

Enhancing the Learnability of Chinese–English Dictionaries for Chinese as a Foreign Language Learners: The Neglected Legacy of Robert Morrison in His Compilation of *Wuche Yunfu* (1819)

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Abstract: In previous studies on learner lexicography, design features of both the content and presentation of learner's dictionaries are the two major research concerns. The quality assessment of learner's dictionaries also covers the two dimensions. Terms used for evaluating them are respectively "usability" or "availability" for the former and "findability" or "accessibility" for the latter. However, the lexicographical construction of "learnability", which takes into account the users' reference and learning needs, remains virtually unexplored either theoretically or practically. Compared to the features of dictionary design mentioned above, "learnability" as the design philosophy of learner lexicography is worth more serious consideration. The present paper aims at exploring the lexicographical notion of "learnability" by way of introducing the neglected legacy of Robert Morrison in his compilation of *Wuche Yunfu* (五车韵府) (1819)¹, which is characterized by a high degree of learnability illustrated in the dictionary entries. Morrison's pioneering efforts may help with the conceptual clarification of "learnability" in compiling learner's dictionaries, bilingual ones in particular. Moreover, it is hoped that the recognition of Morrison's lexicographical practice will be beneficial to the future production of better Chinese–English dictionaries for non-native Chinese learners.

Keywords: LEARNERABILITY, LEARNER LEXICOGRAPHY, CHINESE AS A FOREIGN LANGUAGE LEARNERS, WUCHE YUNFU, CHINESE–ENGLISH DICTIONARIES, BILINGUAL

DICTIONARIES, LEXICOGRAPHICAL PRACTICE, LEXICOGRAPHICAL NOTION, LEARNING LOAD, LEARNERS' NEEDS

Opsomming: Verhoging van die leerbaarheid van Chinees–Engelse woordeboeke vir aanleerders van Chinees as vreemde taal: Die vergete nalatenskap van Robert Morrison in sy samestelling van *Wuche Yunfu* (1819). In vorige studies van aanleerderleksikografie is ontwerpkenmerke van beide die inhoud en aanbieding van aanleerderswoordeboeke die twee belangrikste navorsingsaspekte. Die kwaliteitsbepaling van aanleerderswoordeboeke dek ook hierdie twee dimensies. Terme wat gebruik word vir hul evaluering is onderskeidelik "bruikbaarheid" of "beskikbaarheid" vir eersgenoemde en "vindbaarheid" of "toeganklikheid" vir laasgenoemde. Die leksikografiese begrip "leerbaarheid", wat die gebruikers se verwysings- en aanleerdersbehoefte in ag neem, bly egter eintlik teoreties en prakties onontgin. Vergeleke met die kenmerke van woordeboekontwerp waarna hierbo verwys is, behoort "leerbaarheid" as die ontwerpfilosofie van aanleerderleksikografie ernstiger oorweeg te word. In hierdie artikel word gepoog om die leksikografiese konsep van "leerbaarheid" te ondersoek met behulp van die vergete nalatenskap van Robert Morrison in sy samestelling van *Wuche Yunfu* (五车韵府) (1819)¹, wat gekenmerk word deur 'n hoë mate van leerbaarheid soos geïllustreer in die woordeboekinskrywings. Morrison se baanbrekerswerk kan van hulp wees met die konseptuele verheldering van "leerbaarheid" in die samestelling van aanleerderswoordeboeke, veral tweetalige aanleerderswoordeboeke. Bowenal word daar gehoop dat die erkenning van Morrison se leksikografiese praktyk tot voordeel van die toekomstige produksie van beter Chinees–Engelse woordeboeke vir nie-moedertaal Chinese aanleerders sal wees.

Sleutelwoorde: LEERBAARHEID, AANLEERDERSLESIKOGRAFIE, LEERDERS VAN CHINEES AS VREEMDE TAAL, *WUCHE YUNFU*, CHINEES–ENGELSE WOORDEBOEKE, TWEETALIGE WOORDEBOEKE, LEKSIKOGRAFIESE PRAKTYK, LEKSIKOGRAFIESE KONSEP, WERKSLADING, AANLEERDERSBEHOEFTE

1. Introduction

Compared to the large number of English–Chinese (E–C) dictionaries meant for English as a Foreign Language (EFL) learners, the number of Chinese–English (C–E) dictionaries available in China for Chinese as a Foreign Language (CFL) learners is rather small, which contrasts remarkably with the increasing popularity of CFL learning worldwide. For the already published C–E dictionaries for CFL learners, few of them are found satisfactory (Wang 2008). Yang (2015) conducted a questionnaire survey of CFL learners in two Chinese universities, and the results showed a predominant preference for dictionaries published outside China with regard to the dictionaries used by CFL learners. Some participants of the survey complained about the quality of current CFL learner's dictionaries, especially those published in China. The main complaint was the lack of helpful information for their Chinese language learning. Actually, lexicographers always concern themselves with the usefulness of the dictionaries

they produce. For example, Li (2013) discussed practicality in compiling Chinese dictionary for CFL learners. Yang (2016) stated that compiling Chinese dictionaries for CFL learners should follow four basic principles: simplicity, practicality, comprehensiveness and explicitness. However, a fundamental problem lies in the fact that lexicographers in many cases fail to capture the specific learning needs of users, which are often deeply rooted in their learning process. Or in other words, the learnability of learner's dictionaries has not been fully explored, either as lexicographical conceptualization or for practical purposes.

This article is intended to draw more attention to the term "learnability", a lexicographical construct that has in fact long been overshadowed by the high frequency of some similar terms used in the lexicographical literature, such as "usability", "practicality" or "availability". The latter ones are used for designing or judging dictionaries in general while the former is specifically meant for learner's dictionaries. Nevertheless, the exact conceptual content of "learnability" still remains unclear or unspecified. In this article, "learnability" is defined, from the perspective of learner lexicography, as how much useful the information is for learning and how easily the users can learn the needed information. A learner's dictionary should be not only user-centred as all dictionaries do, but also learning-centred in the way that the user's learning process is the centre of lexicographer's attention. Instead of "usability", "practicality" or "availability", the authors of this article consider "learnability" as a more appropriate term that labels learner lexicography. More importantly, we are going to further illustrate the concept of "learnability" through Morrison's actual practice in writing *Wuche Yunfu* (五车韵府) (1819), which is a lexicographical product made nearly two centuries ago and renowned for its unfailing popularity with generations of western CFL learners.

As "the first Chinese–English dictionary widely used by people both in the East and in the West" (Wu and Zheng 2009: 3), it was found "highly detailed and was well received, being acclaimed as the best Chinese dictionary in a European language" (Ryu 2009: 8). It was also used as "the base for publications of multilingual dictionaries in Japan and Korea" (Ryu 2009: 1). Even today, *Wuche Yunfu* is still used as a reference book. It is regarded by many scholars as an encyclopedia for its comprehensive coverage of Chinese culture (Wu and Zheng 2009).

As mentioned above, Morrison's *Wuche Yunfu* has often been given much credit for its success in helping CFL learners to learn Chinese. In other words, the degree of learnability of this very dictionary is quite distinct from that of other CFL dictionaries.

The lexicographical success of Morrison's *Wuche Yunfu* can be illustrated typically by one specific entry article, compared with its counterparts in some contemporary CFL learner's dictionaries, either monolingual or bilingual. Take the entry of the Chinese character 精 (pronounced as "jing" in Chinese, and literally means "refining" in English) as an example. Compared to the article selected

from *The Commercial Press Learner's Dictionary of Contemporary Chinese* (2007), the most representative monolingual CFL learner's dictionary in contemporary China, Morrison's lexicographical treatment is obviously more helpful for CFL learners. Though *The Commercial Press Learner's Dictionary of Contemporary Chinese* in its preface claims to target CFL learners, it actually fails to achieve its lexicographical goal.

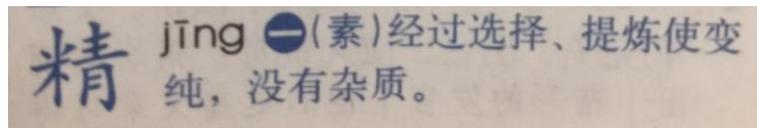


Figure 1: Entry of 精 in *The Commercial Press Learner's Dictionary of Contemporary Chinese* (2007: 373)

As shown in Figure 1 above, the daily Chinese character 精 is defined as "经过选择、提炼使变纯，没有杂质" (literally means "to purify sth. through selection or refinement" in English) (2007: 373). Obviously, the wording of this definition is abstract and rather difficult for intermediate or even advanced CFL learners to comprehend. There are also two terms used in this definition, namely 提炼 (literally means "to refine" in English) and 杂质 (literally means "impurity" in English), which are even more difficult for CFL learners. In fact, on the vocabulary list of HSK², 精 is a Chinese character of Level Four for intermediate CFL learners whereas 提炼 is a word of Level Six³. The Chinese word 杂质 is not actually found on the vocabulary list of HSK.

Similarly, as can be seen from the Figure 2 below, the selected article from the bilingualized version of *Xinhua Dictionary* (2013), which is also aimed at CFL learners, the entry of the headword 精 does not meet the CFL learners' reference needs. The lexicographical information presented in this article is oversimplified with only a few English equivalents and some short verbal illustrations. By this way of explaining the headword 精, the related cultural connotation of this Chinese character is lost, which does not help with CFL learners' understanding of Chinese farming culture in general. To be more specific, the left part of this Chinese character 精 is 米 (pronounced as "mi" in Chinese, and literally means "rice") and the right part of this Chinese character 精 is 青 (pronounced as "qing" in Chinese, and literally means "golden age"). The original meaning of the character 精 is the combination of the meaning of 米 and 青, referring to "selecting first-class rice" in agriculture.

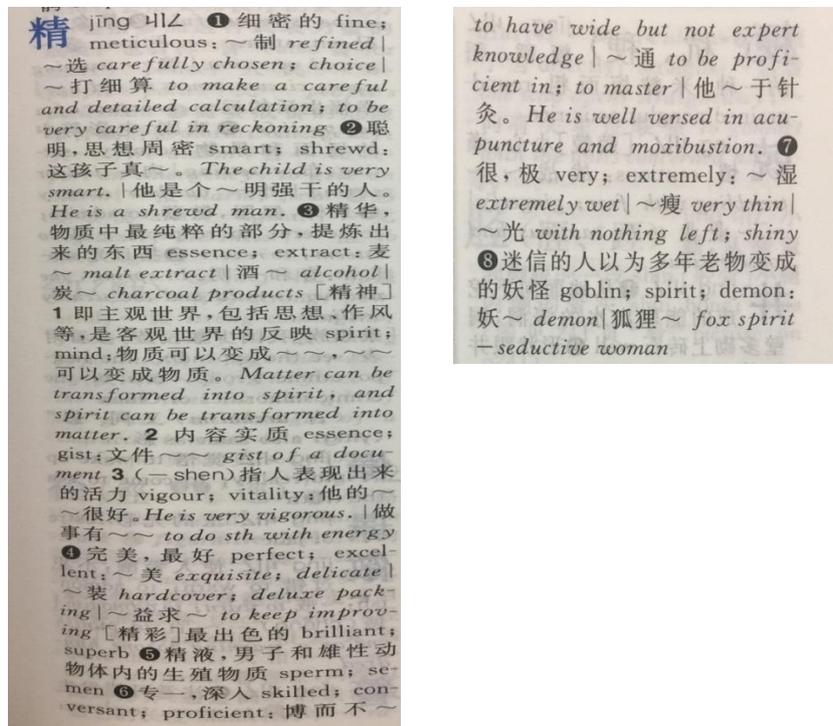


Figure 2: Entry of 精 in *Xinhua Dictionary* (2013: 359)

However, contrastingly, an entry article of the same Chinese character 精 in Morrison's *Wuche Yunfu*, seems to be more informative and interesting for its target users (see Figure 3). The Chinese character 精 in this C–E dictionary is defined first as "From rice and pure. To cleanse grain; the pure part of anything" (Morrison 1819: 915). Morrison explained first of all the original meaning of 精 in simple English words, which shows clearly the close relation between this Chinese character and the farming culture in China. Some English equivalents are also given to facilitate CFL learners' comprehension of this character. Morrison further illustrated the abstract senses "true ether; spiritual; subtle fluid; essence; essential; the semen of animals" based on the users' understanding of how rice is processed in China. In other words, he presented the related cultural information in the definitions, which helps CFL learners understand the inseparable connection between the Chinese culture and the Chinese language. With such dictionary definitions of greater comprehensibility and less cognitive burden, Morrison in his compiling *Wuche Yunfu* made great efforts to assist CFL learning.

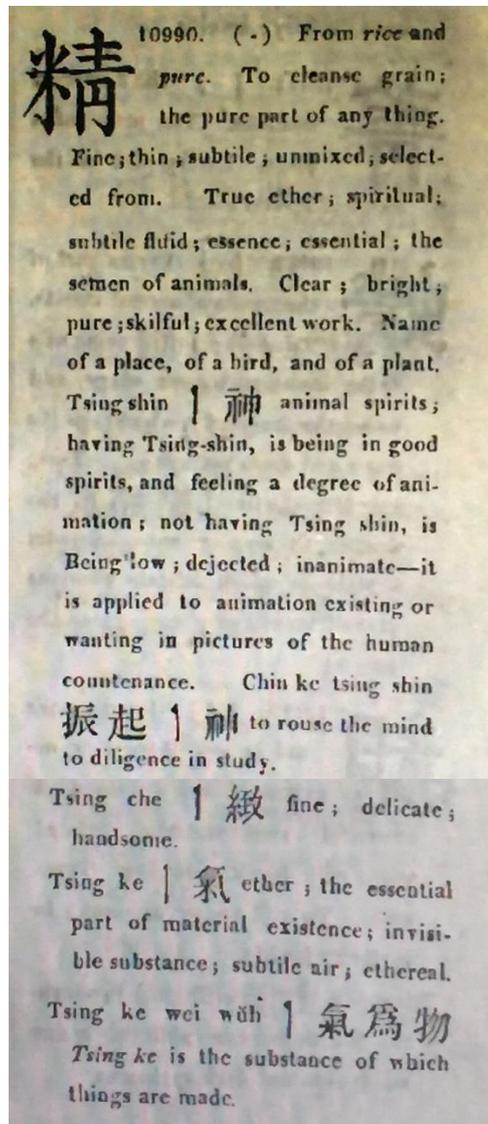


Figure 3: Part of the entry of 精 in *Wuche Yunfu* (Morrison 1819: 915)

It is clear from the comparison above that the lexicographical content as well as presentation of Morrison's *Wuche Yunfu* is more user-friendly. In his actual compilation of the dictionary, Morrison did take into consideration "the quality or fact of being learnable" (OED 1989: 768). Thus, the present study is intended to explore the essence of learnability in learner lexicography by examining how Morrison actually realized it during the process of compiling *Wuche Yunfu*. It is

hoped that this study can shed some light on the compilation of future Chinese–English learner's dictionaries, those for CFL learners in particular. More importantly, with the development of learner lexicography, the concept or notion of learnability has to be emphasized and further clarified.

2. Learnability as the design philosophy of learner lexicography

Ever since the early 20th century, lexicographers have been endeavoring to improve the quality of learner's dictionaries, focusing mainly on lexicographical design. They conducted researches into the "findability" of learner's dictionaries, which is concerned with finding the target lexical items and the related information in the dictionary; they carried out studies on the "accessibility" of learner's dictionaries, which is "the relative ease with which information can be located in a reference work" (Hartmann and James 2000: 2). They also investigated the "usability" of learner's dictionaries, which deals with the use of lexical items correctly in terms of grammar, pragmatics, etc. (Chon 2008) or users' preference in accomplishing their writing tasks (Laufer and Levitzky-Aviad 2006). The lexicographical terms such as "findability", "accessibility", "usability" and "availability" are frequently used to evaluate the content and presentation of learner's dictionaries. For instance, Bogaards and Van der Kloot (2001) studied verb complementation in the dictionaries. They compared the usefulness of the information presented in LDOCE3, CIDE, and COBUILD2 by examining two major dimensions: findability and usability. Lew and Dziemianko (2006) discussed the usefulness of a new defining model for foreign learners, mentioning the importance of accessibility. Faaß et al. (2014) discussed their means to achieve data accessibility. Alzi'abi (2017) presented changes of the general layout of DSAEHist online platform, which were made to improve the usability of data. Nevertheless, these terms used as the criteria for evaluating the design of learner's dictionaries, are too general in that these terms can be used to evaluate many types of dictionaries, which cannot make the peculiarities of learner lexicography clear. That is to say, learner lexicography can seek its specific criteria to make itself distinctive from other dictionary types, which is closely related to the origin of learner's dictionary.

The very nature of a learner's dictionary is "aimed primarily at non-native learners of a language" (Hartmann and James 2000: 82); therefore, the fundamental design philosophy of learner lexicography is essentially learning-centered.

Scholars in the field of language learning often take into account the role of learnability in the process of language acquisition and foreign/second language learning. For instance, Pinker (1989) mentioned the relationship between language learnability and second language acquisition. In his view, "learnability" mainly concerned learners' ability to learn, especially in the process of learning a language. Bertolo (2001) did an overview of the literature in the field of language learning and referred to "learnability" as the ability to learn, which

can be influenced by learning environment and learners. Some scholars also mentioned learnability in their discussion about the nature of L2 lexical learning. For example, Siepmann (2006) stated the ways of determining the core vocabulary for non-native language learners with reference to "learnability". According to him, "learnability" is one of the criteria for selecting learning content.

Comparatively speaking, the term of "learnability" has, up to now, not been much explicated in the field of learner lexicography. Isamu (2001) is perhaps the one who discusses the term learnability most in the lexicographical field. He mentions the term "learnability" when he talks about the *Idiomatic and Syntactic English Dictionary* by Hornby (ISED), which was introduced into Japan when the Japanese people adopted a hostile attitude towards the English language. In order to help Japanese EFL learners, the compilers put a lot of effort in to ensure a high learnability of the dictionary. They provided users with simplified definitions, explicit grammatical labels, detailed information about usages and collocations, frequency-based sense ordering, rich illustrative phrases and sentences, useful phonetic information and pictorial illustrations, etc. To reduce the cognitive load, terms with low frequency were also excluded. Isamu (2001) used the term "learnability" to describe an important feature of a learner's dictionary though he did not actually offer the definition of it. In his opinion, a learner's dictionary should provide its user with all the essential and necessary information needed in L2 learning; what is presented in the dictionary text has to be easily accessible and comprehensible. However, Isamu's (2001) understanding of learnability is one part of what learnability is in this article.

In fact, the philosophy of learnability has recently been reiterated by Wei et al. (2014) when they addressed the issue of designing English–Chinese bilingual learner's dictionaries. Wei et al. (2014) summarized three major design features that lexicographers should take into consideration. Firstly, the information contained should suit the learning needs of the learners. Secondly, the content should help with specific learning activities of the learners, such as reading, writing or translating. Thirdly, the arrangement of the lexicographical information should be able to help with the learning process of the learners. These features reflect one crucial requirement for a learner's dictionary, namely, "learnability". Actually, the emergence of early English monolingual learner's dictionaries "sprang from experience of linguistic analysis and from a particular approach to language pedagogy", and "the linguistic information of a certain specificity and depth had been brought to light and only special dictionaries could capture its fullness and complexity" (Cowie 1999: 1). In other words, learner's dictionaries are designed for making easier the learning process of particular groups of learners. The motivation for learner lexicography is learning and the learnability of the dictionaries should be the top priority.

Interestingly, although learnability has not been explicitly put forward to refer to the attention compilers pay to the language learning process, it has

always been the design philosophy behind the compilation practice ever since the birth of learner's dictionaries.

From 1935 to 1942, three influential dictionaries, *The New Method English Dictionary* (NMED) (1935), *A Grammar of English Words* (GEW) (1938) and ISED (1942), were published. The compilers of these three bodies of work applied their teaching experience and research results in the creation of their dictionaries with the aim of benefiting learner's language study. According to Cowie (1999), the Vocabulary Control Movement, pedagogical grammar, and phraseology had exerted the greatest influence on the dictionary compilation at that time. To be more specific, the Vocabulary Control Movement leads to dictionary compilers' conception of a core vocabulary for English language learners. The research into pedagogical grammar reminds dictionary compilers of the importance of syntactic information, English verb patterns in particular. The study on English phraseology benefits dictionary compilers in dealing with the information that enables learners to produce idiomatic English. These three language-learning-oriented linguistic studies pushed forward the emergence of learner lexicography with a distinctive feature, namely learnability.

With the development of researching second language learning⁴ and linguistic theories, the second generation of learner's dictionaries put more emphasis on content and design for the sake of learners' reception and production (Cowie 1999). In this period, the *Longman Dictionary of Contemporary English* (1978) in its compilation introduced a controlled defining vocabulary to deal with learners' difficulty in comprehending the lexical items. "During the late 1980s, EFL lexicographers kept in balance the two long-established functions of the learner's dictionary — its role as a storehouse of meanings and its role as an activator of language use and vocabulary development" (Cowie 1999: 173). Tarp (2004), in his functional theory of lexicography, has already stressed user-orientated compilation. Compilers should consider the language learner's proficiency level, level of general culture, feature of his culture, learner type and age. Along with the development of computer science and corpus-based lexical studies, analysis of users' needs has become specified and can fulfill users' more specific requirements. Nevertheless, only when computer science and corpus-based lexical studies are developed on the basis of learning need analysis can learner's dictionary truly satisfy the learning needs.

3. Essential components of "learnability" in learner lexicography

As mentioned above, learnability refers to how much useful the information is in learning and how easily the users can learn the information. In general, both the content and the presentation of a learner's dictionary should be learning-driven. Specifically speaking, learnability in bilingual learner lexicography should be reflected at least in the following three respects.

3.1 Learning load controlled

From the perspective of learnability, dictionary compilers should primarily consider three points: the target learners' cognitive capacity, their reference habits as well as skills. Briefly speaking, what has been offered in the dictionary should not increase the user's cognitive load. Ever since the birth of learner lexicography, dictionary compilers have long been attempting to do so by means like controlling defining words and providing usage labels. However, for bilingual learner's dictionaries, not all of these traditional practices are useful. When starting to learn a foreign language, non-native learners more often than not have already formed their own system of language and culture. How to make use of the existing knowledge or language system to reduce the cognitive load will have a great impact on the learning effect in that comprehension is the key to knowledge acquisition (Cao 1991).

3.2 Learning needs specified

In general, dictionaries are designed to meet their users' reference needs. Learner's dictionaries are meant for learners whose reference needs may vary at different stages of their learning process. To make clear the specific group of users' learning needs is crucial in compiling learner's dictionaries. Learnability, compared with user-oriented need analysis in the functional theory of lexicography, stresses learning-centered need analysis. That is to say, the aim of need analysis is to specify learning needs: how much useful information the dictionary should contain and how easily learners can learn the specific information. The functional theory of lexicography includes many factors to analyze users' needs; however, many users, especially beginners, are not clear about their needs and it is difficult to collect related information through questionnaires. Learner's dictionaries are designed to assist learning and they can follow the theories about the learning process and learning rules which have been tested through empirical studies in the field of language learning; therefore, learnability can reflect the regular demands in the learning process.

3.3 Integrated-learning oriented

Language learning involves understanding the linguistic system of the target language, including sense, forms, pronunciation, etc. Different aspects of language learning have to be well integrated, which benefits learners in the long term. In this case, learner's dictionaries should also be integrated-learning oriented, making systematic language learning possible. Hence the learnability of learner's dictionaries is achieved.

The above three aspects explain the major concerns of learnability in learner's dictionaries. However, in the existing literature and actual lexico-

graphical practice, lexicographers' attention is usually given to the first aspect, namely the acceptability of the learning content. The other two aspects have actually been ignored. For instance, Isamu's (2001) summary of learnability in ISED only focused on the necessary and comprehensible information provided for language learners. Therefore, it is essential that learnability is further analyzed and summarized based on the observation of some successful dictionaries. Morrison's *Wuche Yunfu*, introduced in the first section, was a popular dictionary for CFL learners in the Qing dynasty (1644–1912), proving its effectiveness in helping non-native learners with their Chinese language study. Presumably, it should reflect the above elements of learnability.

4. Robert Morrison's efforts in enhancing the learnability of *Wuche Yunfu*

As discussed above, learnability should be the most distinguishing feature of a learner's dictionary, either monolingual or bilingual. Though Morrison did not in fact know how to compile a learner's dictionary, he successfully made his dictionary very popular among generations of CFL learners, with a high degree of learnability. What has been achieved by Morrison is worth a detailed textual analysis.

4.1 Controlling the learning load

The compilation of *Wuche Yunfu* was based on Morrison's experience of using Chinese dictionaries and his practice of compiling the first volume of *A Dictionary of the Chinese Language* (1815) which was later found to be difficult for CFL learners. Thus, Morrison intentionally made some modifications in this dictionary to reduce the target learners' load of learning Chinese through two compiling means.

4.1.1 Making use of learners' existing knowledge

To lighten the CFL learner's cognitive burden, Morrison in his compilation of *Wuche Yunfu* made full use of their mother tongue as well as the knowledge they had already acquired. Being different from most modern dictionaries for non-native learners, which usually immerse users in the target language, *Wuche Yunfu* is a bilingual dictionary in which lemmata and sub-lemmata are written in Chinese, and the other parts of the entries are written in English. By defining the headword in the user's native language, *Wuche Yunfu* facilitates learners' comprehension of the lemmata.

As held by Adamska-Salaciak and Kernerman (2016: 271), "the acquisition of new knowledge proceeds via relating it to the knowledge one already possesses". Morrison in his compilation of *Wuche Yunfu* did help CFL learners with

the understanding of new linguistic knowledge based on their general knowledge. The definition of the Chinese headword 滯 (pronounced as "zhi" in Chinese and literally means "stagnate") is a case in point. In Figure 4, the Chinese headword 滯 is defined in English as "water impeded; some hindrance to the circulation of fluids" (Morrison 1819: 41) first. This original meaning of 滯 is easy for users to understand since it simply describes a kind of natural phenomenon. Then, based on this original meaning, Morrison further introduces its metaphorical meaning, i.e. "a stoppage in the human system" (Morrison 1819: 41), which is closely connected with the knowledge of Traditional Chinese Medicine (TCM). By using general knowledge as the basis and English as a presentation tool, Morrison manages to assist the users with their understanding of the difficult senses of the character. Moreover, he also avoided interrupting the users' learning with an overwhelming amount of new cultural knowledge. Instead, the shared metaphorical mechanism helps CFL learners grasp the idea of TCM.

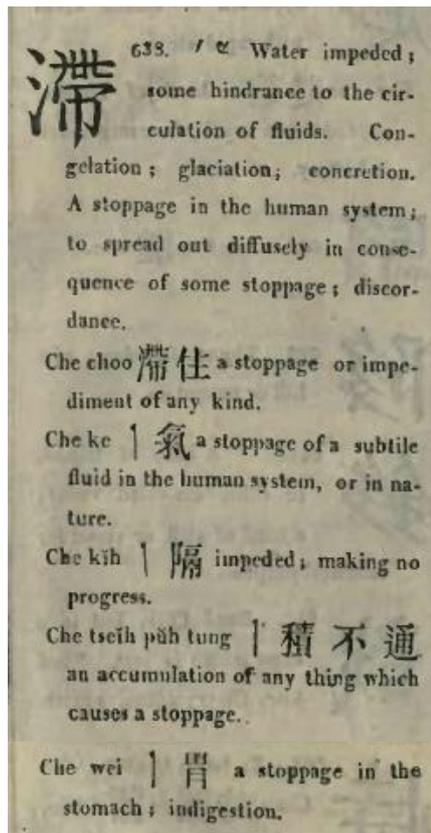


Figure 4: Part of the entry of 滯 in *Wuche Yunfu* (Morrison 1819: 41)

4.1.2 Conforming to learners' reference skills and habits

Morrison was clear about the target users of this dictionary because he had been a learner himself when he first came to China and he knew what a beginner needed when consulting a dictionary. He criticized existing dictionaries for the way of arranging Chinese characters according to the number of strokes used to write the character, which was rather difficult for CFL learners to locate the character (The Chinese language adopts ideographic writing while English uses phonetic writing; the two languages normally use two different arrangements in the dictionaries). In his opinion, when CFL learners heard a new character, they could only look for the character according to its pronunciation instead of its orthography; hence, they could not find it in the dictionary easily. To help the target users, Morrison, in the first place, adopted an alphabetical wordlist in *Wuche Yunfu*, i.e. arranged the entry words according to the alphabetical order of their *Pinyin*, the Romanization form of Chinese pronunciation, which solved this problem easily.

In the second place, Morrison provided some auxiliary lists in *Wuche Yunfu* to help learners of different reference habits locate lexical items. In the first part of *Wuche Yunfu*, Morrison presented information about the orthography of the Cantonese dialect (different from the orthography used in other parts of China), and in the table of this orthography, he provided information about the Cantonese pronunciations opposite which were the spellings that he used in the dictionary. In this way, non-native Chinese learners in Canton could locate the characters according to the pronunciation they heard in real communication. And they could get used to the system adopted in the dictionary easily. In the second part, there was a table of radicals (the compositional part of a Chinese character, which usually expresses the meaning of the whole character), an index of characters under the radicals, a list of various forms of these characters, and an index of English words which were linked by numbers to the corresponding Chinese characters in the part of the syllabic arrangement.

Through the dictionary arrangement and lists, Morrison reduced the learners' difficulty in using this dictionary. Some Chinese dictionaries for non-native learners nowadays actually intend to cope with the target users' needs in this respect as well. For instance, *The Commercial Press Learner's Dictionary of Contemporary Chinese* (2007) provides lemmata with the alphabetic sequence, and it also contains indexes of syllables, strokes, radicals as well as single-component characters (characters that develop from ancient painting and cannot be separated into parts). However, even though it intends to provide accesses for various kinds of learners, it does not fully take learners' reference skills into consideration. The index of single-component characters is quite confusing because it is a difficult grammatical phenomenon in the Chinese language. Few non-native Chinese learners can understand the single-component character easily, though the compilers have realized the difficulty and have explained what single-component characters are in the preface.

4.2 Meeting specific learning needs

Morrison set a good example in helping users find the specific information they need in their language learning. As mentioned earlier, the target users of *Wuche Yunfu* were originally missionaries who needed to communicate with the local people in China. In the preface of the dictionary, Morrison stated that "the author's object has been, and the intention of the Dictionary ought to be, to communicate the language to Europeans" (1819: viii). In other words, the dictionary was intended to enable users to learn the Chinese language and its culture. Morrison achieved his goal by three means: the provision of core vocabulary, design of phonetic symbols and adoption of a mixed model of explanation.

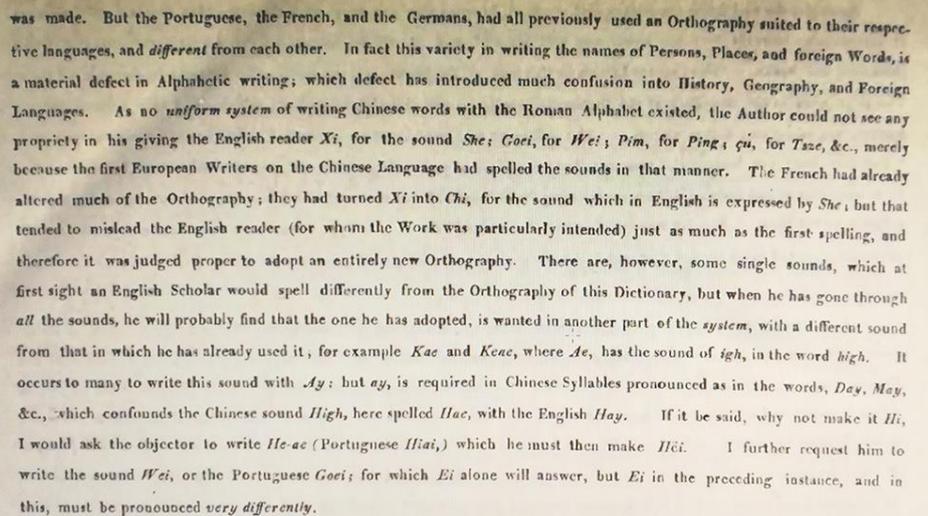
Firstly, Morrison only provided the core lexical items in the dictionary, which were enough to satisfy learners' needs for daily communication. The first part of *A Dictionary of the Chinese Language* (1815) contains about 40,000 characters and Morrison reduced the number in *Wuche Yunfu*. According to the research conducted by Yang (2012), the number of headwords in *Wuche Yunfu* is 12,674. This shows that Morrison intended to make non-native learners focus on the core vocabulary, which can well meet their basic needs in daily communication.

Secondly, Morrison considered information on pronunciation a priority to help CFL learners communicate orally. He tried to satisfy this need by devising a system of pronunciation and tones that was somewhat easier for the users to accept and learn. Morrison modified the phonetic transcription for the convenience of westerners. Otherwise, it would be very hard for them to produce certain vocal sounds, which were very different from those in their mother tongues. Actually, Morrison found that people who had arrived in China earlier from other countries had altered the pronunciation of some Chinese characters to suit their own languages; however, he was determined to keep Chinese in its original form and "adopt an entirely new orthography" (Morrison 1819: ix) by taking the whole Chinese language system into consideration. There was no Putonghua (standard spoken Chinese) then; nevertheless, Morrison himself developed a system of phonetic symbols based on the English pronunciation system.

Adopting a totally new orthography would only cause trouble for those beginners. To avoid this, Morrison made some changes to some single sounds to facilitate western beginners of Chinese. In the preface of *Wuche Yunfu*, he gave the example of "Kae" and "Kene" to explain the reason for such modifications (Morrison 1819: ix) (see Figure 5). As for the example 精 in Figure 3, "j" was modified in the way of "ts" to make it easier for westerners to pronounce. Morrison also stressed the importance of pronunciation and reinforced users' learning of it by providing pronunciation for related lexical chunks in the sub-entries. The pronunciations of the whole lexical chunks were indicated before the Chinese written forms. In each sub-entry, the pronunciation of the lexical

chunk was placed at the very beginning, for example, "Tsingke", followed by the Chinese character 精气 in traditional Chinese characters. The actual pronunciation of 气 is "qi" in Pinyin⁵, but it was not easy for westerners to pronounce. Morrison also changed it into "ke", which was pronounced by westerners in a way quite similar to its Chinese pronunciation. It is certain that Morrison made transcription changes whenever target users might find it problematic to pronounce.

Meanwhile, Morrison devised his own way of marking the different tones of Chinese characters (Morrison 1819: xiii) (see Figure 6) for CFL beginners. In Chinese, there are four tone symbols, high-level tone (first tone), rising tone (second tone), falling-rising tone (third tone) and falling tone (fourth tone). In the early 19th century, Morrison was already aware that he should use a set of symbols to help learners distinguish different tones of the characters that are pronounced similarly in Chinese. For example, the tone marker "—" of 精 is placed in [] at the very beginning of the entry. This is especially crucial for CFL learners because English is not a tonal language and westerners often find it difficult to distinguish the four tones of Chinese characters. It cannot be denied that Morrison's endeavor was a novel try at that time since no acknowledged standard pronunciation system was created to represent Chinese pronunciation features then. This applicability was very successful and the phonetic system invented by Morrison was the basis of the Wade-Giles Romanization system, which has been popular until very recently (Yang 2014), proving the effect of this method on CFL learners.



was made. But the Portuguese, the French, and the Germans, had all previously used an Orthography suited to their respective languages, and *different* from each other. In fact this variety in writing the names of Persons, Places, and foreign Words, is a material defect in Alphabetic writing; which defect has introduced much confusion into History, Geography, and Foreign Languages. As no *uniform system* of writing Chinese words with the Roman Alphabet existed, the Author could not see any propriety in his giving the English reader *Xi*, for the sound *She*; *Goei*, for *Wei*; *Pim*, for *Ping*; *cu*, for *Tze*, &c., merely because the first European Writers on the Chinese Language had spelled the sounds in that manner. The French had already altered much of the Orthography; they had turned *Xi* into *Chi*, for the sound which in English is expressed by *She*; but that tended to mislead the English reader (for whom the Work was particularly intended) just as much as the first spelling, and therefore it was judged proper to adopt an entirely new Orthography. There are, however, some single sounds, which at first sight an English Scholar would spell differently from the Orthography of this Dictionary, but when he has gone through *all* the sounds, he will probably find that the one he has adopted, is wanted in another part of the *system*, with a different sound from that in which he has already used it, for example *Kae* and *Keae*, where *ae*, has the sound of *igh*, in the word *high*. It occurs to many to write this sound with *Ay*; but *ay*, is required in Chinese Syllables pronounced as in the words, *Day*, *May*, &c., which confounds the Chinese sound *High*, here spelled *Hac*, with the English *Hay*. If it be said, why not make it *Hi*, I would ask the objector to write *He-ae* (Portuguese *Hiai*;) which he must then make *Hi*. I further request him to write the sound *Wei*, or the Portuguese *Goei*; for which *Ei* alone will answer, but *Ei* in the preceding instance, and in this, must be pronounced *very differently*.

Figure 5: Picture of the Examples Mentioned in the Preface of *Wuche Yunfu*

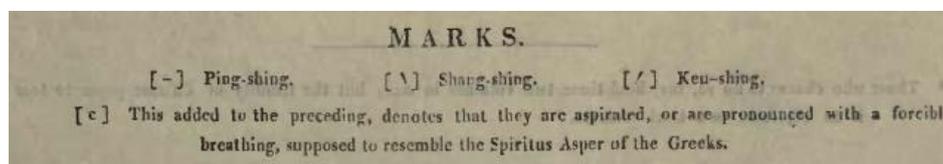


Figure 6: Picture of Marks in the Preface of *Wuche Yunfu*

Thirdly, Morrison found that in the process of learning Chinese, CFL learners need to understand the Chinese culture to avoid making any mistake in this respect in communication. Hence, Morrison provided clues to remind the learners of the cultural elements associated with Chinese characters whenever possible.

For instance, Traditional Chinese Medicine (TCM), which has been practiced in China for nearly two thousand years, is an indispensable part of traditional Chinese culture, which is deemed as a key part in the transmission of the Chinese culture to the west. However, TCM is different from western medicine in many aspects. Westerners who have been brought up by concepts of western medicine may find it difficult to comprehend concepts in TCM (Wiseman and Zmiewski 1989). In turn, it is difficult to find equivalents in the western languages, leaving westerners in a kind of predicament in studying TCM-related lexical items and in cultural transmission. Therefore, studying TCM-related expressions in Morrison's *Wuche Yunfu* can help us have a clearer picture of how Morrison helped the non-native learners avoid mistakes concerning these Chinese characters.

Take some characters referring to typical Chinese medicines as an example (see Table 1).

Table 1: Concepts Concerned with "Medicines"

Chinese Medicine Terms	Definition
药	From plant and to harmonize. Medicinal plants; medicines; to heal; an ingredient, applied to various compositions made up as medicines are.
阿胶	mule or asses glue, a famous Chinese medicine
硼砂	borax sub borate of soda, used in medicine
枇杷叶	the leaves of the loquat tree, used as a medicine to treat coughs

Chinese medicines are vastly different from western medicines. For the general term of medicine in Chinese, 药, Morrison described the unusual contents in Chinese medicines. For some culture-specific medicines, he simply pointed out what the substance actually is in English, such as "mule or asses glue" for 阿胶. Then he further explained that it was some kind of Chinese medicine, which makes the specialty of its nature apparent to the users. 枇杷叶 is defined as "the leaves of the loquat tree, used as a medicine to treat coughs", which not only explains what the three-character chunk refers to, but also provides CFL learners with its main function in the Chinese culture. In a word, he put "Chinese" and "medicine" in the explanation to prevent CFL learners from making mistakes in their communication.

These three aspects show that Morrison considered it a priority to meet CFL learners' needs in language learning. He provided a core vocabulary, devised a system of pronunciations and tones, and helped learners avoid mistakes in cultural communication. In this way, Morrison achieved his goal through content design, focusing on learners' needs of cross-cultural communication.

4.3 Activating an integrated learning

As a language of ideographical type, the Chinese language is rather difficult for learners whose native tongue is of phonographical nature. To help CFL learners, learner's dictionaries must activate an integrated learning of the linguistic system of the Chinese language. The most challenging part of learning this system for CFL learners is the Chinese character. The major difficulties confronting CFL learner from the west concern recognizing, memorizing and using Chinese characters. The interrelationship among the form, pronunciation and meaning of the Chinese character is crucial for CFL learning.

In *Wuche Yunfu*, Morrison attempted to emphasize an integrated learning through revealing the connection between these three aspects, especially the relationship between form and meaning. This can be seen from his stress over forms, description of the connection between form and meaning, and the presentation of these three aspects in specific entries.

Firstly, Morrison emphasized the unique status of form in the Chinese language. Form, an indispensable part of Chinese characters, is closely related to their meanings. Just as he stated in the preface, "a knowledge of abbreviated forms must be acquired in the same way as a knowledge of the running hand in any Alphabetic Language, where the scope and connexion assist the Reader in determining for what the imperfectly formed letter is intended" (Morrison 1819: vi). Morrison often provided different written forms for the headwords, building a tangible connection among the variants and saved the users from further trouble with distinguishing the relationship between these variants in real communication.

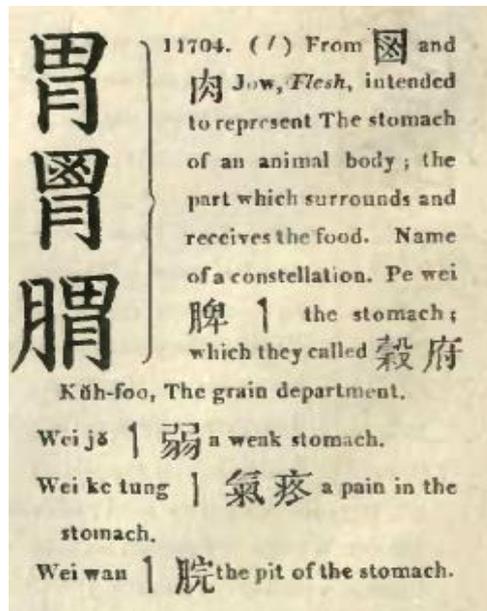


Figure 7: Entry of 胃 in *Wuche Yunfu*

For the character 胃 (Morrison 1819: 978) (see Figure 7), Morrison gave three different forms, which were commonly used by the Chinese people at that time. He did not provide all the forms those characters had, because a full list of different forms of writing might frustrate the target users at the beginning of their study, or even confuse them in their production of the language. He also avoided providing forms that were questionable and just inserted characters with correct forms that were used by a majority of the local Chinese people, and used braces to connect these forms.

Secondly, Morrison intentionally displayed the relation between the form and the meaning. In terms of 胃, he provided the motivation for the formation of this character as "intended to represent the stomach of an animal body; the part which surrounds and receives the food", which vividly explained the close connection between the meaning and the form or structure of the character. In Figure 8, the character 跌 (meaning "fall" in English) is explained as "from foot and to miss or lose" (Morrison 1819: 828), which is closely associated with the formal composition of this character. That is, the left part of the character means "foot" in Chinese, and the right part denotes "miss". The relationship between the form and the meaning of the character not only helps learners memorize the character, but also enhances their concentration on this feature of Chinese characters, which, in the long run, facilitating their learning of the Chinese language as a whole.

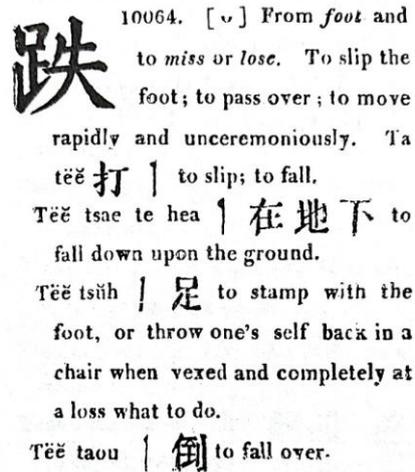


Figure 8: Entry of 跌 in *Wuche Yunfu* (Morrison 1819: 828)

Thirdly, Morrison provided pronunciation, form, and meaning together, intending to make learners realize that these three constitute Chinese characters. This can be seen clearly in the entry and sub-entries of 胃. Below the three variant forms of the character on the left, Morrison labeled the pronunciation. On the right, he provided equivalents and explanations of the senses. Then, he described several symptoms and diseases in the sub-entry. He used phonetic symbols first and traditional Chinese characters next to the pronunciations. After that, he gave brief explanations instead of western medicine equivalents in English. For example, 脾胃 (the stomach); 胃弱 (a weak stomach); 胃气疼 (a pain in the stomach), and 胃脘 (the pit of the stomach). With this way of arrangement, the users learn the pronunciation, form, and meanings together. As presented in the entry or sub-entries, Morrison attempted to fix in users' minds a notion that the acquisition of the Chinese language requires an integrated learning of all these three aspects, which is vastly different from the learning of English.

5. Implications on the compilation of future C–E learner's dictionaries

In previous parts, the major elements of learnability have been analyzed and further explored with substantiation in the historical text of Morrison's *Wuche Yunfu*. It is "learnability", the design philosophy behind Morrison's lexicographical practice that makes *Wuche Yunfu* a successful bilingual dictionary, which has benefited non-native learners for many generations. In recent decades, the craze for learning the Chinese language has provided new momentum to the compilation and publication of Chinese–English learner's dictionary.

ies. Based on the previous discussion of learnability and how it is reflected in Morrison's dictionary, some insights can be summarized concerning the compilation of such dictionaries.

First of all, to guarantee the learnability of a learner's dictionary, compilers need to reduce the target learners' learning load and pay special attention to bridging the gap between user's native language and the target language. When the target users are non-native beginners, compilers can make full use of their mother tongues, the knowledge they have or other means to control the learning load.

Secondly, to achieve greater learnability, compilers should provide guidance concerning learning contents that can satisfy learners' specific needs. More often than not, CFL learners are not sure about what they should learn in order to achieve their learning goals. Morrison provided a core vocabulary, devised pronunciation and tone marking systems and endeavored to prevent learners from making mistakes in terms of culture-dependent characters. All these efforts conform to western learners' purposes to learn Chinese in their daily communicative settings.

Last but not least, a bilingual learner's dictionary is a pedagogical tool and its compilers should bear in mind that "while learning meaning is undoubtedly an essential initial step, more precisely this involves developing a link between form and meaning" (Schmitt 2014: 27). The design philosophy of learnability in learner lexicography means that compilers need to activate an integrated learning of the target language. Only in this way can dictionaries to a large extent, help learners comprehend various aspects of the target language and learn the language efficiently. Morrison accomplished it by stressing the basic features of the Chinese language, that is, the close relationship between form, pronunciation, and meanings. The knowledge of the target language's features can motivate learners' deeper understanding of the language and benefit their learning process.

In a word, learnability as the design philosophy of learner lexicography should be the fundamental conception and practical basis of compilers' subjectivity. Based on thorough analyzes of the reference needs, skills and habits of the target users, lexicographers of learner's dictionaries will achieve a high degree of learnability in their compilation practice.

6. Concluding remarks

As held by Adamska-Salaciak and Kernerman (2016), some old dictionaries may seem obsolete; however, the principles these dictionaries follow are never out of date. This is especially true for Robert Morrison's *Wuche Yunfu* (1819). Many of his lexicographical efforts are pioneering and effective in promoting CFL learning. However, unfortunately, previous studies on Morrison's *Wuche Yunfu* are mostly confined to the discussion about its historic influence in cultural transmission. Morrison's great contribution to CFL learner lexicography

had been to a large extent ignored, if not totally forgotten. The literature review shows that a detailed analysis of the text of Morrison's *Wuche Yunfu* is still lacking, even though it does serve as a good example of a learner's dictionary. The rich experience of compiling C–E dictionaries for CFL learners in this leading lexicographical work is definitely worth exploring.

Learnability as a design philosophy is crucial to the success of learner lexicography. It can be seen from the existing literature that learnability has been greatly ignored in the lexicographical field. Nevertheless, related research should be encouraged in that learnability is the foundation and premise of improvement on the design features of learner's dictionaries. Based on the description of learnability in the field of second language acquisition and bilingual learner lexicography, the authors illustrated the connotation and three dimensions of learnability in the lexicographical field, which are reducing the learning load, meeting the learning needs and skills and activating the integrated learning.

These dimensions have been well reflected in *Wuche Yunfu*, which win huge popularity among CFL learners for generations. In the dictionary, Morrison adopted several approaches to ensure learnability out of his learning experience. His compiling philosophy exceeded his time and left a legacy for contemporary compilers, especially those who write learner's dictionaries for CFL learners worldwide. What lexicographers need to do is to improve learnability by any possible means so as to produce a better dictionary to facilitate learner's second or foreign language learning.

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Endnotes

1. *Wuche Yunfu* (五车韵府), *A Dictionary of the Chinese Language Part II*, was compiled and published in 1819, which was, according to the preface written by Morrison, founded on the original Chinese version of *Wuche Yunfu* compiled by a Chinese lexicographer.
2. HSK is the abbreviation of *Hanyu Shuiping Kaoshi*, which refers to the only official standard Chinese proficiency test for non-native Chinese speakers. It offers a ranking system of vocabulary lists for learners of different proficiency level.
3. Level four of HSK means the learner has a vocabulary of about 1,200 Chinese characters and he can communicate with native Chinese fluently. HSK (level 4) tests candidates' Chinese capacity, which corresponds to level 4 of the international Chinese language ability standard and level B2 of *A Common European Framework of Reference for Languages: Learning, Teaching, Assessment* (CEF). Level six means the learner has a vocabulary of more than 5,000 Chinese characters and he can read Chinese newspapers, watch Chinese movies and deliver speeches

in Chinese. HSK (level 6) tests the candidates' Chinese ability, which corresponds to level C2 of CEF.

4. Ellis defines Second Language Acquisition (SLA) as the study on "the way in which people learn a language other than their mother tongue, inside or outside of a class room" (1997: 3). In this paper, L2 and FL are used with this definition.
5. Pinyin refers to the standardized phonetic symbols for Chinese characters in contemporary China.

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