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### Spatial Distribution of Chinese Language Education and Historical Development of Chinese Language Pedagogy in Higher Education in the United States

Jing Zhao

*The Graduate Center, City University of New York*

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SPATIAL DISTRIBUTION OF CHINESE LANGUAGE EDUCATION AND HISTORICAL  
DEVELOPMENT OF CHINESE LANGUAGE PEDAGOGY IN HIGHER EDUCATION IN  
THE UNITED STATES

by

JING ZHAO

A capstone project submitted to the Graduate Faculty in Liberal Studies in partial fulfillment of  
the requirements for the degree of Master of Arts, The City University of New York

2020

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Spatial Distribution of Chinese Language Education and Historical Development of Chinese  
Language Pedagogy in Higher Education in the United States

by

Jing Zhao

This capstone project has been read and accepted for the Graduate Faculty in Liberal Studies in  
satisfaction of the capstone requirement for the degree of Master of Arts

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Date

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Luke Waltzer

Capstone Advisor

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Date

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## ABSTRACT

### Spatial Distribution of Chinese Language Education and Historical Development of Chinese Language Pedagogy in Higher Education in the United States

by

Jing Zhao

Advisor: Luke Waltzer, Professor

This capstone project includes two major components: an interactive digital map that displays the geographical distribution of Chinese language programs in colleges and universities in the United States, their program starting years, the types of such universities and colleges, and their names and states; and a multimedia essay on the evolution of Chinese language pedagogy in colleges and universities in the United States. Data has been collected on the program start year, school names, states where schools are located, school types, and whether the school had been funded by two federal sponsored language programs: the National Defense Education Act in 1958 and the Chinese Language Flagship program in 2006. The essay traces the sociopolitical factors that pushed Chinese language pedagogy education through several distinct stages over the past century.

Key words: Chinese language education, Chinese language education in colleges and universities in the United States, pedagogy, history of Chinese language education, digital mapping, interactive map, teaching Chinese as a second language, foreign language education in the United States

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## DIGITAL MANIFEST

- I. **Capstone Project White Paper (PDF)**
- II. **WARC files**
  - a. **Project Manifold Site**  
<http://cuny.is/chinese-pedagogy>
  - b. **An interactive map on the historical development and spatial distribution of Chinese language education in higher education in the United States**  
[https://public.tableau.com/views/DevelopmentofChineseLanguageEducationinUniversitiesandCollegesintheUnitedStates/Sheet2?:display\\_count=y&publish=yes&origin=viz\\_share\\_link](https://public.tableau.com/views/DevelopmentofChineseLanguageEducationinUniversitiesandCollegesintheUnitedStates/Sheet2?:display_count=y&publish=yes&origin=viz_share_link)
  - c. **A multimedia essay on the historical development Chinese language pedagogy**  
<https://cuny.manifoldapp.org/read/historical-development-of-chinese-language-pedagogy-in-colleges-and-universities-in-the-united-states/section/160b02e1-57c2-4755-a737-196b0da78f35>
  - d. **A timeline based on the multimedia essay**  
[https://cdn.knightlab.com/libs/timeline3/latest/embed/index.html?source=1L1LOEjldgsfq7alDwW4oxwBDdi35CagBrKGgbBmiU\\_o&font=Default&lang=en&initial\\_zoom=2&height=650](https://cdn.knightlab.com/libs/timeline3/latest/embed/index.html?source=1L1LOEjldgsfq7alDwW4oxwBDdi35CagBrKGgbBmiU_o&font=Default&lang=en&initial_zoom=2&height=650)
- III. **Scanned copies of excerpts from textbooks mentioned in the multimedia essay, and links to videos mentioned in the multimedia essay.**



## NOTE ON TECHNICAL SPECIFICATIONS

Currently all the components of the capstone project are aggregated and running on Manifold. There are some external links to videos on the Manifold site of the project:

Luoyi Cai. “1010 Chinese Language Class Luoyi Cai.” YouTube. November 06, 2013. Accessed August 08, 2019. <https://www.youtube.com/watch?v=ui7zfVViM2E>.

In the 1950s - “The big picture: Army Language School”, DLIFLC Video Archive  
<https://vimeo.com/album/270984/video/14252670>

Army Language School circa 1951 US Army; Defense Language Institute; The Big Picture TV-200 <https://www.youtube.com/watch?v=u41geRDIRKA>

# 1. Description of the Project

This project<sup>1</sup> explores the spatial and temporal aspects of Chinese language education in higher education in the United States. The former is presented as an interactive digital map detailing the spread of Chinese language instructional programs in higher education, and the latter through a multimedia essay that examines how Chinese language pedagogy has evolved over time. This project is presented on Manifold, a publishing platform developed by the Digital Scholarship Lab at the Graduate Center of the City University of New York (The CUNY Graduate Center) in collaboration with the University of Minnesota Press and Cast Iron Coding.

This project contributes new perspectives on the study of teaching Chinese as a Second Language. The study of the relationships between space and Chinese language education has been minimal. Most of the studies of teaching Chinese as a Second language have focused on second language acquisition, grammar, pedagogy, and so on. Revealing the relationships between space and language teaching will open up new areas of exploration in Chinese language education studies because activities are shaped by the time and spaces in which they take place.

The underlying theoretical assumption of the digital map that I proposed was the contagious theory. This theory suggests that Chinese language education in colleges and universities has happened in proximity. Schools located in proximity tend to learn from each other. When initiating a Chinese

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<sup>1</sup> Zhao, Jing. "Spatial Distribution of Chinese Language Education and Historical Development of Chinese Language Pedagogy in Higher Education in the United States." <http://cuny.is/chinese-pedagogy>.

language program, a college or university would usually be affected by other schools of similar types or proximal in locations. Exploration on the assumption still has to be conducted after the program is completed.

I argue in the multimedia essay that Chinese language pedagogy at college level in the United States has been impacted by domestic and international socio-political environments. The United States federal government has played a pivotal role in influencing Chinese language pedagogy and directing its development. The major trend in the development of Chinese language pedagogy at the college level in the United States is from domination of a single pedagogy to diversified pedagogies and from emphasis on isolated language skills to using language for communication and cultural understanding. The development trend corresponds to the changes in domestic and global socio-political environment federal government funding that was provided because of such changes.

## 2. Impetus for the Project

As a teacher, I have taught various Chinese language and culture courses for a decade in various programs in China and the United States. Most of my students are college students from or in the United States. Meanwhile, I have taught Chinese language and culture courses at CUNY for four years. Therefore I have developed strong interests in what the current situation of Chinese language education at the college level in the United States is and how it has been developing.

The project drew its inspiration from my final project while taking courses at the Interactive Technology and Pedagogy (ITP) program. At first, I was going to conduct a text analysis of

academic papers on the use of technology in Chinese language education at college level in the United States. This idea proved to be not feasible because some of the major challenges encountered. First, there was an enormous amount of academic papers on the topic, and it was difficult to narrow down the search results I found on the website of the CUNY Graduate Center library. Second, after I limited my searching results, downloaded the academic papers and aggregated them in a \*.txt file, I used Voyant Tools<sup>2</sup> to analyze the text. However, the results that Voyant Tools yielded did not reveal any patterns that were worth analyzing. The results were based on quantified analysis of the program: word frequency, trends and collocations of most frequently used words, and so on. Interpreting them and discovering useful patterns for research relied on extensive knowledge of the topic, which required qualitative analysis through manual reading, which would defeat the purpose of machine reading and therefore the project was not successful.

In the next step, I accepted the advice from experts who listened to my final presentation of the ITP program. I started to use Voyant Tools to analyze curriculum descriptions of Chinese language programs in more than 140 colleges and universities in the United States collected through the search engines of collegeboard.org, in the hope of revealing useful patterns or trends for analysis. But again, it was difficult to observe any trends or patterns. After a discussion with my advisor, I decided that text analysis was not suitable for the project and took his advice by starting a thorough qualitative research on the priority of the four skills of Chinese language education in colleges and universities in the United States: listening, speaking, reading, and writing, through examining the curriculum descriptions.

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<sup>2</sup>“Voyant Tools.” Voyant Tools. Accessed December 18, 2019. <https://voyant-tools.org/>.

I changed the directions of the project because of the shift in my teaching experience. Based on my teaching experience, I felt that a distinctive feature of Chinese language education in colleges and universities in the United States, compared to that in China, was that it emphasized listening and speaking over reading and writing. My formal practical training of Chinese language education started in audio-lingual American summer language programs in China, where the primary goal of teaching Chinese language was to ensure that students spoke fluently and accurately. The courses I taught in these programs were mainly drill instruction classes. After I came to the United States and started teaching at Hunter College, I received more practical training on different pedagogies and started to consider incorporating other language skills, such as reading and writing, in my teaching. It was then that I realized that I did not receive much systematic training in teaching reading and writing. In addition, I was taking classes on teaching writing at the CUNY Graduate Center while teaching at Hunter College, so I was curious how other colleges and universities taught Chinese language courses. Do they focus on speaking, as some audio-lingual elite universities in the United States do, or do they have other priorities in their teaching practice? This question prompted me to dig deeper into the development of Chinese language pedagogy at college level in the United States.

After a thorough investigation of the curriculum, the result was that almost all of the colleges and universities investigated stated that they pay attention to the overall development of the students' language proficiency. Most of them said that they focused on improving all of the four skills and some of them declared that they also focused on cultivating students' ability to communicate in real contexts. Few of them said that their focus on lower-level students was speaking. Therefore I began to explore the audio lingual method, a pedagogy with which I was most familiar, on a larger

scale by examining what pedagogies had been influential in Chinese language education at college level in the United States and how and when they evolved. The theme of the project thus shifted to the history of Chinese language education at college level in the United States.

First, I conducted a literature review and built the basic framework of the project by establishing historical periods of Chinese language education in the United States. Then I realized through my research and my teaching experience at the Chinese Flagship program at Hunter College that federal funding might have had a significant influence on Chinese language teaching in the United States. Therefore I dug deeper into this topic and found and read several government publications and reports on government-funded language programs, including *Study Of Foreign Languages And Related Areas: Federal Support, Administration, Need, A Report on the First 5 Years of NDEA Language and Area Centers, National Defense Education Act (NDEA) (P.L. 85-864) United States Statutes at Large, NDEA and Modern Foreign Languages, and Linguistics and the NDEA*. The publications introduced the historical significance on how federal government funding transformed the learning goals, pedagogy, institutional structures, scales, and status of Chinese language education at college level in the United States.

The next step was to study the pedagogy of each period. I began with the Audio-Lingual Method, and then extended to other pedagogies, such as the Grammar-Translation Method, the Communicative approach, and Proficiency-based Instruction. I identified influential higher education institutions, such as Harvard University, Yale University, and the Defense Language Institute and discovered programs that had been critical to historical development of Chinese language pedagogy, such as the National Defense Education Act (NDEA) and the Chinese Flagship program. I also found some professional organizations that influenced Chinese language

education, such as the Modern Language Association (MLA) and the American Council on the Teaching of Foreign Language (ACTFL). Besides, representative textbooks of each period were discovered. The next step was to read through the materials, sort through the complicated relationships among them, and organize them in a way facilitate the illustration of the trajectory of pedagogical development of Chinese language education.

While I was finishing the initial research, I also discussed with my advisor whether to write a research paper or to complete a capstone project for graduation. I found out that there was limited research on the geographical distribution of colleges and universities that offer Chinese language education, and digital mapping tools may shed some light on this issue. Therefore I decided to make a digital map on this topic.

Although spatial studies of Chinese language education in the United States is still very limited, if any, existing research has started to focus on the relationship between space and educational activities. Relevant research usually focuses on the relationship between space and educational equality, such as school segregation, education and income, and racial distribution.<sup>3</sup> Research on space and Chinese language education in the United States is very rare. To conduct such research, one has to at least have a general idea of where Chinese language education is happening. This is what this map does. It is a foundation for studying the correlations between Chinese Language Education, which may lead to new research topics through the interpretation of the patterns in such correlations.

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<sup>3</sup> Baroutsis, Aspa, Barbara Comber, and Annette Woods. "Social Geography, Space, and Place in Education." *Oxford Research Encyclopedia of Education*, 2017.  
<https://doi.org/10.1093/acrefore/9780190264093.013.115>.

Another use of the map is to help Chinese language educators teaching in the United States and students who would like to study Chinese at the college level to locate and find the colleges and universities they need. Many Chinese language instructors teaching in higher education in the United States are from outside the United States. Therefore they may not have a clue of where to look for jobs in such a vast country or in a specific area where they intend to work. This map is very inclusive and can provide efficient services to them. With this map, they can quickly locate schools they need and have more options at an instant. Students in the United States who are going to enter into higher education may not have considerable knowledge of where the colleges and universities that offer Chinese programs are either. This map can also serve as their guidance in understanding the distribution and information of such universities and colleges, and ultimately making more informed decisions.

### 3. Literature Review

Literature on using digital humanities methods to study teaching Chinese as a second language was almost non-existent. Most of the studies on this topic focus on traditional areas such as linguistics, applied linguistics, pedagogy, teacher training, second language acquisition, educational technology, and so on. Therefore the literature review will focus on literature on digital humanities and how they impacted this project.

As a nascent discipline, Digital Humanities are still subject to a lot of building and construction. Therefore there are considerable discussions around the nature of the field and its relationship with theory. For example, in *Debates in the Digital Humanities* 2016, there are detailed discussions



around this problem. Among them, Katheleen Fitzpatrick<sup>4</sup>, Ramsay and Rockwell, Johanna Drucker, Willard McCarty, and Tom Scheinfeldt<sup>5</sup> have provided significant insights on these issues.

Katheleen Fitzpatrick's reflections on the scope of digital humanities as a discipline prompted me to think about how to structure my project as a digital humanities project. My project used digital technologies to solve problems in education. Does that make it a digital humanities project? Or is there more to my project? This project is about both making and interpreting. She points out the problem of binary thinking, which creates silos that separates reality through creating clear boundaries. These boundaries, as Fitzpatrick says, are "arbitrary". A digital humanities project is both technical and humanistic. The technical methods and instruments present humanities issues, which in turn dictates how technology is deployed. The methodologies of the project is both and humanistic and technological. The map and the multimedia essay complement each other not only because they have different main functions, describe and interpret, but they also have each other's functions: the map itself contains the interpretation of the creator and the essay provides description of Chinese language education in the United States. They are a holistic system, and may not be separated from each other to achieve the effect of introducing Chinese language education.

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<sup>4</sup> Fitzpatrick, Kathleen. "The Humanities, Done Digitally." *Debates in the Digital Humanities*, January 2012: 12–15. <https://doi.org/10.5749/minnesota/9780816677948.003.0002>.

<sup>5</sup> Scheinfeldt, Tom. "Where's the Beef? Does Digital Humanities Have to Answer Questions?" *Debates in the Digital Humanities*, January 2012: 56–58. <https://doi.org/10.5749/minnesota/9780816677948.003.0006>.

Ramsay and Rockwell discuss whether building digital projects is scholarly work.<sup>6</sup> Traditionally, only discourse was considered scholarship and digital projects alone, such as a software or online program, are considered products of the technology community. However, with the emergence of digital humanities projects made by scholars traditionally in the field of humanities, the concept of what is scholarship is challenged. Whether discourse, or a most representative element of typical scholarship, is contained in the digital humanities project is also discussed in the article. This discussion inspired me to think about how to structure my project. Because the purpose of the whole project is to introduce and explore Chinese language education at college level in the United States, the mapping project alone is too limited to achieve this goal. Knowledge comes in various forms.

Johanna Drucker has further developed this topic. She discusses whether digital humanities projects could resolve the fundamental conflicts between the methods traditionally used by the humanities and data-driven quantitative digital methods. She emphasizes several important characteristics of a quality digital humanities project, and one of them is situatedness, which means that because digital humanities projects are based on quantitative data, a fragmented and reduced representation of the complicated phenomenon of the humanities, they should be situated in context to be interpreted to achieve the purposes of the humanities, which she quoted from McGann: “creation, migration, or preservation of cultural materials.”<sup>7</sup> In my project, the map is

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<sup>6</sup> Ramsay, Stephen, and Geoffrey Rockwell. “Developing Things: Notes toward an Epistemology of Building in the Digital Humanities.” *Debates in the Digital Humanities*, January 2012, 75–84. <https://doi.org/10.5749/minnesota/9780816677948.003.0010>.

<sup>7</sup> Drucker, Johanna. “Humanistic Theory and Digital Scholarship.” *Debates in the Digital Humanities*, January 2012: 85–95. <https://doi.org/10.5749/minnesota/9780816677948.003.0011>.

based on data such as program starting years, program affiliations, states, and so on. She points out the effectiveness of visualization and processing techniques for current humanities projects: positivistic, strictly quantitative, mechanistic, reductive and literal<sup>8</sup>. Although not all of them are quantitative, they are still in a reduced and fragmented state so that computers can process them. However, this method renders the map subject to situated interpretations, or the data per se do not have a lot of meanings. Although the map is interpretive in its own right, to convey knowledge and cultural materials, it is better to employ other forms of expression, especially textual discourse, which has the characteristics that can overcome the shortcomings of current visualization and digital techniques.

In *A Telescope for the Mind?* Willard McCarty discusses the role that digital technology plays in the humanities. Is it just for dealing with “drudgery”<sup>9</sup> or does it have more than that? His discussion corresponds with other scholars in raising awareness of perceiving and understanding the nature of digital humanities projects: why are they different from traditional humanities projects? Are they simply an addition of digital products and discursive analysis? What are the relationships between the two and even, are there distinctive boundaries between them in a digital humanities project? I keep reflecting on this question during the process of making the digital project. For example, what components should be included? What are the relationships among the components? What questions do they address? And why are they structured in this way? Ideally, the digital and humanities components are naturally blended together in the project. They perform both

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<sup>8</sup> Drucker, Johanna. “Humanistic Theory and Digital Scholarship.” *Debates in the Digital Humanities*, January 2012: 85–95. <https://doi.org/10.5749/minnesota/9780816677948.003.0011>.

<sup>9</sup> McCarty, Willard. “A Telescope for the Mind?” *Debates in the Digital Humanities*, January 2012: 113–23. <https://doi.org/10.5749/minnesota/9780816677948.003.0013>.

descriptive and interpretive functions. Both components mutually influence each other. Although it is difficult to achieve this goal in practice for a new person in digital humanities, I still strived to do my best.

Histories of Chinese language education in the United States usually focus on the historical facts and/or pedagogy of each period. Literature on this topic abounds. For example, Tsu (1970)<sup>10</sup> and Yao and Zhang (2010)<sup>11</sup> build basic frameworks and records milestones in the history of Chinese language education in the United States. Li (2015)<sup>12</sup> introduced and analyzed influential Chinese textbooks in the United States. Ning (2001)<sup>13</sup> investigated the historical development of Chinese language textbooks at college level in the United States and commented on the pedagogy reflected in the textbooks. Zhou (2011)<sup>14</sup> and Meng (2017)<sup>15</sup> analyzed policies and socio-political factors

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<sup>10</sup> Tsu, J. B. “The Teaching of Chinese in Colleges and Schools of the United States”. *The Modern Language Journal*, Vol. 54, No. 8, 1970: 562-578.

<sup>11</sup> Yao, Tao-chung; Zhang, Kuang-tien. “Chinese language instruction in the United States: A look at its history and current status (美国汉语教学历史回顾与现状).” *Chinese Studies in North America: Research and Resources (北美中国学: 研究概述与文献资源)*. Beijing: Zhonghua shu ju, 2010: 773-784. (Text in Chinese)  
<https://scholarspace.manoa.hawaii.edu/bitstream/10125/23236/1/Chineselanguage.pdf>

<sup>12</sup> Li, Ying. “History of Chinese Language Education and the Development of Chinese Textbooks in the United States.” *Chinese America: History and Perspectives – The Journal of the Chinese Historical Society of America*, 2015: 75–81.

<sup>13</sup> Ning, Cynthia. “Second-Language Studies and College-Level Chinese-Language Textbooks in the United States.” *China Review International* Vol. 8, No. 1, 2001: 34-56.  
doi:10.1353/cri.2001.0038.

<sup>14</sup> Zhou, Minglang. “Chapter 9 Globalization and Language Order: Teaching Chinese as a Foreign Language in the United States.” *Teaching and Learning Chinese in Global Contexts : Multimodality and Literacy in the New Media Age*, edited by Linda Tsung and Ken Cruickshank, London: Continuum International Publishing Group, 2011:131–149.

<sup>15</sup> Meng, Yanhua. “Analysis of Policy Changing in the History of Chinese Teaching in the U.S.A.” *Sinologia Hispanica, China Studies Review*, Vol. 2, 2017: 49-62.

on Chinese language education in the United States. Wang and Ruan (2016)<sup>16</sup> provided a comprehensive overview of the historical development of Chinese language education at college level. Some universities, such as Harvard and Defense Language Institute provided detailed history on Chinese language education of their schools.

## 4. Methodology/Theoretical Framing

In view of the conclusions made through the literature review, this project delineates the diachronic development of Chinese language pedagogy in colleges and universities in the United States through various media forms, including text, sound, video, and image. They are employed to depict the social background, organizations and important individuals, introduction of theoretical support and pedagogical approaches, representative textbooks, and classroom instruction.

This project is also methodologically inspired by concept of “the annihilation of time and space” from Schivelbusch (1986).<sup>17</sup> This book discusses how technology significantly changed the perception of time and space in the early industrialized era through the example of how trains changed people's views of the scenery along the railway lines to prove its argument. This argument made me understand the importance of using various media forms to convey the information and idea of my project from another perspective. As far as I know, before the advent of this project,

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<sup>16</sup> Wang, Wenxia, and Ruan, Jiening. “Historical Overview of Chinese Language Education for Speakers of Other Languages.” *Chinese Language Education in the United States*, Cham, Switzerland: Springer International Publishing Switzerland, 2016: 1–28.

<sup>17</sup> Schivelbusch, Wolfgang. *The Railway Journey: The Industrialization of Time and Space in the Nineteenth Century*. Berkeley, CA: University of California Press, 2014. Accessed January 16, 2020. [www.jstor.org/stable/10.1525/j.ctt6wqbk7](http://www.jstor.org/stable/10.1525/j.ctt6wqbk7).

the perception of geographical distributions and other related information of colleges and universities that offer Chinese language programs was mostly through combining geographical locations and such colleges and universities in one's mind. This project may lead to more discoveries of spatial distributions of these colleges and universities.

The project was also inspired by theories of multi-modal learning and experiential learning. According to the theories, people have different learning types. For example, some are more used to using visual aids to understand knowledge while others are more likely to respond to numbers or words. Because one of the goals of the project is to introduce Chinese language education in the United States to potential audience, which is very complicated and distant from the present, using various media forms would give the audience more options to understand it. They can choose the way that they are most familiar with as a starting point for the multimedia essay and understand it with the help of other media forms. If they like to acquire knowledge through manipulation of objects, they could start with the interactive map.

According to the theory of experiential learning, people have various direct and indirect experiences, and tapping into them is an effective way of acquiring knowledge and creating new knowledge. In addition, when learning knowledge, the best way is to experience it in various ways, for example, to touch, to hear, or to see it, rather than just read it through words. In this way, a learner can have a more comprehensive understanding of the knowledge, which may trigger more knowledge of the learner to create new knowledge. The combination of a multimedia essay and an interactive map can leave a more vivid impression of the history to the audience so that they can enter into the history more easily. Because the history of Chinese language education spans for

more than a century, it is sometimes difficult to empathize with how a language was taught in the United States in earlier periods because it is far away from most people's lives.

is especially true for Chinese, a language that is still not commonly taught in the United States. For example, the videos of the Defense Language Institute cited in this project vividly introduce the historical background and classroom instruction in the 1950s and 1960s. The narratives interpret and complement the moving images to reproduce the real scenarios at that time. The video excerpts of the language lab of the DLI demonstrate what it was like to study in an audio-lingual language lab in the 1950s and 1960s, while the narration complements the videos by explaining how human behaviors are combined with the affordances of technology to achieve the objectives of the Audio-Lingual Method. The video shows the serious faces and the intense classroom atmosphere, which helps the audience understand even better the mechanical nature and intensity of the Audio-Lingual Method. The affective and perceptual factors that language, especially academic language, alone cannot express, are effectively conveyed in the moving images.

Combining texts and videos can also provide the audience with a relatively more complete picture of the moments in history by activating their various organ sensors. When the audience can experience history through not only language, but also through other media, all of their senses are activated to experience history in different ways. For example, because the text is linear whereas the videos and images are not, the audience can capture more information of interest to them than what the author tries to convey through only texts. The videos here have enriched the meanings

and contents of the whole project. Both the reader and the author can benefit from the mixed use of multimedia contents.

My multi-media essay was influenced by many scholars. First, it was my advisor that suggested the idea of multimedia essay as part of the project along with the digital map. In the courses I took from the Urban Education program at the CUNY Graduate Center I understood the rationale of adding the multimedia essay. I gained tremendous knowledge on holistic and systematic thinking in these courses. Based on this way of thinking, a digital map by itself was limited in describing Chinese language education as it revealed only part of the picture through quantitative data, which was fragmented by nature. In other words, data, especially quantitative data, was only a segment analyzed and abstracted from reality. Every piece of data was reduced compared to the piece of reality that it seemingly represented and piecing them together did not make a very holistic picture. A map showing different colors that represented various meanings composed of the data may help reveal underlying patterns that linear texts could not do, but what did the patterns really mean depended on the interpretation of the authors and readers through contexts and backgrounds of the patterns. Reduced and disconnected data, even when they were demonstrated in patterns, needed to be interpreted in context to be meaningful. Context, which contained colossal information, was better represented in discourse. An essay was thus less fragmented and was more of a narrative that could offer interpretation and background to complement the map and tell the rich stories that the map was unable to represent. For example, what factors have influenced the emergence of the spots on this map in different colors? Why did more Chinese language programs emerge in a certain period than others? The answers to these questions might rely on reading of the multimedia essay.



Theoretically, this project follows the various pedagogies in history and analyzed them through their supporting theories. Linguistics, psychology and education are three main fields from which Chinese language education draws its theories, therefore the three aspects are the focus of the theoretical introduction when introducing the main pedagogy of each period. In narrating the historical development of Chinese language pedagogy, the project not only emphasizes the transformation of pedagogy per se, but also focus on the historical context of the development, such as political and economic factors that caused changes in pedagogy.

The map project used Modern Language Association (MLA) enrollment data as the basis for generating the digital map. I learned the database thanks to my professor of a mapping and education course that I took at the CUNY Graduate Center. To create the map, I downloaded the complete enrollment data set from the MLA website.<sup>18</sup> It contained information about universities and colleges that offer foreign language courses. Many universities in the United States reported to MLA yearly on their foreign language programs, and MLA collected the data and compiled an excel sheet. However, to make a digital map, I also needed a shapefile that contained the geo-coded information about the above colleges and universities in the United States. I obtained one from the same professor on the website of the National Center for Educational Statistics (NCES). This file contained the above information of all of the colleges and universities in the United States. The excel sheet was connected with the shapefile through Tableau so the information in the excel sheet could be overlaid on specific locations in a digital map. As a result, the audience could find information about a specific university location by simply clicking on it or hovering over it.

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<sup>18</sup> Language Enrollment Database, 1958–2016, February 23, 2018.  
[https://apps.mla.org/flsurvey\\_search](https://apps.mla.org/flsurvey_search).

Cleaning the data proved to be one of the most challenging steps in the map-making process. First, I picked out data entries for the Chinese language and copied and pasted them to a google excel sheet because the downloaded excel sheet contained data on many languages. Then I went through the excel sheet further to select data entries that contained the earliest years of a college or university with Chinese language programs reporting to the MLA. For example, there were 15 data entries for Beloit College, which reported to MLA from the Fall Semester of 1968 to the Summer Semester of 2016, and the first entry was saved in the final excel sheet. There was an enormous amount of data to process manually, which was time consuming. After examining more than 200,000 data entries, I compiled a final list that contained the information on approximately 1,000 colleges and universities.

The next step is to select the columns useful for making the final project. There were many columns in the final excel sheet, including INST\_ID, SRVY\_YEAR, TERM, YEAR&TERM, UNIV, CAMPUS, NCES\_ID, UNIV\_NAME\_HISTORY, CITY, STATE\_ID, STATE, MLA\_ICLEVEL, LANG\_CODE, LANGUAGE, UNDERGRAD\_1\_2, UNDERGRAD\_3\_4, UNDERGRAD\_TOTAL, GRAD\_TOTAL, ALL\_LEVEL-TOTAL, LANG\_REGION, OTHER\_LANG, GEOGRAPHY\_CODE, N\_RESP, ZERO\_ERL. But before I started making the map, I did not know which columns to delete and which to keep. After a discussion with my advisor, I decided to keep the following columns: the program starting years, school names, states where the universities and colleges were located, NCES\_ID, and add one more column: school types, because they were reflective of the trend of Chinese language education in colleges and universities in the United States and essential for connecting with the shapefile.

Another challenge in cleaning the data was identifying colleges and universities that changed their names. The NCES\_ID column was the key to combining the excel sheet with the shape file. I examined the ID numbers of colleges and universities on the final list to eliminate duplicate entries so that they did not cause any problems when combining the excel sheet with the shapefile. Some universities and colleges were closed. After examining some data entries, I discovered that some colleges and universities were the same but they changed their names because they shared the same NCES\_ID. Some of them became larger through mergers with other higher education institutions. For example, Radcliffe College started reporting to MLA on their Chinese language programs in the Fall semester of 1960, but in 1999 it became part of Harvard University. Therefore it was a question to decide whether they should be considered as two universities or one university. The UNIV\_NAME\_HISTORY column in the excel sheet documented the merger between the two higher education institutions. The NCES\_ID of Harvard University was 166027, and Harvard University started reporting to MLA in 1958. According to the excel sheet, Radcliffe College began to report to MLA in the Fall Semester of 1958 as well. However, its NCES\_ID was 167561. Based on the Excel sheet, Radcliffe College and Harvard University were considered two separate entities. However, because the shapefile could only mark colleges and universities currently existing, it would be more practical to consider them as one entity since their Chinese Departments have merged as well.

Some of the colleges and universities changed their names. They would be considered one entity with different names because they shared the same NCES\_ID. Few of the colleges and universities were closed, but the shape file only contained information on those that are still running in the United States. Therefore, such colleges and universities were excluded. In addition, some large

public university systems such as penn state university and purdue university, CUNY, and Ohio State Universities, had many campuses, and each of the campuses had its own Chinese Department. Therefore I had to decide whether they were one university or several universities based on their NCES\_IDs.

For example, the CUNY system had several such campuses: Queens College, Hunter College, Borough of Manhattan Community College, John Jay College, and so on all have their own Chinese Department. These campuses were relatively independent, and they had different NCES\_IDs. Besides, all of them were existing colleges. Therefore they were different data entries on the excel sheet.

I also encountered some challenges when joining the shapes file with the excel sheet. At first, Tableau kept reporting errors on connecting the two files so I searched on google to find a solution. However, after I applied some of the solutions according to the instructions from online forums, it still did not work. I looked through more search results on google and found that the order of uploading and joining the two types of files mattered. The correct order was to upload the shapefile first before connecting it with the Excel sheet. Then I used the “string” command to make sure that the property of data in the excel sheet was text so that it could be connected to data in the shape file.

After the data from the Excel sheet was connected to the shapefile, I discovered some problems in the data: first, some colleges and universities were not displayed on the map due to mismatches between the data entries in the excel sheet and the shapefile. The problem was solved after the

Excel sheet was modified. Second, the earliest start date of Chinese programs in the Excel sheet was 1960. However, according to other reliable academic sources, some universities and colleges, such as Yale and Harvard, established their Chinese programs in the late 1800s. Even though there were some inaccuracies, I still decided to use the Excel sheet as the basis for program starting years because I had searched for more than 140 websites of colleges and universities that offered Chinese language programs and found that very few of them offered data on their history or when their programs started. However, after cleaning this data sheet, I had almost 1,000 data entries that could serve as the program starting years. Because the number of Chinese language programs was relatively small before the National Defense Education Act (NDEA) was passed in September 1958, the problem would most probably affect a small group of Chinese language programs founded before the 1960s, whose program starting year information might be easier to obtain because of their high status in the field. I have collected information on program starting years on some colleges and universities through academic papers and other sources and will correct it in the Excel sheet to make the data in the project more accurate.

Another problem was that the descriptions on school types I collected were very detailed. Unlike the program starting years, the school type data was collected through collegeboard.org<sup>19</sup> and internet searches. I copied and pasted the names of the colleges and universities in the final list to the college search engine of collegeboard.org, and then copied and pasted the corresponding school type descriptions back to the final list. For example, San Francisco State University was a “large,

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<sup>19</sup> “The Collegeboard Homepage.” The College Board - College Admissions - SAT - University & College Search Tool. Accessed December 23, 2019. <https://www.collegeboard.org/>.

4-year, public university”,<sup>20</sup> and Vassar College was a “medium-sized, 4-year, private liberal arts college.”<sup>21</sup> Therefore, there were so many different school types in the Excel sheet that it became very complicated to present it on the map. After a discussion with my advisor and some experiments on the digital map, I decided to keep only the most basic types: 2-year colleges, 4-year private universities, 4-year public universities, and graduate and professional universities. Because at this stage, it was not easy to see the correlations between the various school types. In this way, the categories could at least fulfill the need of a general audience and become something they could use to find what they need. For example, if a student who would like to attend a public 4-year university was looking for a Chinese language program, he/she could simply check the 4-year public university tab for desired results.

The capstone project was a deep learning curve through which I learned how to choose and use digital tools to accomplish my goals. Before being introduced to Tableau, I learned how to use ArcGIS in my mapping course. I gained first-hand experience on making digital maps and grasped some important concepts on digital map-making. In addition to the course, I also went to workshops offered by the Digital Fellows at the CUNY Graduate Center, where I gained knowledge on various tools for making digital maps, such as CartoDB, ArcGIS Online, and Tableau. I decided to use Tableau because it was free and easy to use. I did not realize how convenient it was to add textual information to a certain location and have it displayed when the

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<sup>20</sup> “San Francisco State University: SF State: The College Board.” San Francisco State University | SF State | The College Board. Accessed December 23, 2019. <https://bigfuture.collegeboard.org/college-university-search/san-francisco-state-university?searchtype=college&q=San+Francisco+State+University>.

<sup>21</sup> “Vassar College: The College Board.” Vassar College | The College Board. Accessed December 23, 2019. [https://bigfuture.collegeboard.org/college-university-search/vassar-college?searchtype=college&q=Vassar+College+\(NY\)](https://bigfuture.collegeboard.org/college-university-search/vassar-college?searchtype=college&q=Vassar+College+(NY)).

cursor hovers over the location until I used Tableau. After using Tableau for my project, I found it increasingly appealing compared to ArcGIS and other professional mapping tools. It was such a user-friendly mapping tool that functions like setting up filters became highly intuitive. What a blessing it was for me, a beginner of digital mapping. In addition, many basic functions of Tableau was free of charge, making it an ideal tool for students like me. Last but not least, it was also a powerful tool for making interactive maps, compared to ArcGIS online, which was very slow on regular computers and required subscription.

Overall, methodologically, this project made me understand the advantages and disadvantages of data and various forms of representation and how to use them to complement each other to achieve the best effect. Even though I was doing a digital humanities project, data and the digital component should not become the only form of representation. In addition, how to choose the right digital tools for various components of a digital project was also what I learned through doing this project.

## 5. Evaluation of the Project

The project has met my learning goals, although it changed dramatically from the original conception. Carrying out this project was an effective way of exploring and practicing how to conduct a digital humanities project. I was able to put what I learned at the Master of Liberal Studies program into practice, and find what. For example, I gained practical skills on how to find and decide on a topic for a digital humanities project, whether the topic was suitable for a digital humanities project and in what possible forms; how to narrow down the scope of the project, how to choose the tools for various stages and purposes for a digital humanities project, how to carry

out research, write research papers, and present the project, and how to seek help and resources to solve problems encountered during the project.

As an educator, I have enriched myself with abundant knowledge of Chinese language teaching and learning that I had not known before. In addition, I also gained a broader understanding of the development of Chinese language education in colleges and universities in the United States. I formed my own methodology on how to organize the knowledge so that it became useful for understanding my field and reflecting and improving my teaching. I also have a better understanding of the existing Chinese programs in colleges and universities in the United States and their pedagogy. It is also useful in advancing temporal and geographical research on the history of Chinese language education. I also developed my own understanding of how to write history through various aspects. When I hear a new pedagogy or new Chinese language program, I can situate it in a historical and spatial context to understand it. This process helped me develop and organize my thinking and thus my critical thinking skills.

As a second language user, academic writing in English has always been a challenge for me, because during the writing process, not only do I need to consider what to write, I also need to think about how to write it. The content and language are separate in my mind and usually the language has slipped my mind already when the thoughts are formed in my mind. I also need to take care of various aspects of the English language, such as word choice, grammar, stylistics. Through editing my own writing and learning from my advisor's comments and suggestions, I developed decision making skills because I had to take out components that were too detailed or unnecessary for the essay to keep it concise and relevant.



Furthermore, I also learned through this project that theory and practice are not separate and should not be separated in teaching. I came to the realization that the reason that the trend of pedagogical development is toward holistic and communicative approaches reflects the trend of theory combined with practice. It means that each pedagogical framework is a theory, or an abstract framework about how the Chinese language should be taught, and for what purposes. No matter what the pedagogy is, it should ultimately help the language learners grasp the language. In the first two historical periods, Chinese language teaching was dominated by a single discreet pedagogy. In the latter two periods, as the field of Chinese language education developed in the United States, pedagogies, or theories of how people teach, started to diversify. Each college or university needed to choose their own larger theoretical framework based on their teaching practice. When theory lagged behind practice, new theories were developed to guide the practice in the new situation. Theory and practice interacted with each other, changing and reacting to the field itself and the outside world.

## 6. Continuation of the Project

I hope to use this project to apply for a PhD program related to Chinese language education in the United States to further my research on the spatial and temporal aspects of Chinese language education. I also hope to further research to further the spatial aspects of Chinese language education since it is a new field in the study. I still need to study more aspects in the spatial aspect of Chinese language education, and patterns of connections among the universities that offer Chinese language programs. I am going to keep adding to the existing map by refining the program starting year and collecting more data on new colleges and universities that offer Chinese programs.

I am also going to experiment with new digital tools to see more possibilities of collocations that the tools may be able to reveal. I will learn programming languages to reveal more complicated connections among the factors in the maps among the universities. Overall, this map will become a tool for introducing the trend of Chinese language education in the United States.

For the temporal part, I am going to look for more historical documents on Chinese language education in the United States, especially primary sources, in historical archives. I want to enrich the history of Chinese language education in the United States and make it more interesting. For example, teachers, textbooks, and pedagogy are three areas that are three focuses on the study of the field. Teachers are an aspect that needs to be strengthened in the research. I want to find teachers in the history of the united states Chinese language, especially for the last two periods.

Due to the time limit and my own limit in research abilities, only some of the representative pedagogies are presented in this essay. Moving forward, I will continue exploring more of the pedagogies influential in the history of Chinese language education in the United States to reveal a more comprehensive picture.

Overall, the project was a culmination of my graduate studies at the CUNY Graduate Center. It has met my requirement of learning, which is to understand how to conduct digital humanities projects and how to use technology in academic research. It is a holistic practice opportunity for me to practice and think all of my learning: the courses I have taken, the workshops and academic events I attended, the knowledge I have gained and the skills I have acquired. Moreover, I enhanced qualities that will benefit me for my whole life: patience, grit, communication, confidence, and critical thinking. I am truly thankful for this experience.

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