Evaluating the impact of graded readings on the recognition of Chinese characters and reading comprehension by learners of Chinese as a foreign language

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Abstract

This exploratory study investigated the effectiveness of graded readings with Chinese language beginners at the university level. The research focused on two primary questions: (1) How effective is the use of graded readings as a homework project in a beginning Chinese class? and (2) What are learners' perceptions of using graded readings? Data collection included the performances of the learners' Chinese character naming accuracy and speed, vocabulary recognition and reading comprehension tests, and a survey regarding the learners' opinions of the graded readings. The study results show that after using the graded readings for a semester, the learners gained a higher character naming speed compared to learners who did not use the graded readings. In addition, the readings increased the learners' character and vocabulary knowledge and enhanced their reading comprehension.

Keywords: Chinese; graded reading; true beginners; university level; learner perceptions

1. Introduction

Graded reading, which is also called *basal reading* or *simplified reading* (Waring, 1997), involves reading books written or adapted for second language learners using limited vocabulary and grammatical structures (Nation & Wang, 1999). Graded readings are usually divided into different vocabulary levels and have tight grammatical controls, which provide learners comprehensible, meaning-focused input and assist in fluency development (Nation, 2013). The term *graded reading* is frequently used interchangeably with the term *extensive reading*; however, differences exist between graded and extensive readings. For example, graded reading uses modified materials, which is not a requirement of extensive reading. Also, graded reading emphasizes the development of fluency and linguistic knowledge at one level before moving to the next level, while the main goal of extensive reading is to promote reading for pleasure, which increases student motivation. Graded readings are often used for extensive reading because they provide texts at the reader's linguistic level, which is a requirement of extensive reading (Waring, 1997). For instance, in Walker's (1997) study, graded reading was adopted in a self-access extensive reading project. Graded reading can also be used with intensive reading, which "involves the close deliberate study of texts" (Nation, 2013, p. 219). For example, the current study examined graded reading with features of intensive reading. A specific purpose of graded reading is for language learners to develop target language knowledge at one level, which enables them to move to a higher level. Hence, graded reader series usually consist of multiple levels, with increased length and content difficulty at each reading level. Ultimately, the goal of graded reading is "to do so much of it that the learner can deal with native level texts fluently" (Waring, 1997, para. 3). Studies (Hafiz & Tudor, 1990; Horst, 2005; Tanaka & Stapleton, 2007) have shown that graded readings are beneficial in developing many reading skills, such as helping build learners' reading fluency and accuracy, increasing the amount of vocabulary knowledge learners can access, and developing the ability to read for ideas rather than decoding word meanings (Waring, 1997). In addition to improving reading skills, studies (Elley & Mangubhai, 1983; Hafiz & Tudor, 1990) have also shown that learners' writing skills improve after using graded readings for a substantial period of time. In addition to the linguistic benefits, affective benefits are another gain of graded reading. As Nation (1997, p. 16) stated, "[s]uccess in reading and its associated skills, most notably writing, makes learners come to enjoy language learning".

Although studies (Elley & Mangubhai, 1983; Hafiz & Tudor, 1990; Nation, 1997; Waring, 1997) have found a wide range of language learning benefits associated with graded reading, the benefits are associated with learners of languages

with an alphabetical writing system. There is currently a lack of discussion regarding languages with a non-alphabetical writing system, such as Chinese, and how graded readings contribute to learning these languages and should be applied to the classroom. As a result, graded readings are not widely used in the Chinese classroom. In order to maximize the potential usefulness of graded readings to enhance Chinese language learning, this exploratory study investigated the effectiveness of a graded reading design in a Chinese beginner class in an attempt to help identify effective ways of using graded reading to learn Chinese.

2. Reading in Chinese

Learners of Chinese, whose native language is English, were found to experience higher levels of reading anxiety compared to English-speaking learners of languages that employ an alphabetical writing system (e.g., Spanish) (Zhao, 2008). The Chinese writing system, which differs considerably from that of the English language, was identified as a major source of the learners' reading anxiety (Zhao, 2008). The Chinese written language does not use an alphabet; instead it consists of symbols called characters. One of the challenges for learners with alphabetic first language backgrounds (e.g., English speakers) is that Chinese characters provide little in the way of phonetic information (Everson, 1998). To comprehend a character, learners must gain knowledge of the shape and memorize the sound of the character. Radicals, the basic components of characters, can sometimes give learners hints regarding the sounds and meanings of characters. However, as the Chinese written language has evolved, some of the radicals do not carry the same meaning or sound as the original radicals. For example, only 26% of the sounds of the phonetic radicals are identical to the characters they represent (Fan et al., 1984). As a result, learners, especially novice learners who have not yet developed a basic vocabulary in Chinese, may frequently rely on the translated vocabulary lists or a dictionary to check the meaning and sound of a character while reading. This time-consuming process may reduce the comprehension of the text, and thus lower learners' confidence in learning to read Chinese.

In order for novice learners to develop a strong foundation in Chinese literacy, the classroom instructor involved in this study designed a graded reading series suitable for novice learners. The series was designed to promote character recognition, which increases the ability to decode meaning during reading, writing, which is strongly related to the development of reading ability, and the reviewing of the sounds, meanings, and writing of words learned. This study intended to investigate the level of effectiveness of the graded reader design and the learners' opinions of the graded readings.

3. Theoretical framework

Nation's (2013) four strands of teaching a second language: comprehensible meaning-focused input, meaning-focused output, language-focused learning, and fluency development, can be used to explain the theory behind the design of the graded reading project for true beginners of Chinese in this study. The first strand, *comprehensible meaning-focused input*, advocates that learners need to have the opportunity to focus on the information they receive by listening or reading. In addition, learning can best occur if most of this information is comprehensible to them. The second strand, *meaning-focused output*, recommends that learners should be provided the opportunity to practice saying or writing information they try to convey. The meaning-focused output activities will help learners strengthen previously learned knowledge. The third strand, *language-focused learning*, suggests that an adequate amount of time spent on deliberate learning of specific language items, such as vocabulary, is effective in second language development. The fourth strand, *fluency development*, promotes the idea of learners practicing with language items already learned in order to maximize fluency with these items. The graded readings used in this study comply with all four strands. First, the readings were simplified to a degree which the true beginning learners in this study were comfortable reading. As Nation (2013, p. 226) stated, "[w]ithout simplification, the strands of meaning-focused input, meaning-focused output and fluency development become impossible for all except advanced learners. Second, the readings included a pre-reading section, which focused on the learning of vocabulary. Third, the readings included a task completion section, which offered learners the opportunity to review and practice language items previously learned by asking learners to produce language output, which helps develop fluency. More details about the design of the graded readings are discussed in section 5.2.3.

4. Benefits of graded reading

A few studies have shown that language learners acquire vocabulary knowledge through graded reading. For example, Horst's (2005) study of 21 adult immigrant learners of English used electronic scanning, lexical frequency profiling, and individualized checklist testing to examine learners' vocabulary growth. The adult learners read on average two graded readers of their choice per week in a six-week reading program. The results of the pre- and post-vocabulary tests showed that the learners gained knowledge of more than half of the new vocabulary identified in the books they read. Another study showing vocabulary gain from graded reading is Pigada and Schmitt's (2006) case study of adult

learners of French in England, who were asked to read one graded reading per week in a four-week program. The results of the vocabulary tests, which included spelling, meaning and grammatical characteristics indicated that the knowledge of 65% of the vocabulary words were enhanced partially or fully. In a series of studies regarding the best practices for integrating graded readers into the English as a Foreign Language (EFL) classroom, Lee (2007) found that participants in the graded reader experimental groups outperformed the control groups in vocabulary development and reading comprehension scores in all three studies. The results from Lee's studies suggest that larger reading gains occurred when learners were provided with a greater variety of books to read. Graded readers can also help learners to maintain the knowledge of already known vocabulary. Nation and Wang (1999) analyzed seven graded readers and provided insight on the usefulness of graded readers in terms of vocabulary development. They found that while graded readers can be used to learn new vocabulary, they are most beneficial in reviewing previously learned words.

In addition to increasing learners' vocabulary knowledge, studies also found that reading and writing skills were improved by using graded readings. For example, Hafiz and Tudor's (1989) study, which involved 10 and 11 years-old English as a second language immigrant learners in a 60-hour graded reading program, reported significant gains in both reading and writing; namely, the learners' accuracy, fluency, and range of expression. In a subsequent study, the authors used the same research methods with Pakistani secondary students learning English as a foreign language. The results of the 23-week long study also showed significant improvements in learners' reading and writing skills (Hafiz & Tudor, 1990). In a different study, a two-year longitudinal graded reading study involving 400 Fijian primary school learners of English, Elley and Mangubhai (1983) reported positive effects of the use of graded readings. At the end of the first year, the study results illustrated substantial gains in the learners' reading and word recognition skills. By the end of the second year, significant improvements were found in both the learners' oral and written production.

Studies also found that graded readers assist in improving learners' reading speed and comprehension. In a study with Japanese EFL learners, Tanaka and Stapleton (2007) created their own graded readers and used them in what they called a *quasi-extensive reading program*. This was considered a quasi-extensive reading program because after reading the students were expected to complete comprehension and vocabulary questions. In addition, the teacher read the story to the class each day instead of allowing the students to read silently. This was done because the learners were beginners and it was feared that they may not have a full understanding of the phonetic system. Tanaka and Stapleton compared the results of the participants who used the graded readers

with those who did not and found a significant gain in reading speed and comprehension scores for learners who used the graded readers. In another study, Beglar, Hunt and Kite (2012) compared one-year pleasure reading programs with different amounts of weekly reading using graded readers for first-year Japanese university students learning EFL. The study concluded that reading simplified rather than non-simplified texts resulted in reading speed and comprehension improvement. Also, the study results showed that the group that read the most made greater reading speed gains than the other groups.

Despite the positive findings in the literature regarding the language learning benefits derived from the use of graded reading, existing studies only focus on the learning of languages with alphabetic writing systems. There is a lack of research on how graded readings can be applied to second language learners of Chinese to yield maximum learning results. Studies on the effect of graded readings in learning a non-alphabetical script, such as the Chinese writing system, are needed. This study intended to fill the gap in the hope of contributing new pieces of information to the existing literature.

5. The study

5.1. Research Questions

This study intended to answer the following research questions:
1. How effective are graded readings as a homework project in a beginning Chinese class?
   a. How did performance of reader and non-reader groups compare in measures of character recognition, vocabulary knowledge, and reading comprehension?
   b. How effective is the use of graded readings in helping the reader group gain language knowledge featured in the readings?
2. What are learners' perceptions of using graded readings?

With respect to research question 1, the effectiveness of the graded readings was evaluated in two ways. For question 1a, the effectiveness was evaluated through a comparison of Chinese character, vocabulary, and reading comprehension performances between learners who used the readers and learners who did not. For question1b, the effectiveness was determined by testing only the graded reading group on the characters, vocabulary, and readings that they were exposed to in the graded readings to see how much they had comprehended and remembered. Finally, for question 2, students' perceptions of using graded readers were investigated through asking open-ended questions in a questionnaire administered to learners who used the readers.

5.2. Method

5.2.1. Participants

The learner participants were students enrolled in two different sections of the first-year Chinese course in a public university in the United States. These two groups were taught by two different instructors; however, the instruction duration, the textbook and the learning objectives were identical. The sections met five hours per week. The students were taught 10 lessons from the textbook, *Chinese odyssey, Volume 1*. The topics of the lessons included basic greetings, introducing family members and friends, welcoming guests, asking someone's name, doing homework, looking for someone, and talking about one's job. The learning objectives included the development of basic vocabulary, character writing skills, grammar, cultural knowledge, and skills in expressing oneself orally and in writing.

In terms of assessment, the students were to take written lesson quizzes which tested the students' knowledge of Chinese characters such as radicals and stroke order, vocabulary pronunciation, and vocabulary definitions. The written lesson quizzes were accompanied by oral lesson quizzes in which students were expected to correctly use the vocabulary and grammar learned in the lessons to have a short conversation with the instructors. In addition to lesson quizzes, the students were to take three major tests. The first test covered lessons one to four, the second test covered lessons five to eight, and the final test was comprehensive. The tests not only focused on testing the students' character or vocabulary knowledge, but also emphasized reading (e.g., reading passages and answering comprehension questions) and writing (e.g., writing a letter to a friend).

Fourteen of the students from each of the two groups volunteered to participate in this study, and all participants were true beginners of Chinese as a foreign language. There were a total of 19 males and 9 females, all of whom were native speakers of English, ranging from 18 to 29 years of age. Both sections of the first-year Chinese students were assigned reading homework for each of the 10 lessons; however, only one section used graded readers, while the other section, which acted as the control group, did not. The graded readers were assigned by the teacher participant, David (pseudonym), as extra credit homework in the section he taught. David was interviewed and his teaching journals were collected to describe and evaluate the graded readings he designed for this study. On the other hand, instead of using graded readers, the teacher of the control group, Helen (pseudonym), assigned her students reading homework from the *Chinese odyssey, Volume 1* workbook. The reading homework included two sections. The first section was reading a short passage and answering true/false questions about the passage. A supplementary vocabulary

list was included in this section to help students understand the passage. The second section was reading authentic materials and answering questions about the materials. For example, in one lesson students were shown Chinese business cards and were asked to answer questions regarding the information listed on the cards. Both instructors were experienced teachers, with David holding a Master of Second Language Teaching degree and having six years of teaching experiences, and Helen holding a PhD in Education and having ten years of teaching experience.

5.2.2. Data collection and procedure

David assigned his students 20 graded readings for the duration of a 15-week semester. At the end of the 15-week program, the researchers gave participants in both groups a Chinese character naming test, a vocabulary recognition test, and a reading comprehension test. In these tests only the characters and vocabulary that appeared in both the graded readings and in the textbook were used. Through these tests, the researchers tried to determine whether the participants who did the graded readings performed better on the class materials than the ones who did not do the readings. No pre-test was given in this study as all of the participants were true beginners.

The Chinese character naming test (See Appendix 1) contained 140 characters, which was the total number of characters that appeared in both the textbook and the graded readings. The participants met with one of the researchers one-on-one and were asked to read aloud the characters shown on a PowerPoint presentation. If the participants read a character aloud correctly, they would receive one point. If the tone was off (as judged by a native speaker of Chinese with considerable experience assessing learners' speech production), but the pronunciation was correct, they would receive half a point. The total points one could receive was 140. In addition, the participants were told that their naming speed would be timed.

The vocabulary test (See Appendix 2) had 92 words, which was the total number of words that appeared in both the textbook and the graded readings. For every word shown to them, they had one of the following four choices: (1) "I don't remember having seen this word before"; (2) "I have seen this word before, but I don't know what it means"; (3) "I have seen this word before, and I think it means _____". (English translation); and (4) "I know this word. It means _____". (English translation). The four-choice options were adapted from Paribakht and Wesche (1997), as they intended to capture vocabulary learning during a short instructional period and were designed to account for partial and/or whole vocabulary knowledge that the learners gained. Participants who chose (1) did not receive any points for the word. The ones who chose

(2) received one point. The ones who chose (3) and provided the correct translation received two points. The ones who chose (3), but did not provide the correct translation received one point. The ones who chose (4) and provided correct translation received three points. The ones who chose (4), but did not provide the correct translation received one point. The total points a participant could receive was 276 points.

The reading comprehension test (See Appendix 3) consisted of two short stories with approximately 100 characters each. Each story was followed by five comprehension questions. The participants received one point for each question answered correctly. The total points one could receive was 10 points. Approximately 95% of the vocabulary and 100% of the grammar used in the stories appeared in both the textbook and the graded readings.

In addition, for the graded reading group, the researchers administered extra Chinese character naming, vocabulary recognition, and reading comprehension tests, which the participants in the other section did not take. These extra tests consisted of content that only appeared in the graded readings. The assessment system was the same as on the previous tests. The purpose of these tests was to report how much extra learning occurred in the reading group from the graded readings. The extra Chinese character naming test contained 189 characters (189 points total), which was the total number of characters that appeared in the graded readings. The vocabulary test had 160 words (480 points total), which was the total number of words that appeared in the graded readings. The reading comprehension test consisted of two short stories, with approximately 100 characters each. Each story was followed by five comprehension questions (10 points total). Approximately 95% of the vocabulary and 100% of the grammar used in the stories appeared in the graded readings.

After the graded reading group took the extra tests, a questionnaire was given to them to gather their perceptions of using the graded readings. Questions included the learners' opinions about the usefulness of the graded readings, their interest level in the stories, changes they would like to see in future readings to accommodate their learning, and whether or not the graded reading experience was positive.

5.2.3. The graded readings used in this study

Nation's (2013) four strands of teaching a second language (i.e., comprehensible meaning-focused input, meaning-focused output, language-focused learning, and fluency development) informed the design of the graded reading project for true beginners of Chinese in this study. The first strand, comprehensible meaning-focused input, advocates that learners have the opportunity to focus on the

information they receive through listening or reading. In addition, learning can best occur if most of this information is comprehensible to them. The second strand, meaning-focused output, recommends that learners should be provided the opportunity to practice saying or writing information they try to convey. The meaning-focused output activities can help learners strengthen previously learned knowledge. The third strand, language-focused learning, suggests that adequate amount of time spent on deliberate learning of specific language items, such as vocabulary, is effective in second language development. The fourth strand, fluency development, promotes the idea of learners practicing with language items already learned in order to maximize fluency with these items. The graded readings used in this study comply with all four strands. First, the readings were simplified to a degree which allowed the true beginners in this study to read comfortably. Second, the readings included a pre-reading section, which focused on the learning of vocabulary. Third, the readings included a task completion section, which offered learners the opportunity to review and practice language items previously studied by asking them to produce language output.

The instructor, David, wrote 20 readings for graded reading level one specifically for his true beginners. These learners were neither Chinese heritage learners, nor did they have any prior Chinese language learning experience. A typical graded reader is a small book, consisting of a reading text often with several thousand words and a few pictures to help illustrate the story, and sometimes includes a list of vocabulary and/or an introduction of the main characters in the story (e.g., Oxford Bookworms series). Unlike a typical graded reader, the graded readings used in this study were short stories with an average of 77 Chinese characters per reading. The reason for this design was to offer simplified readings which accommodate the true beginning learners' novice proficiency level. Texts with hundreds of characters would far exceed the current level of the learners in this study and, thus be against Nation's (2013) strand of comprehensible meaning-focused input. In addition, the design of these graded readers attempted to assist learners in overcoming the obstacle of recognizing characters in the context of a story. Laufer and Hulstijn's (2001, p. 15) involvement load hypothesis proposes that "words which are processed with higher involvement load will be retained better than words which are processed with lower involvement load". Laufer and Hulstijn suggest that involvement load relies on the level of need a learner has for a word, whether or not a learner must search for a word, and the level of word evaluation required by the learner to determine the fit of a word in context. If this hypothesis is applied to character recognition, it is easy to see why a typical graded reading series is not suitable for novice learners of Chinese. In current graded readings, learners are often provided with Pinyin, a phonetic system, which uses the western Roman alphabets to represent

Mandarin pronunciation, above or below the characters. Having access to the Pinyin, the learner no longer has a need for the character form (using the phonetic radical as cue for the Pinyin), nor is he or she required to search for the Pinyin. Also, if learners are provided with either pictures or glosses of new vocabulary, the need for the character form is again reduced. However, because these learners have no previous experience with Chinese characters, they cannot be given a text without any form of support. In applying the involvement load hypothesis to the design of the graded readings used in this study, we chose to exclude pinyin adjacent to the characters. Instead, the graded readings were divided into four sections (i.e., pre-reading, writing, reading text, and task completion) with the hope of providing the readers with support without removing their level of involvement with the character form. A sample of the readings is included in Appendix 4.

The pre-reading section introduced new vocabulary and their meanings in English, gave examples of the vocabulary in context, explained concepts that may occur in the reading text, and gave hints on how to remember some of the Chinese characters. This section of the readers was designed to facilitate Chinese character and vocabulary recognition before the learners attempt to decode meanings during reading. It focused on vocabulary and intended to reduce the learners frequently consulting the vocabulary list to check the meaning of a word while reading, which would hinder comprehension of the text. Also because this section was separated from the actual text, the learners still needed the character form to determine the pronunciation and meaning.

In the writing section, the learners practiced writing characters, which gave them another chance to see and focus on the new words before reading the text. Studies have shown that in Chinese writing is strongly related to the development of reading ability. This is because Chinese writing practice allows the learner to break down the character and then reassemble it, thus simplifying a complicated object (Tan et al., 2005). In addition, research has revealed that learners completed more reading if writing tasks accompanied the reading tasks (Tsang, 1996). This section also reinforced the meaning-focused output strand suggested by Nation (2013). Finally, writing characters satisfies a high involvement load of need, searching, and evaluation of the character form.

The third section was reading the text, which began with around 30 characters in the first reading and then slowly increased to about 150 characters in the later readings, with an average of 77 characters per reading. The characters used in the readings were in the top 800 most commonly used characters identified by Taiwan's National Standardized Test for Chinese Language Proficiency (Steering Committee for the Test of Proficiency, Huayu, 2008). With respect to the topic of the readings, each was part of a continuous story, which described

a Chinese teacher and his family, their astonishment at finding the teacher's father stealing from the school, and how the teacher and his family tried to investigate why and what their father was stealing. The decision on the limited number of characters (30-150 characters) used in each reading and the bizarre story plots in this section intended to lower the beginning learners' reading anxiety and develop a sense of accomplishment and enjoyment with Chinese reading. The simplified short texts in this section offered beginning learners comprehensible meaning-focused input.

The final section, task completion, asked the learners to write the Chinese phonetic system, Pinyin, for the vocabulary, translate the text into English, copy the story into a notebook, answer comprehension questions about the story, and record their reading of the story aloud. The design of this section had features of an intensive reading program, which ensured that learners focused on specific language items. The tasks in this section also helped learners improve their reading fluency. For example, reading the story out loud was one of the effective strategies to improve reading fluency, one of the best determiners of reading proficiency (Shen & Jiang, 2013). On average, the participants spent an hour on each graded reading assignment. Every Friday, participants were required to hand-in two reading packets, with the assignments completed. Before midnight on Friday, participants were also required to email the professor the audio files for the reading-out-loud assignments. Packets were assessed based on completion, rather than accuracy, and were returned to the students the following Monday with feedback and corrections. Learners were encouraged to look over their mistakes before starting the next reading packets.

In sum, the graded readings in this study had the following purposes. First, they were used as motivators for learning Chinese characters and improving Chinese reading skills. Second, the graded readings accompanied by sections which focused on language details provided true beginners, who had no basic Chinese language foundation, with the ability to read with ease and comfort. Using the graded readings designed specifically for novice learners would reduce the fear and anxiety associated with learning to read the complicated Chinese writing system. Third, the reading activity was designed to cultivate a reading culture in the class and eventually develop learners' vocabulary so that they could begin reading simple authentic texts without help in the near future.

5.2.4. Data analysis

The researchers graded the tests described in section 5.2.2., and used those scores to answer the research questions. For research question 1a, an independent-samples *t*-test was conducted to compare character (accuracy and naming

speed), vocabulary, and reading comprehension performance results between the participants who used the graded readers and the ones who did not. For research question 1b, simple statistics of the participants' extra character, vocabulary, and reading comprehension test performances were reported. For research question 2, the participants' answers in the questionnaire were typed and schemes which emerged from the answers were categorized.

5.3. Results

Chinese character naming, vocabulary, and reading comprehension tests
Table 1 illustrates the results of the character naming (accuracy and speed), vocabulary, and reading comprehension tests. The independent *t*-test results revealed that there were no significant differences in the results of the character naming accuracy, vocabulary, and reading comprehension tests between the reader and non-reader groups. However, this study found a significant difference in the results of the character naming speed between the non-reader group (M = 11.72, SD = 5.72) and the reader group (M = 7.86, SD = 1.29); t(26) = 2.462, *p* = .021. In other words, the non-reader group spent more time, an average of 11.72 minutes, to finish the character naming test, which is an average of 5 seconds to name a character; whereas the reader group only spent an average of 7.86 minutes to finish the test, which is an average of 3.4 seconds to name a character. This significant result implies that the reader group was able to identify characters faster than the non-reader group. Moreover, the large standard deviation of the non-reader group indicated that this group's naming speed performance was inconsistent. Some were fast, and others were slow to finish the task, while the performance in the reader group was consistent, as evident in the much smaller standard deviation the group received.

Table 1. The results of the character, vocabulary, and reading tests.

		Number of participants	Average points or minutes received	Percentage of points received
Characters answered correctly	non-reader group	14	85 points	60.70%
	reader group	14	65 points	46.43%
Character naming speed	non-reader group	14	11.72 minutes	N/A
	Reader group	14	7.86 minutes	N/A
Vocabulary answered correctly	non-reader group	14	180 points	65.22%
	reader group	14	193 points	69.93%
Reading questions answered correctly	non-reader group	14	8.14 points	80.14%
	Reader group	14	7.68 points	76.80%

The extra tests

The results of the extra Chinese character naming test taken by the reader group showed that on average the group accurately named approximately 30 (16%) characters that only appeared in the graded readings. The average time spent to name the characters was 10.55 minutes, which is an average of 3.5 seconds to name a character. The results of the extra vocabulary test illustrated that among the 160 words that appeared in the readings, but not in the textbook, the participants gained a combination of partial and full knowledge of approximately 40% of the words. The results of the reading comprehension test showed that, on average, the participants answered approximately seven out of the ten questions correctly.

Learners' perceptions of using graded readers

In general, the majority of the learners had a positive experience with the readers used in this study. For the pre-reading section, the learners made positive comments about how the section helped them recognize separate definitions for similar characters and key words, which helped them prepare for the reading of the actual text. They also liked that the section talked about radicals and etymologies of characters. For the writing section, the learners commented that this section helped them learn stroke order, vocabulary, and writing. A few learners mentioned how time-consuming it was to complete; however, they believed that spending time to finish this section was beneficial to them. For the reading section, the learners liked that the text presented new sentence structures and vocabulary in context. They also felt amazed at the large number of characters they were able to recognize when they read the text. For the task completion section, the learners thought it was effective in helping them review. They particularly liked the comprehension questions, which prompted them to think and have a deeper understanding of the vocabulary and grammar.

With regard to the plots in the stories, the learners' opinions were generally positive. Most of the learners thought that the plots were interesting and funny, while a couple of learners thought the stories were surreal and should have included elements of Chinese culture. With respect to any modifications needed for the readings, the learners mentioned that it would be nice to incorporate more class materials and have discussions of the readings in class or in small groups after class. Overall, the learners spoke positively about the effectiveness of the readings. When asked if they had the choice to decide whether they would continue with more readings next semester, all of the learners answered positively. One learner mentioned how it was a good experience saying that he "learned a lot", and that "it felt like more intense exposure, sort of like going to China and being forced to try to understand".

6. Discussion

To answer research question 1a, (*How did performance of reader and non-reader groups compare in measures of character recognition, vocabulary knowledge, and reading comprehension?)*, this study found insignificant results between the reading and non-reading groups on their character naming accuracy, vocabulary, and reading comprehension tests, but mean performance on two of the four measures (character naming speed and vocabulary accuracy) showed a learning advantage for participants in the reading group. However, only the character naming speed proved to be significant. This means that the use of graded readings had improved the learners' speed of recognizing characters. According to Shen and Jiang (2013), character naming accuracy and speed are the strongest predictors for reading proficiency. Although this study only found that the use of graded readings helped the learners' character naming speed, considering the short length of period this study had, it is reasonable to hypothesize that used over a longer period of time, graded readings might improve not only the learners' character naming speed, but also character naming accuracy and vocabulary, which ultimately will have a positive effect on their reading fluency. It is also reasonable to hypothesize that the reason the differences between the two groups were not dramatic is that the control group had regular reading assignments, which focused on the review of in-class materials, through which, only two or three new words were introduced per lesson. Since the learners were exposed to a smaller number of new vocabulary words, it might have helped them pay more attention to, and ultimately retain, the vocabulary learned in the classroom better. However, future research will be needed to test these hypotheses.

As regards to research question 1b (*How effective is the use of graded readings in helping the reader group gain language knowledge featured in the readings?)*, the results show that on average, the learners gained approximately 30 (16%) characters that appeared in the readings, but not in the textbook, with a naming speed of 3.5 seconds per character. As there is no other similar study to this one, it is difficult to compare the level of effectiveness of the graded readings used in this study with other Chinese graded readings; however, considering the difficulty in learning characters, it was a great accomplishment that the true beginners in this study acquired 30 extra characters from the readings in addition to the class materials in a short period of time. In addition, the learners acquired a combination of partial and/or full knowledge of approximately 40% of the 160 words that they were exposed to in the graded readings and had correctly answered 70% of the comprehension questions in the readings tested. These results in vocabulary growth and reading comprehension scores were almost

comparable with the findings in studies of learners of languages with alphabetic writing systems. For example, the learners of English in Horst's (2005) study had a 50% vocabulary improvement and the learners of French in Pigada and Schmitt's (2006) study gained partial and/or full vocabulary knowledge in 65% of the vocabulary. Considering that the learners in this study were true beginners and that the target language does not use an alphabet, the results of 40% vocabulary gain and 70% of reading comprehension showed the effectiveness of the graded readings used in this study.

To answer research question 2 (*What are learners' perceptions of using graded readings?*), the findings imply that overall the learners felt that the graded readings were effective in several ways. For example, the different sections of the readings helped them to learn characters, vocabulary, writing, and grammar. Most of the learners appreciated the plots of the stories, but a couple of them suggested Chinese cultural elements be added to the stories. Another suggestion made by the learners was integrating the graded readings with the class materials and class instruction. To conclude, the learners thought the graded reading assignment was a positive learning experience and they would want to continue using the graded readings in the future.

7. Conclusion

Although there were calls for minor changes, the graded readings used in this study were considered a success. First, they improved the learners' character naming speed, which could positively affect the learners' reading fluency in the future. Second, they increased the learners' character and vocabulary knowledge, and enhanced their reading comprehension. Finally, and most importantly, they boosted the learners' confidence in reading Chinese, a language which causes many learners to experience anxiety when learning to read. It seems very likely that this can be ascribed to their experience of working with the graded readings. As Nation and Wang (1999, p. 356) mentioned, "[t]he strongest argument in favour of graded readers is that without them learners would not be able to experience reading in a second language at a level of comfort and fluency approaching first language reading". The design of the pre-reading, writing, and review sections used in the readings in this study are not typical in a graded reader; however, adding these sections enhanced the level and amount of comprehensible input in the graded readings. It is difficult to create comprehensible and short graded readings which are interesting to read for adult beginners of Chinese who have no basic character and vocabulary knowledge. With the addition of the pre-reading, writing, and review sections, the learners had more opportunities to preview and review the content of the

main reading text, and, hence, the learners received more comprehensible input, which made it easier for them to grasp the stories they were reading. This design also enabled the learners to read longer texts at the beginning learning stage as the different sections reiterated the knowledge they needed to comprehend the main text. As many researchers (Hill, 1997; Day & Bamford, 1998; Krashen, 2002b; Sims, 1996) believe, the findings of this study advocate the use of graded readings as a tool to improve reading. This is especially true when learners try to acquire a language which they perceive as difficult to learn.

This study had several limitations. First, the number of participants and the length of the study were both limited. Future studies are needed to investigate the long-term effects of the graded readings used in this study. Second, this study only looked into one design of graded readings. Other designs of graded readings also need to be evaluated so that language teachers can be informed about the effects of different graded reading designs and know how to maximize their students' learning. Third, the control group, the non-reader group, was not assigned some other kind of learning project to compare the effectiveness of it to the graded reading project. This would be a goal for a future study. Finally, more studies of graded readings in Chinese are needed to confirm the results of current and future studies in order to yield higher reliability.

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Appendix 1

* Sample from the Character Naming Test (Speed and Accuracy)

Slide 1	Slide 2	Slide 3
你	和	看
Slide 4	Slide 5	Slide 6
打	不	家

Appendix 2

*Sample from the Chinese Vocabulary Test

Chinese Vocabulary Test
Please report your knowledge of the Chinese vocabulary listed below.
Instruction: Read the Chinese words listed below one by one and decide which one of the four answers below is true to you. Circle the answer that is true to you in the answer column. If you select answer 3 or 4, please remember to write the translation under the answer.
1. I don't remember having seen this word before.
2. I have seen this word before, but I don't know what it means.
3. I have seen this word before, and I think it means _____. (English translation)
4. I know this word. It means _____. (English translation)

Word	answer	word	answer	word	answer
你好	1 2 3 4	我	1 2 3 4	叫	1 2 3 4
Word	answer	word	answer	word	answer
老师	1 2 3 4	是	1 2 3 4	一个	1 2 3 4
Word	answer	word	answer	word	answer
明白	1 2 3 4	打	1 2 3 4	笑	1 2 3 4
Word	answer	word	answer	word	answer
看	1 2 3 4	书	1 2 3 4	还	1 2 3 4

Appendix 3

*Sample Chinese Reading Comprehension Quiz

Chinese Reading Comprehension Quiz
Read the paragraphs and then answer the comprehension questions that follow. Use English to answer the comprehension questions.

你好！我叫小明！我是一个小学学生。我妈妈爸爸都是老师。他们在我的学校工作。我觉得有妈妈爸爸在学校很好。如果我有学校的问题可以问他们。我们三个常常在学校看书，也经常一起吃午饭，但是我们不常在学校吃早饭。

1. Who is 小明?
2. What do 小明's parents do?
3. How does 小明 feel about his parents' occupation?
4. What do the three of them often do together?
5. What do the three of them rarely do together?

Appendix 4

*Sample Reading

就是因为我们的城市很小，所以很容易会发现少了什么东西。有一天我妈妈从大学回来说"今天我们发现有人偷了学校用品。有人偷了白纸，铅笔，钢笔，书，书包，还偷了笔记本。

* Sample Activity

Task 2: Answer Comprehension Questions

Comprehension Questions
1. Write the Chinese character for three things that were stolen.
_____
2. Why was it easy to realize that something was stolen?
_____
3. What character was used to express missing something?
_____