

A Linked Data Approach to an Accessible Grammar of Chinese for Students

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Abstract

This paper introduces a linked data approach to grammar. In particular, we explicate the linked data design of *A Student Grammar of Chinese* (Zhu & Huang, 2022) to make Chinese grammar accessible to students of different backgrounds and levels. The main linked data design of this student grammar includes: boxouts for mouseover hyperlink effects in print, narrative building through examples, and word-to-grammar links to allow easy grasp of grammar.

Keywords: Chinese grammar, pedagogical grammar, linked data approach, student grammar of Chinese

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1. General Background

1.1 Available Chinese grammars

A Student Grammar of Chinese (Zhu & Huang, 2022) is a volume in the Cambridge University Press (CUP)'s *Student Grammar* series. It is a concise introduction to the grammar of Chinese for either university-level students or advanced learners in high school. In general, there are two types of grammar books in the field; one is to explain the grammar of a language from the pedagogical perspective, and the other provides comprehensive theoretical explanations. Zhu and Huang (2022) belong to the **former** type.

There are several pedagogical grammars already for Chinese. One of the most recent ones is *Basic Chinese: A Grammar and Workbook* (2nd edition) by Po-Ching Yip and Don Rimmington published by Routledge Press in 2009. This book is helpful for learning basic elements of Chinese syntax, to be sure, but there are some shortcomings in the book: (1) it is not fully comprehensive, e.g., the Chinese sound and writing system are not included; and several important sentence patterns/constructions are not covered—for example, some unique constructions in Mandarin: BA construction and the passive voice sentences; (2) its explanations and exercises are not tailored to address second language learners' errors from a pedagogical perspective; (3) the vocabularies and terms used in the book are not carefully selected for beginning learners; and (4) its structure and layout do not take into account the behavior of the current generation of students, who are used to hyperlinks and linked data approaches (Taibi et al., 2015).

Another similar book is *Modern Mandarin Chinese Grammar: A Practical Guide* published by Routledge (Ross & Ma, 2006). This book explains Chinese grammar mainly from the functional perspective and focuses on the uses of Chinese in various situations. It is practical for all the situations listed and for Chinese expressions illustrated, but it lacks enough explanations to help students learn how to use these expressions beyond these situations. Moreover, it does not distinguish the subtle differences among similar expressions, and there is no exercise. Overall, this means that readers have no chance to either confirm their structural knowledge they learned or if they have learned to use this

particular grammatical point in real situations.

There is a long tradition of a highly regarded theoretical grammar of Chinese. The tradition starts with Yuen Ren Chao's (1968) *A Grammar of Spoken Chinese* published by the University of California Press, followed by Li and Thompson's (1981) *Mandarin Chinese: A Functional Reference Grammar* published by the same press. Other more recent books, such as Chaofen Sun's (2006) *Chinese: A Linguistic Introduction* published by Cambridge University Press in 2006, uses well-defined linguistic terms which may not be accessible to learners. They are more suitable for graduate students and researchers but not for second language learners.

More recently, *A Reference Grammar of Chinese* (ARCG, Huang & Shi, 2016) by Cambridge University Press targets either scholars with language sciences background and with research interests in Chinese or advanced learners who have comprehensive knowledge of the language already. Lastly, a new book on theoretical aspects of the Chinese language, *The Cambridge Handbook on Chinese Linguistics* (Huang et al., 2022), is organized by important theoretical issues and introduces different theoretical perspectives in the context of linguistics facts and unresolved issues. As a student grammar, Zhu and Huang (2022) can provide essential knowledge and serves as the stepping stone for readers to access these more advanced books. In particular, this grammar complements Huang and Shi's (2016) reference grammar and relies on it to provide broader and deeper coverage of grammatical issues for teachers and advanced learners.

There is a huge demand for a good pedagogical grammar of Chinese. For instance, Ross and Ma (2006) was reprinted ten times in four years after its publication. However, there is not yet a book that can bridge the gap between pedagogical and theoretical Chinese grammar with easily accessible language and comprehensive content. Neither is there any Chinese grammar designed to accommodate the new generation of readers who do most of their reading online and expect shorter and hyperlinked texts. In this paper, we will introduce some innovations for the content (Section 2) and structure (Section 3) of this student grammar book to showcase how theoretical grammar and pedagogical grammar can be linked.

1.2 General features of this student grammar

Zhu and Huang (2022), as a volume in Cambridge University Press's Student Grammar series, is a concise introduction to the grammar of Chinese for either university-level students or advanced learners in high school. It is a supplementary teaching and studying material to any textbook used in Chinese language classes for both instructors and students. This book is written with students' needs in mind and provides comprehensive coverage of linguistic facts with concise and transparent explanations. It could also stand alone as a textbook for a subject on Chinese grammar and a reference book for students of Chinese. There is a clear need and niche for a grammar book written in an accessible language specifically for language learners, as students cannot easily access Chinese grammatical information through either textbooks or linguistic grammars for different reasons. On the one hand, limited by purposes, currently available Chinese textbooks do not have sufficient and detailed grammar explanations and exercises, and most of them do not include important exceptional rules and special patterns. On the other hand, Chinese grammars in the market are mostly concerned with theoretical felicity and written with linguistic jargon that is not easily accessible to common college students. In addition to students, the readership of this book also includes Chinese language instructors without rigorous training in Chinese linguistics, who will find the explanation helpful for them to provide explanations to students and prepare for grammar teaching.

The design features of the book are **learner-oriented**, **accessible**, and **innovative**. First, the learner-oriented features include clearly stated learning goals, boxouts, exercises, and cross-referenced terms and definitions. To facilitate effective learning, learning goals are listed explicitly at the beginning of each chapter. These learning goals sketch a roadmap to guide students through the chapter and to grasp key issues of the chapter. The boxouts summarize common errors to raise students' awareness and provide learning skills for students to master grammatical points easily. Exercises are provided for each chapter except the chapter of Useful Definition to enhance and reinforce learning outcomes. Lastly, keys to exercises, vocabulary lists, and a glossary of grammatical terms are provided in the appendix of the book.

Second, accessibility is achieved through an easy-to-navigate structure (more discussions in Section 2), the use of plain language, as well as the potential for cross-referencing related grammars and student grammars. As part of the CUP Student Grammar series, this volume strives to be compatible in terms of both formats and terminology with other volumes in this series to allow for the possibility of cross-reference by readers. This design will facilitate the possibility of students transferring their grammatical knowledge from either their mother tongue or other previously acquired second languages. This volume can also be considered the companion and complementary volume to Huang and Shi (2016), as mentioned above. We will make reference to the grammatical points covered in ARGC, though we may opt for more transparent terms for the benefit of the students. In addition, we will also cross-reference ARGC's example sentences in each section. This will allow readers to both refer to the full reference grammar, and more crucially, to link to the example corpus maintained by the ARGC team for additional examples in learning and teaching. Advanced readers as well as teachers can thus go beyond the natural constraints in scope and depth of a student grammar.

Last but not least, the book is innovative in its design with the possibility to link to more examples from the example corpus of Huang and Shi (2016) and the use of boxouts. The use of boxouts, following and enhancing the use of TIP boxes in the *A Student Grammar of German* (Stocker, 2012). This design serves to add some variations to break the monotony of a grammar text for the benefit of our readers who are accustomed to hyperlinks. This design also allows both teachers and students some flexibility to tailor-make and self-pace their study in order to accommodate the widely varied background knowledge of Chinese second language learners (ranging from those starting with tabula rasa to heritage learners who can speak fluently). While each box dealing with grammatical content should in general contain less than 500 words, we will also use tweeter-size (i.e., less than 140 letters) boxes occasionally for reminders of common errors and some fun facts. These boxouts can be read the same way as mouseovers in digital language learning materials. Mouseovers have become the most powerful and familiar tool to link to a bilingual dictionary to provide instant translation for learners (e.g., Loewen et al., 2019). Similar to mouseovers, our boxouts provide elaboration, 'translation,' or anecdotal reminder of the relevant grammatical points. Like mouseovers, they are easily accessible

on the same page but also stand alone and do not interfere with the normal reading of the main text.

In what follows, we will first summarize content and structure innovations coupled with some examples in Section 2 and then illustrate how the linked data approach can be used to facilitate grammar learning in Section 3.

2. Content and Structure of the Student Grammar

In order to provide an easy path to access Chinese grammar for language learners, we have made great efforts to make the content of the book both friendly and comprehensive. Mainly, we have made the two major innovations in this book. One is to combine the advantaged new studies in linguistics into the pedagogical uses, and the second is to make some complex grammar points easily approachable for students. We will elaborate on these two points in the following sections.

2.1 Simplified the theoretical linguistic studies

Some new research in linguistics reveals some factors of the natural language, but they are difficult to understand for language learners. We attempt to synthesize the new studies into the book. The following are a few examples of our attempts.

2.1.1 High-low combinations in Chinese pronunciation for neutral tones

There are some studies on Chinese prosodics, especially on Chinese tones (Chao, 1959; Feng, 2018). Although several linguists pointed out that the Chinese neutral tone is actually pronounced variously according to the preceding tones in spoken, they did not give a model of the pronunciation for the neutral tone. In this book, we state clearly that there are three models for the pronunciations of the neutral tone, that is, high-low combination (the tone preceding the neutral tone has a high pitch such as 1st tone, 2nd tone, and 4th tone; e.g., *chēzi* ‘car’); low-high combination (the combination of the 3rd tone and the neutral tone; e.g., *yǐzi* ‘chair’) and long-short combination (the preceding syllable should be prolonged, and the neutral tone should be shortened and unstressed) (cf. Chapter 3, p. 18).

2.1.2 The method of dichotomy used in the book

The term of dichotomy is used extensively in the field of logic. Since it can make complex things understandable easily, linguists have also used this method to analyze syntax, e.g., Chomskian tree structure in generative grammar. Dexi Zhu (1982) used it to analyze Chinese phrases, and the traditional syntactic linguists used this way to analyze the elements of sentence structure (成分分析法). We extend this method to illustrate the forms of Chinese characters and Chinese words (cf. Chapter 4, pp. 29-40), parts of speech (cf. Chapter 5, p. 44), and numbers (cf. Chapter 7, p. 62). For example, we specified types of compounds according to their structural relations between the units of compounds, such as subject-predicate (e.g., 面試 *miànshì* [face-test] ‘interview/to interview’), verb-object (e.g., 知道 *zhīdao* [know-way] ‘to know’), verb-complement (e.g., 提高 *tígāo* [raise-high] ‘to improve’), modifying-modified (e.g., 手機 *shǒujī* [hand-machine] ‘cell phone’), and coordinate compounds (e.g., 聲音 *shēngyīn* [sound-voice] ‘sound; voice’) (cf. Chapter 4.3, pp.31-32). Some compound words may consist of more than two stems, and we apply the method to divide the compound words into two components for ease of understanding. For example, in the word 圖書館 *túshūguǎn* ‘library’, we first divide it as 圖書 *túshū* ‘book’ + 館 *guǎn* ‘hall’ and further divide 圖書 *túshū* ‘book’ as 圖 *tú* ‘picture; map’ + 書 *shū* ‘book.’ This strategy helps students to understand the meaning and structure of a compound word, as well as the meanings of Chinese characters.

2.1.3 New understanding for Chinese measure words (classifier)

Measure words (MW) are difficult for Chinese learners. Recent studies argue that Chinese nouns are like English nouns, which are mass nouns (uncountable nouns) and need a classifier to quantify them, e.g., one **piece** of paper (cf. Chierchia, 1998). We specially use this new finding but with an accessible language to explain Chinese MW and nouns. In the TIP boxout in Chapter 6 Nouns, we wrote in **TIP** as “**Mass nouns in English** also require *measure words* to count. Both languages have a similar strategy of adding a ‘measure word’ between number and noun for some nouns (generally mass nouns). More examples in English are given below for Chinese mass nouns: *a/one **bottle** of beer; two **sheets** of paper;*

three pieces of cake, four lumps of sugar, five schools of fish.” In the TIP boxout in Chapter 8, Measure Words, we echoed it in **Tip** as “In English MWs are required to count mostly mass nouns (cf. 6.3). For example, one cannot say ‘*one water,’ but rather ‘one **cup/bottle** of water.’ The MW ‘cup’ or ‘bottle’ between the number ‘one’ and the noun ‘water’ is needed. Simply put, you may treat all Chinese nouns as ‘mass nouns,’ which require an MW to count.” From this comparison, learners can understand Chinese measure words easily and use them more correctly.

2.2 Make complex and challenging grammar points and constructions manageable

Some Chinese grammar points or constructions are difficult for language learners, e.g., verb suffix 了 *le* and 把 *ba* construction. There are many grammar books explaining these grammar points, but they did not provide practicable and manageable conditions to use them. We have done the following ways to give students easy access to these grammar points.

2.2.1 Conditions of using the verb suffix *le*

The usage of *le* is very difficult for students. Liu et al. (2019) listed 50 usages of *le* in Chinese; but the complexity was questioned by Shuxiang Lü in his preface for the book, “the book used 20 pages to introduce the uses of *le* with 22 usages for *le*1 and 28 for *le*2. It is too complicated and not easy to memorize....Can we figure out a way to organize the materials and to simplify the usage...” (p.2).¹ Therefore, to simplify the usage of *le*, we divided *le* into two parts: suffix *le* and sentence-end *le*. Especially, we listed four common conditions of using the suffix *le*, including when *le* is used with a time word/phrase, with a quantity object, with a verb indicating a state of time, and when used in two or more activities in a sentence. Although it cannot cover all uses of suffix *le*, this book provides

¹ The original text is: “用二十頁的篇幅講‘了’字的用法，‘了1’分五大項二十二小項，‘了2’分七大項二十八小項，就不免有些繁瑣，不便記憶……能不能在材料的組織上想點辦法，執簡以馭繁呢？”

manageable conditions for using the suffix *le* for beginning learners (cf. Chapter 10, pp. 110-114).

2.2.2 Ba construction

Ba construction is a very challenging sentence structure for students. We showed three conditions of using *ba* construction, including obligatory, optional, and impossible. We suggest that students should learn the *ba* construction under the obligatory condition first because this is the only condition that *ba* construction is obligatory to be used. For example, we suggest that students should learn the type of *ba* sentences such as 小明把書放在桌子上了 *Xiǎomíng bǎ shū fàng zài zhuōzi shang le* (Xiaoming put the book on the table), which includes three parts: *who* put *what* at *where*. Once students master this type of error-free *ba* sentence, they can extend it to learn other types of *ba* sentences (cf. Chapter 22, pp. 303-326). To make learners understand the *ba* construction easily, we also compare the similarities of this construction with the *bei* construction, which is similar to the English passive voice structure (cf. Chapter 23, pp. 329-339).

2.3 Structure of the grammar

The content of the book is organized in a transparent three-level structure to facilitate navigation (both for class, for self-paced reading, and for use as reference); we also take inspiration from Lü's (1999) *Xiandai Hanyu Babaici* (*A Dictionary of 800 Words in Modern Chinese*) and generally used important keywords in the sub-chapter sections to allow both easy access and comparison.

The first level structure contains three groups: Introduction, Words, Parts of Speech (PoS), and Sentences and Sentence Structures. While the introduction part provides relevant background grammatical information about Chinese, the main content parts on Words and Sentences, which can be clearly separated without ambiguity. Under the three groups, there are 29 chapters, including four chapters under the Introduction group (Chinese and Mandarin, Chinese Grammar, Sound System, and Writing System), 12 chapters in the Word and Part of Speech (PoS) group covering all parts of speech in Chinese,

and finally 13 chapters in the Sentence and Sentence type group. Each chapter is then divided into several sections that often focus on important and frequently used words to allow students to apply their grammatical knowledge directly and effectively.

In the following sections, we would like to use a sample chapter on adjectives to briefly demonstrate the structure of this book (cf. Chapter 12, pp.139-149).

2.3.1. Learning objectives

In the chapter on adjectives, we focused on three learning objectives, including 1) knowing the meanings and grammatical features of Chinese adjectives, 2) knowing the forms of reduplication of adjectives, and 3) learning how to use Chinese adjectives.

2.3.2 Defining PoS's and grammatical points

We first introduced adjectives in Chinese in terms of their position in a sentence (e.g., before nouns), functions (e.g., predicates), and main categories of their meanings (e.g., to express shape or sense, such as 大 *dà* 'big' and 甜 *tián* 'sweet;' to denote evaluation quality, like 好 *hǎo* 'good' and 美麗 *měilì* 'beautiful;' and to indicate the manner of action or mental state, 快 *kuài* 'fast' and 認真 *rènzhēn* 'conscientious; serious,' for example).

We then followed by describing three major grammatical features of Chinese adjectives. That includes adjectives that can 1) modify nouns by occurring before them, such as 高山 *gāo shān* 'tall mountain' and 漂亮衣服 *piàoliang yīfu* 'pretty clothes;' 2) function as intransitive verbs (i.e., without an object), such as 高 *gāo* 'tall' and 漂亮 *piàoliang* 'beautiful;' and 3) be modified by degree adverbs, such as 很 *hěn* 'very' or 非常 *fēicháng* 'very.' The three main grammatical features were compared with the adjectives in English and we noted that feature 1) and 3) shared similarity with those in English while 2) is a distinct feature from English. Since Chinese adjectives serve as a predicate in a sentence, the common properties between adjectives and verbs were further discussed. For example, adjectives in Chinese can take the verb suffixes 了 *le*, 著 *zhe*, or 過 *guo*, can be used with the sentence-final particle 了 *le* that indicate a new situation

and can be applied in the A-Not-A form to ask questions (cf. Chapter 12.2, pp.139-141).

Important forms and features of adjectives in Chinese were also discussed, such as two reduplication forms for intensification: A-A form (e.g., 慢慢(兒) *mànmānr* ‘slow’) and AA-BB form (e.g., 高高興興 *gāogao-xìngxìng* ‘happy’) (pp.141-142). We further broke down adjectives’ positions according to their grammatical functions in a sentence, including when they are served as predicates, attributives, adverbials, subjects, and complements (cf. Chapter 12.3, pp.142-145). In the situations when adjectives act as attributives and adverbials, we additionally mentioned cases where structural particles (的 *de* and 地 *de*) can be used to modify nouns and verbs, respectively. Moreover, restrictions for some adjectives are summarized in the end.

2.3.3 Linking examples to grammatical points

Under each of the grammatical points, we provided sentence examples to illustrate the usage of the PoS that is being discussed (i.e., adjectives in this sample). For example, as one of the major grammatical features, adjectives modify nouns. Apart from listing phrases that contain an adjective and a noun (e.g., 高山 *gāo shān* ‘tall mountain’ and 漂亮衣服 *piàoliang yīfu* ‘pretty clothes’), we showed another sentence example containing the same adjectives:

- (1) 小明 很 高，小亮 很 漂亮。
Xiǎomíng hěn gāo Xiǎoliàng hěn piàoliang.
 Xiaoming very tall Xiaoliang very beautiful
 ‘Xiaoming is tall, and Xiaoliang is beautiful.’

2.3.4 How boxouts are used

An innovative feature of this book is that we used various boxouts to serve different purposes. Specifically, a “NOTE” boxout is a general and/or a further explanation of the grammatical point to draw readers’ attention. For example, on the right-hand side of the above sentence (1), we posted a “NOTE” boxout stating that “English uses the verb *to be*

to link the subject and the adjective, as in the translation of (1), but it is incorrect to use 是 *shì* ‘be’ before an adjective such as *小明是高 **Xiǎomíng shì gāo* (lit. *Xiaoming* be tall) because Chinese adjectives can be used as intransitive verbs” (p.139). An example of a NOTE boxout can be found in Appendix A.

Another example is an “ALERT!” boxout (as seen in Appendix B), which mainly serves as a “warning” message to flag important instructions on some more specific points and/or to summarize common errors made by learners. For instance, under sentence (1), there is an “ALERT!” boxout specifying that “the default meaning of a Chinese adjective used as a verb is comparative, not absolute. This means that when an adjective is used without a modifier, it is always used in comparison with others. For instance, 小明高 *Xiǎomíng gāo* ‘Xiaoming is taller.’ To express a non-comparative meaning, an adverb, such as 很 *hěn* and 非常 *fēicháng* ‘very,’ must be used before the adjective. For this usage, 很 *hěn* ‘very’ is the default adverb used; it loses the meaning ‘very,’ as in (1) above, and it typically loses its tone in rapid speech. If one intends to emphasize the meaning ‘very,’ 很 *hěn* ‘very’ is stressed with its tone” (p.140).

We believe that different boxouts can fulfill an array of purposes from diverse perspectives. They complement each other and together contribute to the understanding and acquiring of the uses of the grammatical points. More detailed discussions of the boxouts can be found in Section 3.1.

2.3.5 Exercises

The exercises after each chapter are used to pinpoint crucial aspects that learners shall master after learning one PoS and/or sentence structure. We provided a variety of types of exercises to address different needs; for example, translations of sentences from English to Chinese, using words to fill in the blanks in sentences and dialogues, creating sentences with the given words or phrases, reading tongue-twisters, writing practice, so on and so forth. Taking the chapter on adjectives as a case in point, we exercised students on 1) writing the reduplicated forms for monosyllabic adjectives; 2) translating sentences from English to Chinese; 3) filling in the blanks in sentences with 很 *hěn* ‘very,’ 的 *de*, 地

de, or nothing; 4) completing dialogues with the appropriate words (很 *hěn* ‘very,’ 的 *de*, and 地 *de*); and 5) reading a tongue-twister to alert readers’ to the order of the adjectives.

2.3.6 Indexes

This book provides learners with two sets of indexes for different learning purposes, a general key terms index, and a tailor-made Word-to-Grammar index. The general index covers the key terms of the book. It helps learners quickly locate the grammar terms as well as the relevant rules and knowledge. All the main index terms are following alphabetical order. Sub-indexes covering the similar topic are listed out under the same main index term, which helps readers quickly locate related information and grasp the conceptual links among the terms by looking up the index. For instance, the index heading *adjective* with its sub-headings under A index will direct readers to not only Chapter 12 which mainly introduces adjectives but also the other main areas in the book in which adjectives are discussed.

The Word-to-Grammar index is an innovation of Zhu and Huang (2022). An inherent dilemma of any pedagogical grammar is that it is necessarily structured according to grammatical points, yet students study grammar exactly because they are not familiar with these grammatical points. This is an inherent reason for most language learners to find grammar intimidating. The Word-to-Grammar index is designed to break this vicious cycle of readers having to navigate a grammar book with concepts that they read the book to learn. The index is in fact the link between linked data: the lexicon and the grammar. A reader can search for the relevant section of the grammar based on the words they know and want to learn relevant grammar about, without knowing the grammatical points. This index enables a lexicon-driven, in addition to the traditional grammatical points-driven approach, to grammar learning. It aims to help learners better understand the word in context and through their relevant language knowledge and features. It provides learners with a different learning resource by looking up Chinese words in the examples from the book. By checking the context immediately before or after the example, readers will be able to get the grammatical information about why and how the word is used. For instance, the index heading *yǔfǎ* 語法 under Word-to-Grammar Y index will guide readers to the

pages with the English translation of 語法 “grammar,” related example sentences as well as the exercises including the word 語法. An example of the Word-to-Grammar index is provided in Appendix C. More examples are in Section 3.3 below.

3. Linking Data to Facilitate Grammar Learning

In order to help learners to acquire Chinese grammar knowledge effectively, we designed three linking devices to enrich the main text of this book without adding to the complexity and length of the text. These devices also help print, which provides readers with practical advice, and notes to create an eve to facilitate interactive grammar learning. The first device includes boxouts to provide mouseover content supporting the relevant grammatical point, such as context and common errors that learners should avoid. The second device is narrative building through examples—the same protagonists with distinctive personalities are adopted throughout the whole book. It helps engage readers and conceptualize grammatical information in a more vivid way. The third device is the tailor-made Word-to-Grammar index to allow a quick browse of language knowledge and relevant grammatical rules by looking up Chinese words or phrases.

3.1 Boxouts: hyperlinks to highlight related information and to allow more interactive reading

There are four types of boxouts used throughout the book, namely *Tip*, NOTE, Alert! and Attention. As mentioned above briefly, the four types of boxouts act separately to serve different purposes; meanwhile, the primary function of all the boxouts is to emphasize common errors made by the learners and provide guidance for them in understanding challenging grammatical points.

The *Tip* boxes provide short pieces of practical advice on the concerning points. Appendix D provides examples of *Tip* boxouts when we introduce four tones. Specifically, we used four *tips* to facilitate understanding by comparing their pronunciation with the English sound system as well as telling the learners to imagine the pitches when singing. We gave out tips like when “pronouncing the 1st tone as *mā*, try using a high vowel *i* or *a*

and pronounce it at the highest comfortable pitch of your voice range and try to maintain the high pitch without dropping, like *humming* the sound **ah** in singing; while pronouncing the 2nd tone, adopt the rising intonation at the end of a question sentence, such as ‘did you say **that?**’ or, like saying ‘**what?!**’ when hearing something *unbelievable*; thinking about hearing an untrue story and saying ‘**yeah...**’ with an elongated and *skeptical* tone when pronouncing the third tone; it is also helpful to practice the third tone by lowering and then raising your chin while lowering and raising the pitch; last but not least, to pronounce the 4th tone, you may compare your intonation to that of an emphatic ‘**No!!!**’ when you disagree with something strongly.” (pp. 16-17). When explaining grammatical features, we likewise use *Tip* boxouts to draw comparisons with their English counterparts. For example, “to understand Chinese comparative sentences, just imagine the **temporal sequence** in the real world, that is, one compares (比 **bǐ**’s original meaning) *A* with *B* first, and then sees the result *C*...conversely, English shows the quality (taller) before the target of comparison (with the preposition ‘**than**’). Interestingly, in both Chinese and English, the target of comparison and the preposition (i.e., 比 **bǐ** [than]) are often omitted” (p.368).

As mentioned above, the NOTE boxouts are generally used to supplement the context. For instance, when we introduced the modal particle 啊 *a*, we added other two varieties of 啊 *a*—呀 *ya* and 啦 *la* and further explained their usages in Chinese: “if the ending sound of a word in front of ‘啊 *a*’ is *a*, *e*, *u*, *i*, the particle ‘啊 *a*’ can be changed to ‘呀 *ya*,’ that is, ‘誰啊? *shéi a?* (who is it?)’ can be ‘誰呀? *shéi ya?*’ because the sound preceding ‘啊 *a*’ is *i*, as in ‘誰 *shéi*’ in pinyin.” On the other hand, “啦 *la* is a combination sound of ‘了 *le*’ and ‘啊 *a*,’ for example, ‘啦 *la*’ in the sentence ‘下雨啦! *Xià-yǔ la!* (It is raining!)’ is a combination of ‘了啊 *le a*’ in the sentence ‘下雨了啊! *Xià-yǔ le a!*’” (p.216).

Alert! and Attention boxouts (cf. Appendix B and E) typically emit “warnings” to the readers of some common errors made by the learners. When demonstrating manner complements (i.e., 得 *de*), we drew the readers’ attention by stating that “**the verb suffixes 了 *le*, 過 *guo*, and 著 *zhe* cannot be used** after the main verb in a sentence with a manner complement, even if the meaning of the sentences indicates a past or durative meaning. For instance, the correct way to express the English sentence ‘*you spoke very*

well’ in Chinese is 你說得很好 *nǐ shuō de hěn hǎo*; but the incorrect way is *你說了很好 *nǐ shuō le hěn hǎo* or *你說了得很好 **nǐ shuō le de hěn hǎo* (lit. you speak very good)” (p.263). While showing how to read numbers in Chinese, we alerted the learners that “don’t read 和 *hé* (and) when reading big numbers in Chinese as in English. For example, the number 7,892 is read in English as seven thousand eight hundred **and** ninety-two, but *qīqiān bābǎi jiǔshíèr* in Chinese” (p.64).

3.2 Narrative consistency and contextualized grammatical information

Grammars are known to be dull, no matter how well written. It is challenging to engage readers through precisely worded grammatical points. Zhu and Huang (2022) developed a narrative device to make the context of the grammar and to engage the readers. The narrative device is a coherent characterization and interaction of two protagonists: *Xiaoming* ‘Little Light’ and *Xiaoliang* ‘Little Spark’ (as seen in the example sentence [1] above). *Xiaoming* and *Xiaoliang* are two students who often interact with each other and communicate with their teacher. *Xiaoming* is smart, hardworking, and proactive. *Xiaoliang* is clever, inventive, and energetic. They are two prototypical students our readers could imagine finding in any classroom. The example sentences below, (2) – (8), report activities that *Xiaoming* and *Xiaoliang* do and are designed to link to possible classroom interaction scenarios to make the example sentences relevant and accessible to the readers.

The personality of *Xiaoming* was portrayed as hardworking and intelligent; therefore, all the example sentences related to *Xiaoming* are consistent in molding such personality:

- (2) 小明 寫 了 半天 中文。

Xiǎomíng xiě le bàn tiān Zhōngwén.

Xiaoming write LE half-day Chinese

Xiaoming wrote Chinese for a half-day (a long time).

- (3) 小明 看 了 很長 時間 / 三 個 鐘頭 的書。

Xiǎomíng kàn le hěn cháng shíjiān / sān ge zhōngtóu de shū.

Xiaoming read LE very long time three CL hours de book

Xiaoming has studied for a long time/for three hours.

On the other hand, *Xiaoliang* is a smart and creative student but does not pay as much attention to hard work or conform to expectations, as seen in the sentences (4) and (5):

- (4) 已經 下課 了，小亮 還沒(有) 來。

Yǐjīng xià-kè le, Xiǎoliàng hái méi(yǒu) lái.

already off-class LE Xiaoliang still no(have) come

The class was dismissed, but Xiaoliang still did not come.

- (5) 小亮 上課 的 時候 向 外邊 看。

Xiǎoliàng shàng-kè de shíhou xiàng wàibian kàn.

Xiaoliang on-class DE time towards outside look

Xiaoliang looks (to the) outside when she is in class.

In the meantime, *Xiaoming* and *Xiaoliang* are depicted as good friends. They help each other out and will tease each other once in a while:

- (6) 小亮 在 前面 走，小明 在 後面 跟 著。

Xiǎoliàng zài qiánmian zǒu, Xiǎomíng zài hòumian gēn zhe.

Xiaoliang at front walk Xiaoming at back follow ZHE

Xiaoliang walked in the front and Xiaoming followed her.

- (7) 小亮 開 小明 的 玩笑。

Xiǎoliàng kāi Xiǎomíng de wánxiào.

Xiaoliang make Xiaoming DE joke

Xiaoliang made fun of Xiaoming.

Xiaoming and *Xiaoliang* will also interact with their teacher:

- (8) 小明 和 小亮 都 跟 / 和 老師 說話。

Xiǎomíng hé Xiǎoliàng dōu gēn/hé lǎoshī shuō-huà.

Xiaoming and Xiaoliang both with teacher speak

Both Xiaoming and Xiaoliang speak with the teacher.

In sum, the consistent usage of the example sentences as character building narratives for *Xiaoming* and *Xiaoliang* effectively established them as the companions guiding the readers through the grammar. In addition, as each sentence is a micro-event not yet linked by a plot, unlike in novels, the readers are free to create and/or share a plot. This incentive to replicate and create related sentences should facilitate learning each grammar point.

3.3 Word-To-Grammar Index: An innovative way to access the grammar

Grammar can be tedious and boring, given the meta-linguistic nature of grammatical explanations. In addition, for beginning learners with limited vocabulary, the different orders of grammatical points in different textbooks, and the individual differences in the order of acquisition of grammatical points, it is clear that the order of presentation of the chapters may not be optimal for a good number of learners. That is, there are bound to be some words and/or grammatical concepts ‘out-of-order’ for readers due to gaps in vocabulary and/or structure of their textbooks. Thus, we tailor-made an index to include all the Chinese words/phrases in the book to facilitate Chinese language and grammar learning and to meet learners’ different needs.

Word-to-Grammar Index allows readers to explore the content of the grammar rules by words you know or words you want to learn more about. It also allows readers to search through the grammar with familiar Chinese words rather than through unfamiliar grammatical terms and concepts. Since the index is built upon all the Chinese words and sentence examples that are given in the grammar, readers could start from looking up any word that they are interested in to explore how to use it or what applicable grammatical rules are involved in this particular word. The index will take readers to all the Chinese examples, in which they can learn about typical usage of the word and the related grammatical knowledge in authentic contexts.

The words/phrases in Word-to-Grammar Index are listed according to the alphabetical orders of Pinyin. For instance, if a reader would like to learn about the word 快樂 *kuàilè* ‘happy,’ he or she could locate the index item by checking the pinyin *kuàilè* in the Word-to-Grammar index under K. All the page numbers, including the word 快樂 *kuàilè* ‘happy,’

can be found. By checking the content of the pages, learners will be able to collect the following information of 快樂 *kuàilè* ‘happy:’

- a) 快樂 *kuàilè* is an *disyllabic adjective*
- b) 快樂 *kuàilè* means *happy*
- c) 快樂 *kuàilè* has a synonym 高興 *gāoxìng* ‘glad’
- d) Conjunction 和 *hé* can be used to connect the disyllable adjectives like 用功 *yònggōng* ‘diligent’ and 快樂 *kuàilè* ‘happy’ to modify 學生 *xuésheng* ‘student,’ as in the example 一個用功和快樂的學生 *yí ge yònggōng hé kuàilè de xuésheng* ‘a diligent and happy student’
- e) 最 *zuì* could be used with 快樂 *kuàilè* as 最快樂 *zuì kuàilè* ‘happiest’
- f) One of the commonly used phrases of 快樂 *kuàilè*: 生日快樂 *shēngrì kuàilè* ‘happy birthday’
- g) 的 *de* must be used when the attributive is an adjective such as 快樂 *kuàilè* ‘happy,’ for example: 唱起了快樂的歌 *chàng qǐ le kuàilè de gē* ‘singing happy songs’

4. Conclusion

In this article, we attempt to show that linguistic data can be linked for pedagogical purposes by introducing an innovative Chinese grammar book: *A Student Grammar of Chinese* (Zhu & Huang, 2022). We first introduced the design features of this student grammar as **learner-oriented**, **accessible**, and **innovative**. These claimed features are supported by the demonstration that challenging grammar points, difficult Chinese characters, and elusive pronunciations can be made accessible to student readers. Each grammatical point is explained in plain language, contextualized in linked linguistic data, and supplemented with practicable pedagogical strategies. Verbatim statements of linguistic theories can be tedious and frustrating to beginning language learners, but it does not mean that the grammatical concepts cannot be explained or learned. We argue that the key to making such grammatical information accessible to the students is to link examples, explanations, and exercises to create an authentic language using context for the

grammatical point. Several recent theoretical findings in Chinese linguistics are incorporated into this grammar, including the three models of the pronunciation for Chinese neutral tone, understandable measure words (classifiers) which are unique to Chinese through the comparison with English mass nouns, and practicable conditions of using verb suffix 了 *le* and 把 *ba* construction. From the pedagogical point of view, we believe that well-designed formats can increase learning efficiency greatly. Several innovations in the structure of the book, such as clear learning objects listed at the beginning of each chapter, various but workable exercises after chapters, side boxes in the text as *Tip*, *NOTE*, *Attention*, and *Alert!* which either emphasize common errors or provide guidance for understanding challenging grammatical points, an index of word to grammar in addition to the general index, and two friendly and bright characters named as *Xiaoming* and *Xiaoliang* who are accompanying readers on the journey of learning grammar, not only create a joyful learning atmosphere but also attract students' interest in studying Chinese grammar. Through the project on this student Chinese grammar, we believe it is possible and doable to shorten the gap between the theoretical linguistics and pedagogical approach by integrating the linguistic and pedagogical data to provide easy accessibility to Chinese grammar for language learners with different backgrounds and levels.

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Appendix A: NOTE Boxout

(1) 小明很高，小亮很漂亮。

Xiǎomíng hěn gāo, Xiǎoliàng hěn piàoliang.

Xiaoming is tall, and Xiaoliang is beautiful.

NOTE English uses the verb “to be” to link the subject and the adjective, as in the translation of (1), but it is incorrect to use 是 *shì* (be) before an adjective such as *小明是高 **Xiǎomíng shì gāo* (*lit.* Xiaoming be tall), because Chinese adjectives can be used as intransitive verbs.

Appendix B: Alert! Boxout

Alert! The default meaning of a Chinese adjective used as a verb is comparative, not absolute. This means that when an adjective is used without a modifier, it is always used in comparison with others. For instance, 小明高 *Xiǎomíng gāo* (Xiaoming is **taller**) (cf. 25.1.1). To express a non-comparative meaning, an adverb, such as 很 *hěn* and 非常 *fēicháng* (very), must be used before the adjective. For this usage, 很 *hěn* is the default adverb used; it loses the meaning “very,” as in (1) above, and it typically loses its tone in rapid speech. If one intends to emphasize the meaning “very,” 很 *hěn* (very) is stressed with its tone.

Appendix C: Word-to-Grammar Index

1. With only a single entry, with the single one-character word:

bǎi 摆/擺 87

2. With only one entry, but the single character is not the entry. We list the character, then the multi-character entry after the character:

ān 安 ānjìng 安静/安靜 144,229

3. With two entries, the character as an entry and another single multi-character entry associated with the character at the lower level:

bà 爸 54,55,60,
bàba 爸爸 24,30,69,205,300,342-3,370,430,434

4. With multiple entries, but the character itself is not an entry. We list the character, then the multi-character entries after the character and at the lower level:

ā 阿 ābà 阿爸 55,60
āgē 阿哥 55
āmèi 阿妹 55
āyí 阿姨 55,87

5. With multiple entries, including the character itself. We list all the character entry, then list multi-character entries at the lower level:

ài 爱/愛 48,105,120,209
àihào 爱好/愛好 237,289
àiqíng 爱情/愛情 4

6. Multiple entries, including the head character with more than one pronunciation:

cháng/zhǎng 长/長 32, 93,108,124, 148, 175-6,234, 279, 350, 386
cháng 长/長 Chángchéng 长城/長城 49,82,92,
128-9,134,136-7,198,217,233,251,254,
257,276-7,293,300,363,406,413,418
zhǎng 长/長 zhǎngdà 长大/長大 32
zhǎngchū 长出/長出 387
zhǎngde 长得/長得 93,233

zhǎng 长/長 see cháng/zhǎng 长/長

Note: The book is in the publication process. Page numbers might change in the published version.

Appendix D: *Tip* Boxout

The first tone is a constant, **high level tone** (pitch value 55). It starts at pitch value 5 and stays at 5, as in the word mā (媽/媽 mother).

Tip To pronounce the 1st tone as mā, try using a high vowel *i* or *a* and pronounce it at the highest comfortable pitch of your voice range and try to maintain the high pitch without dropping, like *humming* the sound **ah** in singing.

The second tone is a **rising tone** (pitch value 35). It starts from the middle of one's voice range (pitch 3) and rises towards the level of the first tone (pitch 5) and is how one pronounces má (麻 numb; hemp).

Tip To pronounce the 2nd tone, adopt the rising intonation at the end of a question sentence, such as "Did you say **that?**" or, like saying "**what?!**" when hearing something *unbelievable*.

The third tone is a **contour tone** (pitch value 214). It begins from near the bottom of one's voice range (pitch 2), dips to the bottom pitch 1, and then rises to the mid-high pitch 4, as can be heard with the pronunciation of mǎ (馬/馬 horse).

Tip To pronounce the third tone, think about hearing an untrue story and saying "**yeah...**" with an elongated and *skeptical* tone. It is also helpful to practice the third tone by lowering and then raising your chin while lowering and raising the pitch (see the half 3rd tone in 3.5.1).

The fourth tone is a **falling tone** (pitch value 51). It begins from the top of one's voice range (pitch 5) and proceeds quickly down to the bottom pitch 1, and is how one pronounces mà (罵/罵 scold).

Tip To pronounce the 4th tone, you may compare your intonation to that of an *emphatic* "**No!!!**" when you disagree with something strongly.

Appendix E: Attention Boxout

Attention The verb suffixes 了 *le*, 过/過 *guo*, and 着/著 *zhe* cannot be used after the main verb in a sentence with a manner complement, even if the meaning of the sentences indicates a past or durative meaning. For instance, the correct way to express the English sentence “you spoke very well” in Chinese is as follows:

Correct:	你说得很好。	Incorrect:	*你说了很好	*你说了得很好
	你說得很好。		*你說了很好	*你說了得很好
	Nǐ shuō de hěn hǎo.		*nǐ shuō le hěn hǎo	*nǐ shuō le de hěn hǎo
	You spoke very well.			(<i>lit.</i> you speak very good)

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基於聯結數據的無障礙學生用中文語法

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摘要

本文基於朱永平、黃居仁合著的《學生中文語法 *A Student Grammar of Chinese*》(Zhu & Huang, 2022) 一書介紹在「聯結數據」(linked data) 概念基礎上設計的教學語法。該方法旨在將語法知識化繁為簡並加以活化，以靈活配合不同背景及水平的學生學習需要。該書所使用的「聯結數據」方法包括：以框出 (boxouts) 突出注釋及注意點、以統一的敘事風格保持例句中角色的連貫性及故事性、以詞語查找語法 (word-to-grammar) 的索引方式使讀者更方便快捷地定位及掌握語法知識。

關鍵詞：中文語法、教學語法、聯結數據、學生用中文語法

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