力測驗;☐大學入學指定學科考試

英文科的分數為：_____

或有參加過其他英文檢定

英文檢定名稱：_____；分數或級數為：_____

C 卷

作答說明：此問卷共有 16 題。請仔細閱讀每一個句子，由「選擇項目」中之選項，圈選您對每一個項目之接受度。***請注意，每個項目都需圈選 1-5 當中的一個數字。*** 1 為不接受< ------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

舉例如下：

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 to be played，則填入劃線中。

例題	選擇項目	不接受 <----------->接受				
1. These boys have been _____ soccer in the park for five hours.	to play	1	2	(3)	4	5
	play	1	(2)	3	4	5
	plays	(1)	2	3	4	5
	played	1	2	3	(4)	5
	playing	1	2	3	4	(5)
	其它動詞(請填入空格)	kicking				

如果有任何問題請您現在提出來，開始作答之後就不能發問。再次提醒您，等一下開始作答後，請不要使用電子辭典或字典，也請不要與旁人交談。

最後謝謝您寶貴的時間與協助

例句	選擇項目	不接受 <----------->接受
1. The lawmakers indicated that many pitfalls _____ in this public engineering project.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
2. The 921 earthquake uncovered the risk of geographic environment_____ in Taiwan.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
3. There are many cracks_____ in the old house that is long neglected and in disrepair.	to appear appear appears appearing appeared 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
4. Although the patient has been in a coma for many days, the doctor still made efforts and expected the miracle _____.	to appear appear appears appearing appeared 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
5. The increasing pressure in citizens' life makes the prevailing psychological diseases _____	to appear appear appears appearing appeared 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
6. The unpredictable factors _____ after the financial crisis.	to appear appear appears appearing appeared 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
7. The racial discrimination still _____ in many current democratic countries.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
8. The problem of second-hand smoke has been _____ for several years, while it is really difficult to be solved.	to exist exist exists existing existed 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
9. The accident _____ at 8:30 A.M.	to happen happen happens happening happened 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
10. There is a car accident _____ on the highway.	to happen happen happens happening happened 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
11. Neighbors should help each other to prevent the criminal events _____ in the neighborhood.	to occur occur occurs occurring occurred 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
12. If there is a war _____ in the world, humans can not live peacefully.	to occur occur occurs occurring occurred 其它動詞(請填入空格)	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
13. In recent years, there are many incidents of child abuse_____ in the society.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
14. Pessimistic people may think that the unfair issues keep _____ in this world.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
15. He didn't know what _____.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
16. The change is _____ in Taiwan now.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

D 卷

姓名：　　性別：□男□女　　年齡：　　學校系級：

作答說明：此問卷共有 16 題。請仔細閱讀每一個句子，尤其是粗體的字，由「選擇項目」中之選項，圈選您對每一個項目之接受度。*請注意，每個項目都需圈選 1-5 當中的一個數字。* 1 為不接受< -------- >5 為接受。若您認為還有其它動詞是可能的答案，請將您的答案填入空格當中。

舉例如下：

請問，此題空格中，若填入 to play/play/plays/played/playing，哪個較為可接受？若五種選項以外還有其他答案如 to be played，則填入劃線中。

例題	選擇項目	不接受 <----------->接受				
1. 這些男孩們**已經**踢足球**踢了五個小時**。 These boys have been _____ soccer in the park for five hours.	to play	1	2	(3)	4	5
	play	1	(2)	3	4	5
	plays	(1)	2	3	4	5
	played	1	2	3	(4)	5
	playing	1	2	3	4	(5)
	其它動詞(請填入空格)	kicking_____				

如果有任何問題請您現在提出來，開始作答之後就不能發問。再次提醒您，等一下開始作答後，請不要使用電子辭典或字典，也請不要與旁人交談。

最後謝謝您寶貴的時間與協助

例句	選擇項目	不接受 <----------->接受
1. 立法委員指出這項公共工程**存在許多缺失**。 The lawmakers indicated that many pitfalls _____ in this public engineering project.	to exist exist exists existing existed **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
2. 921地震暴露了台灣地理環境上的**風險存在**。 The 921 earthquake uncovered the risk of geographic environment_____ in Taiwan.	to exist exist exists existing existed **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
3. 這間老房子因爲年久失修而**出現許多裂縫**。 There are many cracks_____ in the old house that is long neglected and in disrepair.	to appear appear appears appearing appeared **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
4. 即使病人已經昏迷數日，醫生仍努力搶救希望有**奇蹟出現**。 Although the patient has been in a coma for many days, the doctor still made efforts and expected the miracle _____.	to appear appear appears appearing appeared **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
5. 國人生活壓力造成社會上**出現著**心理疾病的盛行。 The increasing pressure in citizens' life makes the prevailing psychological diseases _____	to appear appear appears appearing appeared **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
6. 金融海嘯過後，政治上與經濟上**出現了**不可預測的因素。 The unpredictable factors _____ after the financial crisis.	to appear appear appears appearing appeared **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
7. 民主國家目前仍**存在著**種族歧視。 The racial discrimination still _____ in many current democratic countries.	to exist exist exists existing existed **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
8. 二手煙問題已經**存在了**很多年，但卻很難徹底解決。 The problem of second-hand smoke has been _____ for several years, while it is really difficult to be solved.	to exist exist exists existing existed **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
9. 這件**意外發生**於上午八時三十分。 The accident _____ at 8:30 A.M.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
10.高速公路**發生車禍**。 There is a car accident _____ on the highway.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
11.鄰居必須發揮守望相助的精神才能防止**刑案發生**。 Neighbors should help each other to prevent the criminal events _____ in the neighborhood.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
12.如果世界上**發生戰爭**，人類將無法安心生活。 If there is a war _____ in the world, humans can not live peacefully.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____

例句	選擇項目	不接受 <----------->接受
13. 近年來，社會上**發生了**許多兒童受虐事件。 In recent years, there are many incidents of child abuse_____ in the society.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
14. 悲觀的人總覺得世界上一直**發生著**不公平的事。 Pessimistic people may think that the unfair issues keep _____ in this world.	to occur occur occurs occurring occurred **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
15. 他還不知道**發生了**什麼事。 He didn't know what _____.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____
16. 台灣正在**發生著**複雜的變化。 The change is _____ in Taiwan now.	to happen happen happens happening happened **其它動詞(請填入空格)**	1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 1 2 3 4 5 _____