

12-2014

Assessment of the Transition from Pinyin to Hanzi in University Level Introductory Chinese Language Courses

Ronnie Hess
Old Dominion University

Follow this and additional works at: https://digitalcommons.odu.edu/ots_masters_projects

 Part of the [Education Commons](#)

Recommended Citation

Hess, Ronnie, "Assessment of the Transition from Pinyin to Hanzi in University Level Introductory Chinese Language Courses" (2014). *OTS Master's Level Projects & Papers*. 3.
https://digitalcommons.odu.edu/ots_masters_projects/3

This Master's Project is brought to you for free and open access by the STEM Education & Professional Studies at ODU Digital Commons. It has been accepted for inclusion in OTS Master's Level Projects & Papers by an authorized administrator of ODU Digital Commons. For more information, please contact digitalcommons@odu.edu.

ASSESSMENT OF THE TRANSITION FROM
PINYIN TO HANZI IN UNIVERSITY LEVEL
INTRODUCTORY CHINESE LANGUAGE COURSES

A Research Study Presented to the Graduate Faculty of
The Department of STEM Education and Professional Studies
At Old Dominion University

In Partial Fulfillment of the Requirement for the Degree
Master of Science in Instructional Design and Technology

By

Ronnie Hess

December, 2014

SIGNATURE PAGE

This research paper was prepared by Ronnie Alan Hess II under the direction of Dr. John Ritz for SEPS 636, Problems in Occupational and Technical Studies. It was submitted as partial fulfillment of the requirements for the Master of Science degree.

Approved By: _____ Date: _____

Dr. John Ritz
Research Paper Advisor

ACKNOWLEDGEMENTS

I would like to thank Dr. John Ritz of Old Dominion University for his continued assistance and patience through the entire process of this research study. I am also thankful for Dr. Ginger Watson's constant support and insight. I would also like to thank Dr. Victor Mair of the University of Pennsylvania for giving me the idea for the project and for his encouragement while I was completing it.

Ronnie Hess

TABLE OF CONTENTS

| | <u>Page</u> |
|--|-------------|
| Signature Page | i |
| Acknowledgements..... | ii |
| LIST OF TABLES..... | v |
| CHAPTER I, INTRODUCTION..... | 1 |
| Statement of Problem..... | 3 |
| Research Questions | 3 |
| Background and Significance..... | 3 |
| Limitations | 6 |
| Assumptions..... | 7 |
| Procedures | 9 |
| Definition of Terms..... | 10 |
| Summary and Overview of Chapters | 11 |
| CHAPTER II, REVIEW OF LITERATURE | 13 |
| Hanzi, Pinyin, and Literacy..... | 13 |
| The Benefits of a Speech First Approach..... | 14 |
| Cognitive Load Theory and Language Acquisition | 15 |
| Delayed Character Introduction to Deal with Cognitive Load | 18 |
| Summary | 20 |
| CHAPTER III, METHODS AND PROCEDURES | 21 |
| Population..... | 21 |
| Instrument Design | 22 |
| Methods of Data Collection | 23 |
| Statistical Analysis | 23 |
| Summary | 24 |
| CHAPTER IV, FINDINGS | 26 |
| Response Rate | 26 |
| Report of Survey Findings | 27 |
| RQ ₁ : Transition from Pinyin to Hanzi..... | 27 |
| RQ ₂ : Optimum Number of Hanzi..... | 30 |
| Summary | 33 |

| | |
|--|----|
| CHAPTER V, SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS | 35 |
| Summary | 35 |
| Conclusions | 37 |
| RQ ₁ : Transition from Pinyin to Hanzi | 37 |
| RQ ₂ : Optimum Number of Hanzi..... | 38 |
| Recommendations | 39 |
| REFERENCES | 41 |
| Appendix A, Survey..... | 43 |
| Appendix B, Invitation..... | 45 |
| Appendix C, Survey Cover Letter | 46 |

LIST OF TABLES

| | | <u>Page</u> |
|---------|--|--------------------|
| Table 1 | Number of Weeks Before Hanzi Are Introduced | 28 |
| Table 2 | Reasons Given for Time to Delay Character Introduction | 29 |
| Table 3 | Optimum Number of Hanzi in First Semester and First Year | 30 |
| Table 4 | Reasons Given for Optimum Number of Hanzi | 33 |

CHAPTER I

INTRODUCTION

As China's political and economic influence expands on the global stage, increasing numbers of older students and adults are interested in learning Chinese as a second language. As a character-based language, standard written Chinese has a reputation for being especially difficult due to the number of characters that must be learned. The Defense Language Institute classifies Chinese as a Category IV language, the highest classification of difficulty for native speakers of English (Everson, 1994). Native speakers learn to read and write thousands of characters, or *hanzi*, by the end of their secondary education. This can be an especially daunting obstacle on the road to literacy, with Liu (2005) characterizing it as "...the most challenging problem faced by both first-language and second/foreign-language learners of Mandarin Chinese" (p. 400).

The *hanzi*, however, are not the only way to write Chinese. Systems such as the People's Republic of China's (PRC) pinyin and the Republic of China's (ROC) zhuyin are phonetic ways of writing Mandarin, the most widely spoken variety of Chinese. Using a system such as pinyin allows a learner to read Chinese without learning hundreds of characters. These phonetic writing systems are widely used to teach young Chinese students and those learning Chinese as a second language (Liu, 2005). Pinyin has further utility as one of the most popular methods of typing Chinese on keyboards and smart phones. Some intriguing studies conducted in the PRC in the late twentieth century known as the Zhuyin Shizi, *Tiqian Duxie Shiyan*, described thoroughly in English by Liu (2005), expanded the role of pinyin to successfully improve literacy, leading to widespread reforms.

Many of the ways pinyin was successfully used in these studies, along with modern methods made feasible by technology, now offer a wider range of strategies to learn Chinese than were feasible in the days of pen-and-ink. Additionally, improvements in curriculum design and a better understanding of cognitive science and language acquisition have given researchers a much clearer understanding of optimal language learning strategies. How are the advances in research and instruction such as those found during the Pinyin Experiments being used to teach Chinese to better instruct adult learners in college today? One popular adaptation is a delayed introduction of hanzi, with classes focused on the spoken language using only the simpler pinyin, as a way to minimize the amount of information presented to students early in the initial stages of their studies (Packard, 1990). This delay is almost never utilized in university classes to the degree seen in the Pinyin Experiments, with most instructors moving on to the use of hanzi as soon as they feel the students are capable (Ye, 2013).

Is this transition from the exclusive use of pinyin to the use of hanzi being carried out in a way that is beneficial to learners, or is it simply the result of class expectations and habit? This research seeks to investigate these issues via survey by assessing how instructors transition from pinyin to hanzi and examining the amount of hanzi studied once they are introduced. Special attention is paid to cognitive load theory, as its focus on optimizing the amount of information presented to a learner within a lesson has serious ramifications in a language learning discipline where non-native speakers often feel overwhelmed by the amount of information they need to study.

Statement of Problem

The purpose of this study was to assess how Chinese language instructors transition from pinyin to hanzi when teaching Chinese as a second language to adult learners in a university setting.

Research Questions

The following research questions were established to guide this study:

RQ₁. Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load?

RQ₂. Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction?

Background and Significance

The same properties of the Chinese language that make its writing system especially complex have played a role in the writing system's continued survival. Written Chinese has historically been a unifying force for speakers of linguistically diverse tongues and equally diverse cultural backgrounds. This has not been without its hurdles, however, as written Chinese requires thousands of characters, or hanzi, for basic literacy. Both native and non-native learners of Chinese often find that the high number of characters that must be studied are the greatest difficulty they will face in learning Chinese (Liu, 2005).

While tradition played an enormous role in how Chinese was taught for hundreds of years, numerous reforms were applied to both teaching and the language itself throughout the 20th century. Pinyin, developed in 1958, uses a combination of

Romanization and diacritic markings to convey the spoken language of Mandarin in print (Liu, 2005). Pinyin also proved especially useful later when it became commonly used to type Chinese characters using a standard computer keyboard. The development of pinyin alone was not enough to dramatically alter traditional Chinese language pedagogical practices; the situation in the 1980s was characterized as “Chinese textbooks, for example, continue to rely on limited explanations developed during and just after World War II, even though linguistic research has progressed significantly” (Jordan & Walton, 1987, p. 113).

While there were a limited number of reformers in past decades interested in doing away with the distinct characters of Chinese entirely, the most successful reformers focused on extending the use of pinyin as a supplement to the characters (Liu, 2005). This benefited a large portion of learners in China, many of whom grew up speaking a language drastically divergent from the Mandarin-based Modern Standard Written Chinese. Reformers conducted a wide ranging study in the late twentieth century focused on pinyin which Liu (2005) translates as “Pinyin Annotated Character Recognition That Promotes Earlier Reading and Writing,” though he refers to it by the more manageable “Pinyin Experiment” (p. 402). Expanding the role of pinyin in elementary education during the 1980s improved learning rate and retention, leading to its widespread implementation in elementary schools throughout the PRC (Liu, 2005).

Those who taught Chinese to foreign learners had tended to view pinyin as a short term solution that was to be done away with as quickly as possible, a common sentiment being that, “In Chinese, even those teachers who see some utility in transcription systems consider them a temporary crutch, apparently unaware that most English speakers will

use a transcription system forever when looking up the pronunciation of unfamiliar characters in dictionaries” (Jordan & Walton, 1987, p. 117). This is evidenced by the fact that the Hanyu Shuiping Kaoshi, the test of Chinese proficiency for foreign learners, expects the lowest level beginners to be familiar with at least 150 hanzi, though pinyin annotation is now provided for the first two levels of the test (Hanban, 2013).

In his informal writings, linguist and sinologist Victor Mair has often expressed his view that pinyin is especially valuable for those learning Chinese for the first time, whether they are native speaker beginners or those approaching it as a second language (2008). Mair went on to express interest in recent attempts at combining pinyin and characters in materials for beginners and called for more materials to be developed along similar lines. Similarly, Liu (2005) in his literature review of pinyin-based pedagogy emphasized the value that these strategies could have in getting learners past the difficult early stages of Chinese language acquisition.

A variety of instructors of Chinese for speakers of English seem to echo these sentiments, even if it has been most visible in product endorsements and sales pitches. Some, like linguistics professor Cornelius Kubler (2011), have sought to develop comprehensive beginner language texts entirely in pinyin, with writing placed in a separate book to be studied at the learner’s or instructor’s discretion. Despite reforms and technological development, the ways in which phonetic transcription is utilized today often vary little from how it was utilized decades ago.

Most English speakers attempting to learn spoken Chinese with pinyin at the same time as studying characters often find their progress in spoken Chinese slowed to their progress in learning the written language, as “...the learning of speech is unreasonably

and unnecessarily pegged to the speed with which learners can master an extremely memory-demanding written medium” (Jordan & Walton 1987, p. 119). One solution to this problem has been to delay the introduction of hanzi and teach the initial lessons in pinyin, a strategy that has shown to be effective for both young Chinese students and adult non-native speakers (Liu, 2005; Packard, 1990). Despite this, most university instructors in the United States teaching Chinese as a second language transition from the use of pinyin to the use of hanzi as early as possible (Ye, 2013). Gaining insight into this transition, and how it may or may not continue to make use of pinyin, could help better optimize Chinese language courses for adults learning Chinese as a second language.

Limitations

There are several limitations to this study that are important to the interpretation of findings. The primary limitation of this study is that the survey will only measure the perceptions of the instructors taking the survey. It is impossible to directly observe or assess the language learners through an instructor survey. Additionally, the nature of this survey means that responses will only come from the instructors and no learner response data will be available. Another methodological limitation in the use of instructor surveys is that the quality of information acquired from the survey could easily be limited or influenced by the survey itself. It is possible that instructors and experts with less conventional opinions will have more of an incentive to answer the survey than those with views that adhere more closely to standard practice.

A significant methodological limitation for this study is the inability to conduct a comprehensive, longitudinal study with adult foreign language learners. The issue of exactly how long to wait before introducing Chinese characters to language study for

older beginners is a widely debated one, largely because a comprehensive long-term study has thus far been logistically unfeasible. Most studies, such as those conducted by Packard (1990), were able to focus only on a handful of classes at a specific institution. Guidance for this critical aspect of Chinese instruction has otherwise relied on the anecdotal experience of different instructors and inferences drawn from studies conducted on native speakers of Chinese. Due to the difficulty in finding the participants, researchers, and funding required for a multi-year study, it is unlikely that this methodological limitation will be overcome any time soon.

The primary theoretical limitation on any study of language acquisition is the ability to measure the effectiveness of instruction. Over the past few decades, a wide variety of literature has arisen focused on linguistic assessment and instruction. However, it is always possible for potentially important differences in instructional methods to be overlooked because survey practices are not designed to account for them.

Assumptions

Numerous assumptions affected the findings of this study. Due to the many differences in Chinese instruction throughout different regions, a number of assumptions were made regarding the ability to generalize results of this study. It is assumed that while there are numerous syntactic and stylistic differences between spoken Mandarin and written Chinese, these differences are less pronounced at the beginning stages and therefore negligible for the issues this research examines. Additionally, as this research asks for the instructor's perceptions of the appropriate use of phonetic transcription, the research assumes that there will be no great difference between the use of either

simplified or traditional Chinese character sets and does not attempt to find out which is used by individual instructors.

While there are notable differences between the learning process of young learners studying the language of their home country and older learners studying a second language, it is assumed that research focused on assisting younger learners can still provide valuable insight into the learning process. For example, it is assumed that if using pinyin in the early stages of learning to read and write Chinese helps simplify things for young native speakers of Chinese, then it will probably also simplify things for adults learning Chinese as a second language.

It is assumed that pinyin's orthographic similarities to English are beneficial to older beginners who are native English speakers. While there are some aspects of cognitive load theory that indicate learners may experience interference due to the cognitive dissonance of letters in pinyin not representing the same sounds as English, prior usage of pinyin seems to show that this is negligible, especially when compared to the issues surrounding the use of written characters. When discussing pinyin, it is assumed that the pinyin is being utilized in the correct orthographic manner, most commonly seen in textbooks for native English speakers, utilizing diacritic marks and spacing to better assist English learners. It is further assumed that issues of page layout and presentation of pinyin will adhere to standard layout and presentation guidelines for books printed by and for English speakers as long as those issues have no impact on the actual text beyond the cosmetic level.

It is assumed that information gained from researching instructors at large Ph.D. granting research institutions will be generalizable to other institutions in the United

States. It is assumed that the university students being discussed in this study are, generally, literate native speakers of English not impaired by any reading disabilities. While there is a great deal of research on the use of both pinyin and Chinese characters among students with reading disabilities in China, such issues are outside of the scope of the pedagogical issues being examined here. It is further assumed that the students are, on average, not affected by any learning disabilities which would hamper working memory, as examining pedagogical practices to assist such learners is also outside the scope of the current study.

Procedures

This study first examined literature from a variety of sources, ranging from journal articles to Chinese language educational texts. In looking at the articles, the author sought to form a comprehensive body of research showing what role pinyin can play in helping to make it easier to learn Chinese. Special attention was given to the progression of learners in early stages, with a focus on when learners began studying written Chinese and the subject of what other researchers refer to as a Delayed Character Introduction, or DCI (Ye, 2013).

A survey was conducted to gain the perspective of experts in the field. Based on earlier findings focused on pedagogical strategies for Chinese and issues centered on cognitive load theory, the survey was constructed to help acquire information about current instructional practices. The survey was designed as an attempt to find answers to the research questions developed for this study. The survey sought to measure instructors' perspectives on these particular issues in Chinese language pedagogy, with a special focus on the number of characters learned and time lag between the start of

Chinese instruction using exclusively pinyin and the later transition to the use of Chinese characters (hanzi). After acquiring this information, it was analyzed using descriptive statistics. Open-ended responses were coded according to response theme before being analyzed. Special attention was paid to the reasoning behind these pedagogical choices and how those choices related to cognitive load.

Definition of Terms

Understanding of the concepts and words listed below will be critical in comprehending the study that follows.

Character Literacy: The ability to recognize individual characters of the Chinese language and know their general meaning, pronunciation, and how to type or write them.

DCI: Delayed Character Introduction, commonly referred to as “lag,” is the practice of waiting until after a set period of time to introduce the study of hanzi in a Chinese class meant for beginners.

Hanzi: The characters of the Chinese writing system.

Modern Standard Mandarin: Equivalent to Standard Spoken Chinese, this is the official language of both the PRC (as Putonghua) and the ROC (as Guoyu). It is the spoken language most closely related to Modern Standard Written Chinese.

Modern Standard Written Chinese: The modern form of Chinese, written in Chinese characters, closely based on Modern Standard Mandarin as it is spoken in a given country.

Native Chinese Speaker: A person raised speaking any language that uses Modern Standard Written Chinese.

Native Chinese Non-Mandarin Speaker: A person born in China who does not live in a Mandarin speaking household or in an area where Mandarin is heavily spoken. These learners will still encounter Mandarin in the classroom and will still make use of Modern Standard Written Chinese.

Native Mandarin Speaker: Someone raised speaking Mandarin as a primary language in their household.

Pinyin: A Romanized phonetic system used in the PRC to write Mandarin.

Tones: The five standardized spoken pitch inflections that occur in every syllable of spoken Mandarin Chinese. In pinyin, they are represented visually through a series of diacritic marks.

Summary and Overview of Chapters

In summary, this research focuses on the number of hanzi students are expected to know and the use of Delayed Character Introduction to provide insight into the transition from pinyin to hanzi. This is placed in the context of current research and practice of Chinese language instruction to better explain why these issues are so important in the study of Chinese. The research examines how the instructor describes his or her approach to dealing with these issues, providing insight into the reasoning behind curriculum choices.

Chapter II features an in-depth look at the available literature, with special attention paid to studies focused on pinyin and the transition from initial instruction to the introduction of hanzi. Common issues of language instruction and Chinese language acquisition are examined, with a focus on heavily debated issues in Chinese pedagogy such as the delayed introduction of characters. In Chapter III, the study method is detailed

along with the survey developed to obtain expert feedback. Chapter IV reports the findings from the survey. The open-ended responses of the instructors were characterized using specific criteria to determine the reasoning and justification used by the instructors. Chapter V summarizes the findings, using them to draw conclusions and provide recommendations for both language instruction and further study.

CHAPTER II

REVIEW OF LITERATURE

In examining the widely debated issues of Chinese language pedagogy for second language learners, it is important to focus on both the unique difficulties adult students face in learning Chinese as a second language and the ways that their difficulty can be mitigated. This chapter will examine previously conducted research focusing on these issues, including a general overview of cognitive load issues relevant to second language learners and an examination of the pedagogical issues specific to Chinese, such as the use of pinyin and the complexity of hanzi. Special attention will be paid to literature that investigates pedagogical strategies developed to help students in the early stages of learning and literature focused on common but controversial strategies, such as Delayed Character Introduction.

Hanzi, Pinyin, and Literacy

While it is impossible to state exactly how many hanzi a beginner may need to know to be considered literate, experts and researchers often describe a learner as needing to know anywhere from 2,000 to 3,000 Hanzi (Byrne, 2007; Liu, 2005; Moser, 1991) to be literate enough to read a newspaper in Chinese. This is a daunting enough prospect for a native speaker of Chinese, but it can seem even more imposing to someone learning Chinese as a second language. Jordan and Walton (1987) were an early group of researchers to point out that teaching introductory language concepts solely using a complex orthography such as hanzi has quite negative consequences for those learning a second language, stating that “the learning of speech is unreasonably and unnecessarily pegged to the speed with which learners can master an extremely memory-demanding

written medium” (p. 119). While character literacy may be a requirement for advanced language study, it is a significant burden to place on a learner in the early stages. Despite this, many instructors emphasize an especially demanding interpretation of character literacy where “to many teachers of these [character using] languages, it is unacceptable to be able to recognize a word but not be able to write it - "knowing" a word means knowing how to do both” (Jordan & Walton, 1987, p. 120).

Freeing the second-language learner from the burden of character literacy in the early stages of study offers a more manageable approach to language learning. The difficulties encountered in teaching Chinese solely using hanzi reinforce the need to use a phonetic transcription strategy, such as pinyin, in teaching second-language learners. The success of young Chinese learners using pinyin in the first two years of their education demonstrates that the grammar and vocabulary of Chinese can be studied to a high level using pinyin as long as adequate materials are available (Liu, 2005). This demonstrates that a second-language learner of Chinese can delay the study of hanzi and material written exclusively in hanzi while still making good use of available study time.

The Benefits of a Speech First Approach

While the difficulties associated with hanzi may be one reason to begin the study of Chinese as a second language with the exclusive use of pinyin, another reason is the benefits that come from an early focus on speaking and listening. Chinese is a tonal language where changes in pitch cause syllables with the same pronunciation to mean drastically different things. While this can seem overwhelmingly alien to native speakers of non-tonal language such as English, research increasingly demonstrates that an early focus on tones combined with practicing the syllables of spoken Chinese represented in

pinyin can greatly improve a second language learner's ability to deal with tones (Liu et al., 2011). While pinyin provides an indication of a syllable's tone, hanzi do not. Using exclusively hanzi before a student has mastered the tones of spoken Mandarin may not adequately support beginning learners. Additionally, many instructors believe that students more rapidly demonstrate communicative competence in the early stages of learning when studying spoken Chinese separate from the characters (Ning, 2001).

The benefits of an early speech focus extend to the future development of character literacy, which may be one reason that a delayed introduction of hanzi proves so effective. Everson (1998) found that learners of Chinese as a second language had a much easier time remembering the meaning of a Chinese word written in hanzi if they were familiar with its pronunciation, a discovery that indicates the study of written Chinese could be much easier for students with a strong foundation of spoken Chinese.

Cognitive Load Theory and Language Acquisition

Cognitive load theory is an instructional design principle that focuses on the inherent limitations of human cognition and working memory in an attempt to account for it in the instructional design process (Paas, Tuovinen, Tabbers, & Van Gerven, 2003). Designers work to arrange newly presented information in a way that does not needlessly burden learners within a lesson. This often requires them to account for the inherent complexity of various topics and carefully consider how to properly prepare learners for more complex material.

Jorden and Walton (1987) discuss the difficulties associated with "truly foreign" languages at length, noting that a great deal of effort is required to learn languages radically different from the learner's first language. It is quite likely that learners studying

languages drastically different from their native language will reach their cognitive limits sooner simply because there is more new information to process. These types of languages add a great deal of extra cognitive load to even simple tasks at the beginning stages.

Jorden and Walton (1987) recommend that instructional materials find a balance between clarity, the amount of information presented, and the appropriate level of detail. There were few Chinese instructional materials available at the time that reflected this balance. Even ten years later, Everson (1998) complained that the latest research on language acquisition was only just beginning to be applied to the problems non-native speakers faced when learning Chinese. Thankfully, many materials created since have explicitly sought to minimize the burden placed upon the beginning second language learner. A notable example of this are the textbooks designed by professor Cornelius Kubler (2011), who explicitly references Jorden and Walton's work in his introduction.

Given Jorden and Walton's (1987) characterization of Chinese as a language with significant differences from English, it becomes especially important to reduce split attention. Ward and Sweller (1990), when discussing how to create helpful examples that do not distract the student, describe split attention as a situation where a learner's attention is ineffectively required to "split their attention between multiple sources of information and mentally integrate those multiple sources" (p. 4). Since the older beginners encountering Chinese for the first time are likely to find every aspect of the language significantly different from English, everything is a potential distraction if examples are not properly structured.

Could an attempt to introduce too many hanzi, too fast, lead to an increase of cognitive load from split attention? After all, older adults studying Chinese are already literate in their native language and may not benefit from a pinyin-centric approach the same way that younger learners do. The Chinese language instructors and researchers who support a pinyin-centric approach, however, often emphasize cognitive load and the benefits to learning speed that pinyin provides. This is supported by the early research of Everson (1994), which found that the use of pinyin decreases cognitive load and speeds up the progress of learners studying the spoken language. Everson (1994) recommended that pinyin should be used before the introduction of hanzi to rapidly teach second language learners core grammar and vocabulary.

Afterward, Everson (1994) recommends introducing character study focused on characters related to words already familiar in their prior study of spoken Chinese. This would further reduce cognitive load, as students would already have a schema for these words and concepts to mentally connect the characters. Everson (1994) later emphasizes the value this practice has for nonnative speakers, who possess no prior knowledge of the language to assist their learning to match the vast, direct experience native speakers have with the language already. As previously mentioned when discussing a speech-first approach, later research from Everson (1998) indicated that it was much easier for students to learn new hanzi if they were already familiar with the word's pronunciation and use in the spoken language. This could partially account for the rapid progress demonstrated by Chinese students in the Pinyin Experiments (Liu, 2005).

Delayed Character Introduction to Deal with Cognitive Load

During the course of the Pinyin Experiments, Chinese students in elementary school made rapid gains in literacy when they studied Chinese using only pinyin for the first two years of school (Liu, 2005). Of particular interest is the fact that, at the end of elementary school, the students that used only pinyin in their early studies ultimately learned more hanzi than students who had started studying hanzi sooner. Using pinyin and delaying the introduction of hanzi to focus on other language skills had a profound effect on these students.

Would a similar delay be helpful in adult second language learners who were already literate in their native language? At the least, such a delay would allow instructors and students to focus on important aspects of the spoken language in isolation. In researching when to introduce Chinese characters into a language curriculum for native English speakers, Packard (1990) utilized a delay of only three weeks in an introductory Chinese college course, yet still found that this relatively minor delay resulted in a significant improvement in phonetic discrimination for those students who delayed their study of characters.

It is difficult to estimate what sort of delay would be optimum for long-term gains in literacy and fluency for older beginners who are native English speakers. Some scholars such as Mair (2008) anecdotally recommend that older beginners use a lengthy delay, later supplemented by heavily annotated materials, so that older beginners can focus on listening and speaking. Illiterate Chinese speaking adults participating in the PRC's pinyin study during the 1980s also delayed the study of characters by two years (Rohsenow, 2001). This may seem to indicate that a lengthy delay is equally effective for

adults and children, but in both cases the lengthy delay was used with students working to acquire basic literacy for the first time. The learners in those studies are drastically different from literate English speaking adult beginners.

Despite the unexplored potential of a lengthy delay when teaching adult second language learners, the broad consensus among Chinese teachers in the US does not seem to favor more than a brief delay. Ye (2013), in surveying both instructors and students, found that most classes either started with characters immediately or delayed their introduction until just a short time into the first semester. Among the more interesting of Ye's findings, beyond the general trend towards a short to nonexistent delay, was the fact that few instructors had seriously considered the reasons for the delay. Additionally, students surveyed in Ye's study demonstrably changed their minds during the course of the survey, coming to see Delayed Character Introduction more favorably as the idea was presented to them in depth, likely for the first time.

Ye helped to formalize the terminology of Delayed Character Introduction (DCI) and Immediate Character Introduction (ICI) while exploring the overall trends in the US. Simply introducing characters, however, does not mean that pinyin disappears from the classroom. There is a large difference between a class that heavily utilizes pinyin for annotation and classwork while introducing a small number of hanzi at a time and a class that fully utilizes hanzi and only makes use of pinyin on rare occasions. Examining the number of hanzi introduced into an introductory Chinese course over a year could help indicate how heavily instructors are relying on hanzi and how quickly they transition from pinyin. As Ye hoped to "lay a foundation for additional investigations on similar and related themes," (p. 623) it is hoped that this study will help further this research by

examining the specific pedagogical and ideological reasons behind the decision to delay to better understand how instructors transition from pinyin to hanzi.

Summary

Both native and non-native learners of Chinese must spend a great deal of time and effort to become literate using hanzi. Pinyin has been a helpful tool for both native speakers and non-native speakers to learn Chinese using a simpler phonetic orthography. For non-native speakers, using pinyin in the early stages of learning allows the learner to focus on the intricacies of spoken Chinese, such as the tones, which benefit from focused early study. Utilizing pinyin in a speech-focused approach at the early stages may decrease cognitive load during instruction. Foundational knowledge of the spoken language can also make learning hanzi much easier in future studies. This leads to a number of benefits when an instructor focuses on using pinyin and delays the introduction of hanzi. Most instructors still introduce hanzi early, but simply introducing hanzi does not mean that pinyin is underutilized. The mere presence of hanzi does not mean the absence of pinyin. There is still much to be learned about how exactly instructors transition from the exclusive use of pinyin to the use of hanzi. Chapter III will describe the methods, procedures, and instruments that will help to provide insight into how instructors today deal with these issues.

CHAPTER III

METHODS AND PROCEDURES

This study sought to assess how Chinese language instructors transitioned from pinyin to hanzi (characters) in their first-year, university-level Chinese language courses. The study focused on the appropriate time to transition from pinyin to hanzi, along with the number of hanzi introduced both within the first semester and within the first year. This chapter will describe the surveyed population of experts and the questionnaire sent to them. Afterwards, the specifics of data collection will be discussed, followed by the process used for statistical analysis.

Population

The sample studied was drawn from instructors of Chinese as a second language at the 108 universities listed by the Carnegie Classification of Institutions of Higher Education as research universities with very high research activity. This population was identified based on their ability to give firsthand insight on standard instructional practices of teaching first year Chinese within United States post-secondary institutions. Potential participants were chosen based on their role as current instructors of first-year Chinese for beginners at their university. The initial choice of which first year Chinese instructor to survey was made based on identification of the instructor as teaching first year courses and their availability for study participation. When a university's Chinese program had more than one first year instructor available, a choice of instructor was made via a random number generator. Of those 108 institutions listed by the Carnegie Classification as being Ph.D. granting research universities with very high research activity, only the 99 currently offering introductory Chinese courses were eligible.

Instrument Design

A survey was developed by the author in order to solicit systematic feedback on the transition from pinyin to hanzi in introductory Chinese language courses from instructors at various institutions of higher learning throughout the US. The survey was administered using Google Forms due to its convenience, security, and anonymity. The survey consisted of three select-response and three open-response items. The first four survey questions were designed to answer RQ₂: is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction? The first question of the survey asked the participant to choose how many hanzi should ideally be used in the first semester of classes, providing a drop-down menu of choices. The second question was a free response type that provided space for the participant to explain why their answer to question one is an ideal choice. The third and fourth questions were similar to the previous two, except that they asked the participant about the first year of classes.

The remaining two survey questions were designed to answer RQ₁: is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? The fifth question, which also provided a drop-down menu, asked the participant to choose how many weeks a class should delay the introduction of hanzi instruction and only use pinyin. The final question was a free response item that allowed the participant to explain his or her reasoning. A copy of the survey is included in Appendix A.

Methods of Data Collection

Contact information for individual instructors was collected from the websites and course catalogs of relevant universities. An invitation to participate in the study was either sent to the instructors via email or discussed with the instructors via telephone. Instructors who accepted an invitation to participate were then sent an e-mail with a cover letter and link to the survey that was administered online in Google Forms. The participants were specifically asked to provide their views as an instructor and not to simply report the conditions of their program. All responses were anonymous and data was examined in aggregate. Due to difficulty in contacting instructors, data collection was conducted over three-months during which the surveyed instructors could accept their invitation and participate in the survey.

The surveyed population was drawn from instructors at 99 Research Universities in the United States classified by the Carnegie Foundation as being large, doctorate granting institutions having a very high degree of research activity. While the Carnegie Foundation classifies a total of 108 universities as large, doctorate granting institutions with a very high degree of research activity, the population consisted of the 99 of those institutions that offered introductory Chinese language courses. Instructors at these universities were invited to participate. If the invitation was accepted, only one instructor teaching introductory Chinese from each university was surveyed.

Statistical Analysis

Various descriptive methods were used to analyze the data collected. Frequency distributions were created for the responses to the select-response items (first, third, and fifth survey questions). Trends were analyzed to determine the frequency of each

response and distribution across response options for each question. For the open-response items (the second, fourth, and sixth survey questions), verbatim answers were coded into thematic categories and description summaries were developed to represent the nature and variations of responses to each item. Instructors' responses that mentioned certain issues or concerns were categorized into specific themes, which were then placed in a frequency distribution table for further description. Certain answers to the open-ended questions mentioned a variety of topics and were simultaneously placed in multiple categories, while some answers were non-sequiturs or left blank. Thus, there was not a one-to-one correspondence of answers to a single category for each question, as some instructors provided multiple data-points and others provided none. The percentage of instructors who referred to each category was noted to provide insight into the decision-making process of the instructors. These categories and their meanings are discussed in the findings.

Summary

This chapter examined the methods and procedures used within this study. To better answer research questions looking at first year Chinese instruction, a sample was selected from the population of first year instructors of Chinese at large universities in the United States with a high amount of research. Instructors were contacted via email or telephone and invited to participate before answering the survey online using Google Forms. The survey was created specifically to obtain feedback from the participants on research questions related to the instruction of introductory Chinese as a second language. The survey asked about the number of hanzi taught to students in their first semester and year of instruction, the transition from pinyin to hanzi, and the instructors'

reasoning for their choices. After receiving replies from the participants, the data acquired from the survey was analyzed descriptively. Free-response data were categorized according to type and then before being analyzed. The findings of this analysis will be discussed in Chapter IV.

CHAPTER IV

FINDINGS

This chapter will present the findings of this study, which was to assess how Chinese language instructors transition from pinyin to hanzi when teaching Chinese as a second language to adult learners in a university setting. This chapter will report the findings from the survey. Two survey questions were designed to answer RQ₁: Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? Four survey questions were designed to answer RQ₂: Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction? After presenting these data the results will be summarized.

Response Rate

Ninety-nine universities were eligible to participate in this survey and instructors were invited via email and telephone. Only one instructor was to participate per institution. Only two instructors responded to the original emailed invitation which was sent to the 99 eligible universities, a response rate of only 2.02%, so further instructors were contacted via telephone. While there was difficulty in reaching many instructors, those that were successfully contacted via telephone almost always expressed a desire to complete the survey. Of the 45 instructors directly contacted via telephone, 22 completed the survey, for a telephone response rate of 22.2%. Thus, a total of 24 first year Chinese instructors contacted via email and telephone responded by completing a survey on Google Forms. This is a survey response rate of 24.2% from all 99 eligible institutions.

Report of Survey Findings

The findings of the survey are presented below. The two research questions of this study are (a) Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? (b) Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction?

RQ1: Transition from Pinyin to Hanzi

Survey Questions 5 and 6 were designed to answer RQ1: Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? Survey Question 5 asked the instructors what they considered to be the ideal number of weeks to study Chinese exclusively using pinyin before including the study of hanzi as part of the class. Responses were chosen from a list provided in the survey, which began with the choice “Immediately,” followed by choices consisting of four week increments (1-4 weeks, 5-8 weeks, etc.). While the available choices went up to “21-24 weeks,” no instructors chose a response time over 12 weeks. Eighty-seven and a half percent of instructors began the study of hanzi sometime within the first four weeks of class. A distribution of responses to the number of weeks before hanzi are introduced is provided in Table 1.

Table 1

Number of Weeks Before Hanzi Are Introduced

| Response | Number | Percent |
|-----------------|---------------|----------------|
| Immediately | 7 | 29.2 |
| 1-4 weeks | 14 | 58.3 |
| 5-8 weeks | 2 | 8.3 |
| 9-12 weeks | 1 | 4.2 |

Survey Question 6 asked instructors on what basis they determined their answer given in Question 5. These responses were classified according to what the instructors mentioned as the reasoning for their choices. The reasons that were given by at least two instructors within an individual question were noted. If an instructor answered Question 6 by stating that their answer was the same as their answer to Question 2 or 4, those responses were duplicated to answer Question 6. The response categories are explained below:

Instructor Opinion: The instructor chose the time that study of hanzi was introduced based on personal experience and opinion.

Pinyin Assistance: The instructor stated that, having learned pinyin, students would have an easy time learning new hanzi since pinyin could be used to assist them.

Pinyin Dependence: The instructor expressed concern that students would become dependent on pinyin if they did not start studying hanzi early enough.

Pinyin is a Tool: Instructors stated that pinyin was simply meant to assist learners in studying Chinese and that hanzi should be the main focus.

Student-Centered: The instructor chose the time to introduce hanzi based on student ability, student capability, the improved effect on student confidence, and the students inherit cognitive limitations.

Speaking First: The instructor chose the time to introduce hanzi based on a need to study and practice spoken Chinese before focusing on reading and writing.

Lengthier responses often included a variety of reasons and were tagged with multiple classifications. Null responses, responses with characteristics not shared by any other respondent, and non-sequiturs that were impossible to characterize were not tagged. As a result, there is not a one-to-one correspondence between respondents and data points in survey Question 6.

The most popular reason (37.5%) was simply that pinyin is a tool, a phrase used with the exact same wording by a few of the instructors with answers classified within this category. Nine instructors, or 37.5% of those responding, used this reason. Other reasons were given by only a small percentage of instructors. Table 2 provides a distribution of reasons instructors did or did not utilize delayed character (hanzi) introduction. For each reason, the percentage of instructors who used that type of reasoning is included.

Table 2

Reasons Given for Time to Delay Character Introduction

| Reason | # of Instructors | Percent |
|--------------------|-------------------------|----------------|
| Instructor Opinion | 3 | 12.5 |
| Pinyin Assistance | 3 | 12.5 |
| Pinyin Dependence | 3 | 12.5 |
| Pinyin is a Tool | 9 | 37.5 |
| Student-Centered | 2 | 8.3 |
| Speaking First | 3 | 12.5 |

RQ2: Optimum Number of Hanzi

Survey Questions 1 through 4 were designed to answer Research Question 2: Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study to minimize cognitive load? Survey Questions 1 and 3 asked the instructors what they considered to be the ideal number of hanzi for students to learn in the first semester and first year of study, respectively. Responses were chosen from a list that was provided in the survey that began with the choice “approximately 100” and increased in increments of 20, finishing with the choice “over 300.” While there was no real consensus on the number of hanzi to be studied in the first semester, 79.2% of the instructors planned for students to study 300 or more hanzi within their first year, and 100% of instructors thought students should learn over 200 hanzi within their first year. No university instructors utilize the long delays used in the pinyin study. Table 3 provides a distribution of how many instructors introduced certain amounts of hanzi in both the first semester and first year of study.

Table 3

Optimum Number of Hanzi in First Semester and First Year

| Instructor's Answer | First Semester | | First Year | |
|---------------------|---|---|---|---|
| | Number of instructors that selected this answer | Percentage of instructors that selected this answer | Number of instructors that selected this answer | Percentage of instructors that selected this answer |
| Approx. 100 | 4 | 16.7 | 0 | 0.0 |
| Approx. 120 | 2 | 8.3 | 0 | 0.0 |
| Approx. 140 | 0 | 0.0 | 0 | 0.0 |
| Approx. 160 | 4 | 16.7 | 0 | 0.0 |
| Approx. 180 | 1 | 4.2 | 0 | 0.0 |
| Approx. 200 | 3 | 12.5 | 2 | 8.3 |
| Approx. 220 | 1 | 4.2 | 1 | 4.2 |
| Approx. 240 | 3 | 12.5 | 2 | 8.3 |
| Approx. 260 | 1 | 4.2 | 0 | 0.0 |
| Approx. 280 | 0 | 0.0 | 0 | 0.0 |
| Approx. 300 | 3 | 12.5 | 4 | 16.7 |
| Over 300 | 2 | 8.3 | 15 | 62.5 |

Survey Questions 2 and 4 asked instructors on what basis they determined the appropriate number of hanzi. These answers were classified according to what the instructors mentioned as the reasoning for their choices. Only reasons that were given by at least two instructors within an individual question were noted. If an instructor answered Question 4 by stating that their answer was the same as their answer to Question 2, their responses to Question 2 were duplicated to answer Question 4. As with survey Question 6, lengthier responses often included a variety of reasons and were tagged with multiple classifications. Null responses, responses with characteristics not shared by any other respondent, and non-sequiturs that were impossible to categorize provided no data points. As a result, there is not a one-to-one correspondence between respondents and data points in Question 2. The response categories are explained below.

Curriculum Requirements: The instructor based the number of hanzi on the requirements of the curriculum, including curriculum decided on or created by the faculty, curriculum defined by university policy, or a curriculum that is part of the textbook used by the program.

Foundational Experience: The instructor stated that, after acquiring a certain amount of hanzi and/or experience with Chinese in the first semester, students could learn characters much more efficiently in their future studies. This was only used as a reason for the number of hanzi studied in an academic year.

Instructor Opinion: The instructor based the number of hanzi used on personal experience and opinion.

Low Number: The instructor characterized their selected number of hanzi as low, stating that a low number of hanzi early on made it easier for students to do well in the first semester. This was only used as a reason for the number of hanzi studied in the first semester.

Reading and Dialogue: The instructor stated that the number of hanzi was chosen so that students would know enough hanzi to be able to effectively study simple reading material and practice dialogues. This was only used as a reason for the number of hanzi studied in an academic year.

Student-Centered: The instructor selected the number of hanzi based on student ability, student capability, the improved effect on student confidence, and the students inherit cognitive limitations.

The most popular reason given was the idea that students are capable of learning the chosen number of hanzi. Forty-one point seven percent of instructors gave this answer

when asked about the first semester and 37.5% gave this answer when asked about the first year. In choosing the number of hanzi students learn in the first semester, Instructor Opinion was the second-most-popular reason, with 29.2% of instructors referencing this. For the number of hanzi students learn in a year, the value of Foundational Experience to make learning easier was the second-most-popular reason, with 25.0% of instructors selecting this. Table 4 shows a distribution of the number and percentage of instructors who chose each category of reason in their answers to survey Questions 2 and 4.

Table 4

Reasons Given for Optimum Number of Hanzi

| Reason | <u>First Semester</u> | | <u>First Year</u> | |
|--------------------------------|------------------------------|-------------------------|------------------------------|-------------------------|
| | Number of Instructors | % of Instructors | Number of Instructors | % of Instructors |
| Curriculum Requirements | 5 | 20.8 | 3 | 12.5 |
| Foundational Experience | 0 | 0.0 | 6 | 25.0 |
| Instructor Opinion | 7 | 29.2 | 3 | 12.5 |
| Low Number | 3 | 12.5 | 0 | 0.0 |
| Reading and Dialogue | 0 | 0.0 | 3 | 12.5 |
| Student-Centered | 10 | 41.7 | 9 | 37.5 |

Summary

Chapter IV presents the findings of the study based on data from survey responses. The survey questions were created to answer the research questions: RQ₁: Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize

cognitive load? RQ₂: Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction?

Two survey questions sought to answer RQ₁. Question 5 asked the instructors how long they delayed the introduction of hanzi, while Question 6 asked the instructors to explain their reasons for their answer to Question 5. After the instructors' responses were categorized, it was found that almost all instructors (87.5%) introduced hanzi sometime within the first month. There was little agreement among the instructors as to why this was the ideal time to introduce hanzi. The idea that pinyin is a learning tool and not an object of study was given as a reason by a noteworthy (37.5%) percentage of instructors, but all other reasons were only being given by a small number of instructors.

Four survey questions sought to answer RQ₂. These survey questions examined both the number of hanzi introduced in a semester and a year, along with the instructors' reasons for that choice. While the reasoning of instructors varied greatly, the majority of instructors thought that students should learn 300 or more hanzi in their first year of study. The most popular reason given for why the students should study a certain amount of hanzi was that the instructors thought that the students were capable of doing so. Chapter V will summarize the research, draw conclusions based on the research, and provide recommendations for further study.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Chapter V summarizes the study. Afterwards, conclusions based on the research questions are drawn using the data acquired in the survey. Finally, recommendations are made based on the data.

Summary

The purpose of this study was to assess how Chinese language instructors transition from pinyin to hanzi when teaching Chinese as a second language to adults in a university setting. The study was designed to answer the following research questions:

RQ₁: Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? RQ₂: Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction? The need for research on this problem was determined by the increasing importance of cognitive load theory in instructional design, the noted difficulty of acquiring Chinese literacy for native English speakers, and the continuing debate about the role of pinyin in Chinese education. The findings of this study were limited by the nature of survey research and the difficulty in measuring certain aspects of language acquisition.

The population studied was instructors of introductory Chinese at the university level, specifically those teaching in institutions listed by the Carnegie Foundation as being large, Ph.D. granting universities with a very high volume of research. Instructors at eligible universities with Chinese language programs were invited to participate via

email and telephone. Those instructors who accepted the invitation were sent a survey link via email and completed the survey using Google Forms. Due to difficulties contacting instructors, a period of three months was provided for the respondents to accept invitations and answer the survey. Google Forms lists data anonymously and responses were examined in aggregate. Responses were sought from 99 universities and replies were received from 24 instructors, for a response rate of 24.2%. For open-ended questions, multiple data-points were present in some answers due to the length of responses and the topics covered, and certain unanswered or non sequitur answers provided no data points. Open-ended responses were characterized according to their reasoning and the shared characteristics were analyzed.

Two survey questions were designed to answer RQ₁: Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? These questions focused on the transition from pinyin to hanzi, investigating the use of Delayed Character Introduction as studied by Packard (1990) and Ye (2013). One question asked the instructors to indicate when they introduced hanzi and ceased using exclusively pinyin from choices provided. The other question was a free response question where instructors explained their reasoning behind when they introduce hanzi. Responses were categorized according to the reasoning used, with response themes including instructor opinion, fear of pinyin dependence, the idea that pinyin helps students learn faster, the perception that pinyin is only a tool, student centered responses, and the importance of focusing on speaking before writing.

Four survey questions were designed to answer RQ₂: Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction? Two survey questions asked instructors to choose what they viewed as the ideal number of hanzi to study in a semester and in a year, respectively. The instructors chose from a provided list of responses. Two survey questions were free response questions that asked the instructors to explain why they chose their answers to the associated select response items. Data from these questions were analyzed and displayed in a table including the categories of response, the number of data points for each response and the percentage of total instructors who used a particular justification for their answer. Response characterizations studied included curriculum requirements, foundational experience, instructor opinion, the helpfulness of low numbers, reading and dialogue requirements, and student centered responses.

Conclusions

This section uses the collected survey data to draw conclusions based on the research questions.

RQ₁: Transition from Pinyin to Hanzi

Is there a consensus among first year instructors of Chinese on the appropriate amount of time for older beginners to exclusively use pinyin before introducing hanzi to minimize cognitive load? There is a consensus among instructors, but it does not seem to be based on minimizing cognitive load. As Ye (2013) found, instructors tend to introduce hanzi into the class as soon as they think students are capable of studying them. While Ye found that this meant introducing hanzi at or before the midpoint of the first semester, the majority of instructors surveyed here (87.5%) introduced hanzi within the first four

weeks of study. Despite the potential value of a longer Delayed Character Introduction in alleviating cognitive load, few instructors wish to delay the introduction of hanzi for longer than one month.

Almost all justifications for this short delay varied widely among the surveyed instructors. The only reason that was reported by a large percentage of respondents was the idea that pinyin is simply an instructional tool. This was mentioned by 37.5% of the respondents, many of whom used the exact same metaphor. In itself, however, this is not an explanation of how cognitive load is dealt with when introducing characters. On the surface, it would seem that little has changed in the 25 years since Jorden and Walton (1987) described instructors who sought to move past the use of pinyin as quickly as possible.

RQ2: Optimum Number of Hanzi

Is there a consensus among first year instructors of Chinese on the optimum number of hanzi older beginners should study in the first year of instruction? A majority of instructors teach their students 300 or more hanzi over the course of the first year of Chinese instruction. This practice does not seem to be chosen as a way to reduce cognitive load for the students. It seems that the number of hanzi taught the first year is chosen based on the maximum number that the average student is capable of learning in a particular time frame. Instructors seem less concerned with making first year instruction easier and more concerned with maximizing the amount of material covered.

Recommendations

This study was conducted to assess how Chinese language instructors transition from pinyin to hanzi when teaching Chinese as a second language to adult learners in a university setting. Given the reasons offered by instructors and the relatively limited use of the Delayed Character Introduction strategy, it seems that the benefits of a delay are not a primary concern among instructors planning first year classes when compared to other curriculum design issues. It is possible that the need to include a certain number of characters in first semester and first year classes overrides certain instructional considerations. It is also possible, given the findings of Ye (2013), that instructors are simply not aware of the benefits of a lengthier delay. Thus, most recommendations are focused on further research, with a goal of getting a more accurate understanding of the instructional reality of first year Chinese language classes so that content-appropriate strategies can be developed.

- As per Ye's (2013) recommendation, increase awareness of the benefits of a Delayed Character Introduction among both students and instructors.
- Seek to determine what specific issues most influence curriculum design for introductory Chinese.
- Continue to investigate the average amount of hanzi studied over the course of a year and gain more specific data on the total number.
- Find what, cognitively, is the upper limit on student ability to learn hanzi in the first year of study.

- More data must be acquired on the benefits of focused spoken language instruction combined with a Delayed Character Introduction of longer than a month with English speaking adult beginners.
- Find any classes that use a drastically limited number of hanzi and examine if there are any benefits.
- Establish a more accurate understanding of how, exactly, Delayed Character Introduction is used in the first month of study, possibly by investigating exactly how many classroom hours the students have practicing Chinese with pinyin the first month of class before hanzi are introduced.
- Extensively examine how pinyin is used after the introduction of hanzi to see if it is still extensively used as a form of annotation or if it is only used to indicate the pronunciation of characters.

REFERENCES

- Byrne, G. (2007). Schooling and learning difficulties in China. *Contemporary Review*, 289(1685), 201.
- Everson, M. E. (1994). Toward a process view of teaching reading in the second language Chinese curriculum. *Theory into Practice*, (1). 4.
- Everson, M. E. (1998). Word recognition among learners of Chinese as a foreign language: investigating the relationship between naming and knowing. *The Modern Language Journal*, (2). 194.
- Hanban. (2013). Chinese Proficiency Test. Retrieved from http://english.hanban.org/node_8002.htm
- Jorden, E. H., & Walton, A. (1987). Truly foreign languages: instructional challenges. *Annals of the American Academy of Political and Social Science*, 490, 110-124. doi:10.2307/1045238
- Kubler, C. (2011). *Basic spoken Chinese*. North Clarendon, VT: Tuttle Publishing.
- Liu, Y. (2005). A pedagogy for digraphia: an analysis of the impact of pinyin on literacy teaching in China and its implications for curricular and pedagogical innovations in a wider community. *Language & Education: An International Journal*, 19(5), 400-414.
- Liu, Y., Wang, M., Perfetti, C. A., Brubaker, B., Wu, S., & MacWhinney, B. (2011). Learning a tonal language by attending to the tone: An in vivo experiment. *Language Learning*, 61(4), 1119-1141. doi:10.1111/j.1467-9922.2011.00673.x
- Mair, V. (2008, May 25). How to learn to read Chinese. [Web log comment]. Retrieved from <http://languagelog.ldc.upenn.edu/nll/?p=189>

- Moser, D. (1991). Why Chinese is so damn hard. *Sino-Platonic Papers*, (27), 59-70.
- Ning, C. (2001). Second-language studies and college-level Chinese-language textbooks in the United States. *China Review International*, (1), 34.
- Paas, F., Tuovinen, J. E., Tabbers, H., & Van Gerven, P. M. (2003). Cognitive load measurement as a means to advance cognitive load theory. *Educational Psychologist*, 38(1), 63-71.
- Packard, J. L. (1990). Effects of time lag in the introduction of characters into the Chinese language curriculum. *Modern Language Journal*, 74(2), 167-175.
- Rohsenow, J. S. (2001). The present status of digraphia in China. *International Journal of the Sociology of Language*, 2001(150), 125-140.
- Ward, M., & Sweller, J. (1990). Structuring effective worked examples. *Cognition and Instruction*, 7(1), 1-39. doi:10.2307/3233503
- Ye, L. (2013). Shall we delay teaching characters in teaching Chinese as a foreign language? *Foreign Language Annals*, 46(4), 610-627. doi:10.1111/flan.12049

APPENDIX A

SURVEY

有效应用汉语拼音以减轻认知负荷之调查研究

Purpose: According to cognitive load theory, the amount of information a learner can be expected to reasonably process at once is inherently limited by a variety of factors. Native speakers of English who are studying Mandarin Chinese for the first time have a great deal of information to manage, making cognitive demands quite high. The purpose of this study is to better determine how instructors of Chinese at U.S. universities manage this cognitive load by making use of pinyin and controlling the number of hanzi studied.

Directions: When answering the following questions, please answer with what you consider optimal as a language instructor, as opposed to what circumstances (such as your department or textbooks) may require.

1. For beginner students in introductory Chinese courses such as those you have taught previously, what do you as an instructor feel is the optimum number of hanzi that students should be required to learn in their first semester of studying Mandarin that would not result in the students being overwhelmed with new information?

Choices:

None

Approximately 20

Approximately 40

Approximately 60

Approximately 80

Approximately 100

Approximately 120

Approximately 140

Approximately 160

Approximately 180

Approximately 200

Approximately 220

Approximately 240

Approximately 260

Approximately 280

Approximately 300

Over 300

2. Why do you feel that this is an appropriate amount?

3. For beginner students in introductory Chinese courses such as those you have taught previously, what do you as an instructor feel is the optimum number of hanzi that students should be required to learn in their first year (through the second semester) of studying Mandarin that would not result in the students being overwhelmed with new information?

Choices:

- None
- Approximately 20
- Approximately 40
- Approximately 60
- Approximately 80
- Approximately 100
- Approximately 120
- Approximately 140
- Approximately 160
- Approximately 180
- Approximately 200
- Approximately 220
- Approximately 240
- Approximately 260
- Approximately 280
- Approximately 300
- Over 300

4. Why do you feel that this is an appropriate amount?

5. For approximately how many weeks do you feel that pinyin should be used as the sole means of instruction, with students not required to know or study any hanzi?

Choices:

- Use of Hanzi should begin immediately
- 1-4 weeks
- 5-8 weeks
- 9-12 weeks
- 13-16 weeks
- 17-20 weeks
- 21-24 weeks
- Over 24 weeks

6. Why do you feel that this is the optimal length of time to wait before introducing hanzi?

APPENDIX B
INVITATION

Dear (Recipient),

You are being invited to participate in a survey focusing on the effective use of pinyin to teach Mandarin Chinese. If you choose to participate, your responses will be treated anonymously. If you are willing to participate, please respond to this email and a survey link will be sent to you. If you wish to participate in this study being undertaken by Old Dominion University, you will need to complete a survey by November 19th, 2014. If you have questions, please feel free to contact us via email to rhess004@odu.edu.

Sincerely,

Ronnie Hess
Graduate Student
Instructional Design & Technology
Old Dominion University
rhess004@odu.edu

John Ritz
Professor
Old Dominion University
jritz@odu.edu

APPENDIX C
SURVEY COVER LETTER

Dear (Recipient),

Thank you for your interest in this survey. The survey seeks to gather information on how Mandarin Chinese instructors in U.S. universities make use of hanzi and pinyin in first year Mandarin Chinese classes to teach students as effectively as possible. You were invited to participate based on your role as an instructor of an introductory Mandarin Chinese course. The survey should take approximately five to ten minutes to complete.

There are minimum risks to your participation, since your identity and individual responses will be computer tabulated and your responses will be reported in aggregate with others. There will be no direct benefit to you. We hope the benefits of our study will be to provide some indication of how language instructors currently manage and account for cognitive load when teaching Mandarin Chinese.

When you fill out this survey, please respond as a language instructor. We would like you to provide your personal view on what would be optimal instructional practice, not simply what your department or textbook requires. You will find the survey linked below. Please complete a survey by November 19th, 2014.

(Survey Link URL)

If you have questions, please feel free to contact us via email to rhess004@odu.edu.

Sincerely,

Ronnie Hess
Graduate Student
Instructional Design & Technology
Old Dominion University
rhess004@odu.edu

John Ritz
Professor
Old Dominion University
jritz@odu.edu