## The dynamics of student motivation in learning Chinese: A case study

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This paper investigates the dynamics of motivation in learning Chinese, prompted by the paradoxical trend of increasing interest in Chinese language study in the United States juxtaposed with low enrollment and retention rates. Incorporating the Complex Dynamic Systems Theory (CDST) (Larsen-Freeman & Cameron, 2008), this research delves into the motivational trajectories of students across various learning phases, considering their learning experiences and contexts within and beyond a Chinese summer program. Data analysis indicates an increased learning motivation during the program, attributed to (1) effective instructional methods, (2) skilled instructors, and (3) a conducive learning environment. A decline in motivation is observed a semester after the program, mainly because of diminished language exposure and limited chances for learning. This study provides insights into the temporal and dynamic dimensions of motivation. Implications for sustaining Chinese learning motivation within and beyond a program are also presented.

**Keywords:** Chinese Learning; Complex Dynamic Systems Theory; Dynamic Motivation; Learning Environment; Temporal Motivation

## 1. Introduction

The need for proficiency in critical languages in the United States has its origins in the aftermath of World War II. In recent years, the forces of globalization have led to a substantial expansion of K-12 public education in the country. Chinese has emerged as one of the most widely studied languages in the United States, driven by its critical language status and China's remarkable economic growth over the past decades. According to the National K-16 Foreign Language Enrollment Survey (2017) conducted by American Councils for International Education, Chinese language education has permeated school systems across 49 states. Approximately 1,145 schools and school districts offer Chinese language courses, enrolling more than 46,735 students collectively. However, amid this growth, it is crucial to acknowledge external factors influencing language education trends. Notably, the less-than-amicable political relationship between the United States and China, which began deteriorating during or even before the pandemic, could be a significant influencing factor. This strained political climate potentially impacts people's

willingness to study or work in China, thereby affecting motivation and enrollment in Chinese language courses. The 2023 census from the Modern Language Association underscores this concern, revealing a significant 16.6 percent decline in enrollment for courses in languages other than English across US higher education institutions from fall 2016 to fall 2021. Notably, Chinese language enrollments experienced a substantial decrease of 14.3 percent during this period. The five-year gap in the census, influenced by the pandemic, highlights the urgent need to address the challenges facing language education.

A deeper understanding of the intricate relationship between enrollment and retention in Chinese programs, particularly in the context of the "Chinese boom" phenomenon in the United States, is crucial for advancing Chinese language education. To effectively address this concern, exploring students' motivation for learning the language is valuable—a pivotal aspect recognized as a key determinant in achieving long-term success in language acquisition (Campbell & Storch, 2011; Dörnyei, 2003). This exploration can illuminate potential strategies to enhance the sustainability of Chinese language programs amid observed enrollment and retention challenges.

## 2. Background

Motivation exerts a substantial impact on language learning, a point consistently underscored by scholars such as Dörnyei (2005, 2014, 2017) and Ushioda (2009). The exploration of learning motivation has undergone a transformative journey, progressing from the socio-psychological period to the cognitive-situated period, then to the process-oriented period, and currently navigating the socio-dynamic period (Dörnyei & Ushioda, 2011). Informed by chaos theory (Byrne & Callaghan, 2013) and particularly influenced by dynamic system theory (Dörnyei, 2014; Verspoor et al., 2011), motivation, once viewed as a stable individual difference factor, is no longer perceived as such. Instead, researchers increasingly focus on the dynamic interplay between learners and the intricate, ever-changing environments (Dörnyei, 2017; Ushioda, 2009). According to Ellis and Larsen-Freeman (2006), motivation is "less a trait than fluid play, an ever-changing one that emerges from the processes of interaction of many agents, internal and external, in the ever-changing complex world of the learner" (p. 563).

The Complex Dynamic Systems Theory (CDST) has garnered increased recognition as a valuable framework for understanding language learning motivation. Specifically, CDST emphasizes the intricate interplay between language learners and their environment, underscoring the fluctuations in interconnected factors in a dynamic and temporal manner (Ushioda, 2009; Van Geert, 2008). de Bot et al. (2007) further characterize language development

within CDST, emphasizing its sensitivity to initial conditions, interconnected subsystems, the emergence of attractor states, and individual variation. Turner and Waugh (2007) extend the CDST perspective to perceive language learners as self-organizing systems within academic settings, where various aspects of cognitive processes related to learning, such as emotions, motivations, and behaviors, undergo dynamic interactions with both external and internal signals. In line with the CDST perspective, language learners are conceptualized as active participants within a dynamic system, interacting with variables and other participants over time, actively influencing and being influenced by their language learning experiences.

Over the past decade, the incorporation of CDST into motivation studies has witnessed a notable rise. Nevertheless, the utilization of the CDST framework in studies focused on language learning motivation remains relatively limited. Papi and Hiver (2020) approached language learning motivation as an intricate dynamic system, offering a comprehensive outlook on concepts like truth, control, and value. The study highlighted the dynamic processes and competitive interactions shaping language learners' choices and experiences. Li and Peik (2020) also adopted a dynamic systems theory model to investigate the motivation for reading among EFL learners in China. The study emphasized the dynamic associations and interdependencies among elements that impact reading motivation. Most recently, Gao et al. (2023) employed the CDST perspective to investigate the motivational trajectories of male English majors in higher education. The study revealed the intricate and dynamic nature of students' motivation, emphasizing the co-evolution of motivational dynamics with academic affordances. These findings underscored the need for a shift towards the CDST stance in motivation studies.

The expansion of Chinese language programs has spurred a significant increase in research dedicated to understanding Chinese learning motivation. The existing body of literature on the motivation of 'Chinese as a Foreign or Second Language' (CFL/CSL) learners spans a diverse array of factors, offering valuable insights into the nuanced nature of motivation. Researchers have invested considerable effort in discerning the factors that impact motivation. Notably, investigations into the relationship between instructional approaches and CFL/CSL student motivation (Ruan et al., 2015; Zhang, 2021) emphasized the pivotal role of situational factors in shaping motivational experiences, thereby providing essential considerations for pedagogical strategies. Additionally, studies on CFL/CSL learners' motivational factors have explored demographics and varied contexts. Wang and Yang's (2023) survey of Turkish CFL learners, for instance, identified integrativeness, attitudes toward learning situations, and attitudes toward learning Chinese as pivotal motivational variables. Cai's (2021) comparative study in Japan delved into CFL motivation types among learners of different ages. Xu and Moloney's (2019) study on the

motivation for acquiring Chinese language skills in the Australian setting distinguished between learners with Chinese heritage and those without.

What's more, motivation and language learning outcomes have been central to a few studies (Cai & Lynch, 2017; Li & Lynch, 2016). Wen (2011) conducted a study that delved into the perspectives and driving factors of three distinct groups: individuals proficient in two languages, those motivated by heritage, and non-heritage learners. The results emphasized that the most influential factor for both the level of motivation (current learning efforts) and the direction of motivation (future commitment to study) was the presence of "positive learning attitudes and experience." Additionally, "instrumentality" surfaced as the second notable predictor for the prospective continuation of studies, consistently receiving high ratings within all three subgroups. In a more recent context, Xu et al. (2022) investigated the impact of motivation, anxiety, and learning strategies on the online Chinese learning experiences of Thai learners. The findings indicated that anxiety stood out as the most consistent predictor of achievement in CFL learning within the online context, with learning strategies and motivation following closely behind.

Significantly, in conjunction with the socio-dynamic period and the introduction of CDST to research on language learning motivation, scholars have endeavored to explore the fluctuations and transformations in students' language learning motivation over time (Dörnyei et al., 2015). Within the realm of CFL/CSL, few studies have been conducted. Campbell and Storch (2011) explored the dynamic nature of motivation among language learners, focusing on the case of CFL. Conducted longitudinally and cross-sectionally, the study involved interviews with learners at various stages throughout a semester at a large Australian university. The study explored the reasons behind selecting a particular foreign language, the evolution of motivation over time, and the factors influencing these changes. The results indicated that learners' motivation was varied, intricate, and susceptible to changes. The study supported the idea that foreign language learner motivation was characterized by flux rather than stability within institutionalized learning contexts. The research highlighted the necessity for additional research on the motivation to learn CFL, considering the evolving global significance of China.

Gong et al. (2020) explored the changing motivation of 15 New Zealand students studying Chinese while experiencing a study abroad program in China. Through reflective journals and interviews conducted before and after the academic sojourn, the study revealed that most participants experienced heightened motivation upon arrival in China, expecting to sustain this motivation for future Chinese language learning. The study suggested the significance of study abroad experiences in sustaining CFL learners' motivation to study Chinese and emphasized the need for educational stakeholders to

offer real and meaningful communication opportunities that reflect the natural use of language.

Liu (2023) employed CDST to investigate university students' dynamic motivation to learn CSL during a semester of study in China. The study revealed a significant increase in participants' Chinese learning motivation, highlighting the dynamic and ongoing nature of motivation intertwined with learning goals and experiences. The research underscored the role of learning experiences in shaping motivation, suggesting that a supportive learning environment enhances students' intrinsic motivation. The paper called for continued research on the dynamic changes of L2 motivation in various learning contexts and languages, emphasizing the complexity of language learning.

Despite the valuable contributions of existing literature to motivation research within the CFL/CSL domain, it is worth noting that the exploration of motivation dynamics in Chinese language learning is limited (Gong et al., 2020; Liu, 2023). To enhance our understanding of motivation in the CFL/CSL setting, it is crucial to address motivation dynamics because of "the salience of the change of motivation over time" (Waninge et al., 2014, p.707). The present study addresses the gap in the literature by examining the dynamics and temporal fluctuations in motivation among 25 high school CFL learners, participating in a summer program within the United States, utilizing the CDST perspective. Particularly, this research investigates shifts in motivation for learning Chinese in connection to learners' learning experiences and contexts within and beyond the summer program. To gain insights into the intricate relationship between enrollment and retention in Chinese programs, the following research question is addressed:

How does the motivation of participants in learning Chinese evolve from the beginning, through the completion, to one semester following the conclusion of the Chinese summer program?

## 3. Method

### 3.1. Participants

This study centered on 25 high school students (referred to by pseudonyms), grades 10 through 12, native English speakers from US Midwest schools, who participated in a two-week Chinese summer program on a Midwest university campus. To ensure targeted information for the case study, purposeful sampling was applied.

### 3.2. Materials

As an extension of a mixed-methods research initiative (Yu, 2016), this case study was specifically focused on the qualitative component. To investigate

participants' motivation for learning Chinese within and beyond the program, a comprehensive set of qualitative data was gathered from various sources. These included two rounds of one-on-one interviews conducted at the program's conclusion and one semester after (see Appendix A for interview questions), four class observations throughout the program, participants' application letters for the program, the program curriculum, participants' discussion entries on *Blackboard*, and their journals. This multifaceted approach aimed to delve into participants' learning backgrounds, the learning environment, and the broader program context. Specifically, the time points for collecting data aligned with distinct phases in Dörnyei's (2005) process model of student motivation, delineated as the preactional stage ("choice motivation"), the actional stage ("executive motivation"), and the postactional stage ("motivational retrospection"). This temporal alignment provided a structured framework for analyzing motivation, offering insight into participants' motivational dynamics across different stages of the program and beyond.

## 3.3. Procedure

Employing a grounded theory approach (Strauss & Corbin, 1998), this study delved into students' experiences and motivation in learning Chinese within and beyond the program. Qualitative data were organized and coded using the *MAXQDA* software, involving a sequential process of open coding, axial coding, and selective coding. To enhance the validity and credibility of the findings, validation strategies such as triangulation of multiple data sources and member checking with participants were employed.

## 4. Results

During the analysis, two open codes, "curiosity" and "practice" emerged. The former reflected moments when students expressed curiosity about learning Chinese before the program, while the latter signified instances where students reported actively practicing the language during and after the program. These two open codes were subsequently incorporated into the axial codes "willingness to learn" and "using Chinese," respectively. Aligned with the learning stages where the codes emerged, the two axial codes were categorized under the selective code "from eagerness to practical application." This overarching category highlighted the participants' journey, showcasing the transformation from their initial eagerness to learn Chinese to the practical application of language skills. Concurrently, the analysis unveiled seven selective codes, as detailed in Table 1 (below). These codes illuminated three motivational variables: learner engagement, learning progression, and learning context, playing pivotal roles in shaping participants' motivation within and beyond the program.

Table 1
*Codes for Each Motivational Variables with Examples*

| Variables | Code | Example |
|---|---|---|
| Learner Engagement | From Eagerness to Practical Application | "I've always been curious about Chinese characters and wanted to learn...... Just yesterday, I wrote my Chinese name! My classmates and I even started greeting each other in Chinese. It was so cool." |
| | From Aspirations to Actionable Plans | "I really want to visit China, not just as a tourist, but I'd love to chat with the locals......I might start practicing with a few friends - they're international students from China at my school." |
| | From General Desires to Specific Proficiency Goals | "I want to learn more. I want to chat about all sorts of things in Chinese, just like we do in English." |
| Learning Progression | From Uncertainty to Confident Commitment. | "This program makes me feel more confident about learning Chinese. It motivates me to stay committed to my studies." |
| | From Initial Challenges to Achievable Goals | "In the past two weeks, the whole idea of learning Chinese being mysterious and intimidating has started to fade for me. It's still a bit tricky, but now it feels more like a 'I can manage this' kind of difficulty rather than something completely out of reach." |
| Learning Context | Motivating Influences | "I currently have eight stamps on my record. I plan to practice tonight and meet with the teacher tomorrow to complete a new Can-Do conversation." |
| | Demotivating Influences | "I haven't been keeping up with my Chinese lately since we don't have any classes for it at school. I feel like I'm slowly losing the Chinese I picked up during the program." |

Specifically, learner engagement portrayed the active involvement, interest, and commitment of the participants in the learning process; learning

progression illustrated the continuous and systematic advancement of participants' knowledge, skills, and understanding of the Chinese language; learning context was where the learning took place, including physical surroundings, social interactions, and cultural factors. As such, Integrating the firsthand perspectives of participants from the summer program into the learning environment fostered a more nuanced and contextually rich comprehension. The three overarching motivational variables (see Table 1), collectively delineated the participants' motivation dynamics and contributed to a holistic and effective Chinese learning journey within and beyond the program.

## 4.1. Learner engagement

### *4.1.1. From eagerness to practical application*

Before the program, participants took part in online discussions. To prime students for their learning experience, instructors led two discussions, held a month and two weeks prior to the start of the program. Each discussion, sparked by a video introduction to China or Chinese characters, aimed to familiarize students with their upcoming study topics. Open-ended questions were used to encourage critical thinking and dialogue, with all participants actively contributing. Given that this was their first experience learning Chinese, they delved deeper than just the video content, raising questions, and seeking additional information about the Chinese language and its learning process online to enrich the discussions. For instance, Miranda drew comparisons between Chinese characters and English words, presenting her thorough, one-page reflection to the group during the discussion. As she highlighted in her reflection, "This is an eye-opener for me. I researched extensively, and I find Chinese characters truly fascinating!"

During the program, participants were deeply involved in learning. They actively paid attention to the teachers, showed enthusiasm during learning activities, and took notes in class. Aiden demonstrated his attentiveness by sharing examples of Chinese sentences he comprehended. Nicole, on the other hand, consistently carried a notebook to record tones, new vocabulary, and intriguing insights provided by program teachers. She emphasized that this practice helped her with "remembering and reviewing" the lessons. This active engagement was a testament to their motivation to learn Chinese. Moreover, the participants also displayed a commitment to autonomous Chinese learning beyond the program's formal hours. Sam portrayed his "active involvement" in out-of-class Chinese learning, both independently and with his program peers. Miranda described the time she dedicated to learning Chinese characters after class. These examples, represented in the experiences of Sam and Miranda and

echoed among the participants, showcased their autonomous pursuit of Chinese learning outside the classroom.

One semester following their time at the program, participants reported instances of using Chinese language skills outside of the classroom environment. Several mentioned practicing spoken Chinese with friends. Cole comfortably engaged in basic Chinese conversations with a Chinese friend at school. Jack intermittently studied Chinese with a friend who assisted him with grammar and pronunciation, while Maria practiced with a friend who had attended the program a year prior. Their willingness to engage in spoken Chinese practice with friends underlined their motivation to learn the language. A few participants recounted experiences of using Chinese in restaurant settings. Nicole narrated her instances of engaging in Chinese conversations at restaurants. Sam "attempted to decipher the Chinese menu," successfully recognizing some characters or parts thereof. Claire secured employment at a Chinese restaurant due to her basic Chinese skills. Engaging in real-world conversations, such as those occurring in the Chinese restaurant, underscored participants' eagerness to learn Chinese. Notably, Claire's job, which necessitated speaking Chinese, not only demonstrated her readiness to use the language but may also serve to further stimulate her ongoing learning of Chinese.

### 4.1.2. From aspirations to actionable plans

Before attending the program, participants eagerly shared their individual learning objectives. For some, the primary aim was to immerse themselves in Chinese culture, as expressed by Makenna, who hoped to gain insights into "China's customs, traditions, and its people." Others, like Jack, exhibited a profound fascination with the Chinese language itself, articulating his "desire to achieve fluency in speaking, reading, and writing." Moreover, a few participants showcased unique interests, such as delving into Chinese architecture, exploring traditional Chinese music, and expressing a curiosity for the historical aspects of the language. For instance, Ella expressed her aspiration to delve into the history of the Great Wall. These diverse intentions highlighted their strong enthusiasm for exploring both Chinese culture and language.

Throughout the two-week program, participants wholeheartedly shared their intentions to continue their learning journey beyond the program. Each participant's plan for continuing their Chinese learning was unique and tailored to their individual circumstances. For students such as Leo and Christina, who had the opportunity to take Chinese classes at their schools, the way forward was evident—they planned to register for these courses. Conversely, the majority of participants, whose schools did not provide

Chinese classes, looked for alternative methods to maintain their language learning. Maria planned to enroll in neighboring schools that provide Chinese classes, while Cole opted for online Chinese programs. Beyond formal classes, participants also explored self-study options to keep their Chinese skills sharp. Kayle aimed to "buy a book covering fundamental Chinese characters," while Owen intended to "go over program handouts and enhance understanding using them." Some participants expressed enthusiasm for learning through iPad apps introduced during the program. Additionally, studying abroad in China became a compelling aspiration for some participants. Jack, intrigued by cultural diversity, recognized China as "a great choice" for his study abroad experience. Henry aspired to seek scholarships for studying in China upon completing high school. Overall, the participants' unwavering commitment and diverse plans for continuing their Chinese language journey showcased their genuine passion and dedication to mastering the language and understanding the rich tapestry of Chinese culture. As highlighted by Kim et al. (2021), intended and self-directed learning is "conducive to meaningful learner-content interactions, which positively influences learners' pursuits of further learning" (p. 9).

### 4.1.3. From general desires to specific proficiency goals

Prior to joining the program, participants generally held broad expectations, centered around the desire to "speak" Chinese or "utilize" it for communication. Commonly shared expectations such as "be[ing] able to talk to my favorite Chinese pop idols" (Aria), "order[ing] delicious food in Chinese restaurants without using English" (Sophia), and "impress[ing] friends with cool Mandarin phrases" (Ethan). At this point, participants predominantly foresaw the ultimate outcome of acquiring the ability to converse in the Chinese language.

However, following the enriching two-week Chinese summer program and their interactive experiences with dedicated Chinese teachers, participants' aspirations expanded, and they began articulating more specific expectations about their Chinese language learning journey. For example, having gained confidence in his foundational Chinese skills through the program, Weston conveyed his interest in "expanding the knowledge of Chinese." Julian, inspired by her progress, set her sights on attaining "higher levels of Chinese proficiency." Tavi, motivated by the immersive environment at the program, aimed to engage in "full-blown" conversations with native Chinese speakers.

As participants grew more cognizant of their proficiency limitations in Chinese, they became determined to enhance their existing knowledge and strive for higher levels of communication skills. Notably, their direct interactions with the skilled teachers at the program, where they actively practiced speaking

Chinese, played a pivotal role in shaping their future expectations and fueling their motivation to achieve greater linguistic competence. The insight shared by Rahimi and Katal (2012) holds true in this context. It emphasizes the significance of metacognitive learners, those who consciously analyze their learning processes, highlighting their tendency to achieve success. In this study, the participants' conscious efforts to reflect on their learning experiences, gauge their progress, and understand what they needed to improve, played a fundamental role in propelling their language learning journey forward.

## 4.2. Learning progression

### 4.2.1. From initial challenges to achievable goals

Before attending the program, despite having no prior experience in learning Chinese, all participants uniformly perceived it as a "difficult" language. This perception of Chinese being a challenging language to master was primarily influenced by media portrayals and the opinions of their friends. As Henry put it, "Chinese has this rich history. Learning Chinese is a big challenge." Julian expressed feeling "nervous" about learning Chinese. Leo described it as "difficult, challenging, and interesting," acknowledging that it would require stepping out of his comfort zone to learn Chinese. The participants cited two main reasons for their perception of Chinese as a challenging language. Firstly, the fact that Chinese is an ideographic language, distinct from the alphabetic languages they were familiar with, presented a new and different language system. As native English speakers, participants viewed Chinese as a "completely new" and "unfamiliar" language. Secondly, the complexity of Chinese characters was highlighted as a significant challenge. The "intricate" and "daunting" nature of the characters led to apprehension and even fear among the participants. Therefore, their perceptions of learning Chinese as difficult and challenging were shaped by their "very limited exposure" to the language prior to attending the program.

During their two-week experience learning Chinese at the program, participants conveyed that learning the language was deemed "achievable." Alice detailed the diminishing mystery and fear associated with Chinese, stating, "In the past two weeks, the whole idea of learning Chinese being mysterious and intimidating has started to fade for me. It's still a bit tricky, but now it feels more like a [*sic*] 'I can manage this' kind of difficulty rather than something completely out of reach." Similarly, as the program approached its end, Lucia remarked in her journal, "Chinese turns out to be not that hard as many people thought. It's challenging, but not as much as everyone expected." The positive shift in attitudes toward learning Chinese was linked to different program-related factors. Engaging and enjoyable classroom activities,

contextual learning based on Chinese festivals, and the use of iPads and learning apps all contributed to their positive outlook. Additionally, participants identified specific aspects of the Chinese language that they found manageable, such as the familiarity of Pinyin, the absence of verb conjugations, and the ability to draw comparisons with other languages.

One semester after attending the program, participants maintained a realistic and well-rounded perspective on learning Chinese. Tavi's typical response captured this sentiment, as she expressed, "Chinese can be tough, but if you put in some effort and practice, it starts to make sense." Similarly, Kayle recognized the nuanced equilibrium between "trying" and "facing a challenge," commenting, "Learning Chinese is different, but it's cool to pick up. If you work hard at it, it's not as hard as it seems." Participants uniformly recognized that learning Chinese requires time, effort, and practice, but they believed it is an achievable goal. Their experiences at the program not only diminished their initial fears but also instilled a newfound confidence in their ability to navigate the challenges of learning Chinese. This realistic outlook, combined with their determination, underscores the progress they made and the positive impact of their time at the program.

### 4.2.2. From uncertainty to confident commitment

Participants' perspectives on learning Chinese underwent a profound transformation from uncertainty to confidence after their enriching experience at the program. While they expressed a genuine desire to learn Chinese before attending the program, they also voiced reservations and uncertainty about the challenges that lay ahead. In her application letter, Miranda poignantly described the journey as "unknown but exciting." Similarly, Leo acknowledged his uncertainty about Chinese learning, stating, "Even though I'm not entirely sure how it'll go, I'll give it my all to learn." As novice learners, they candidly revealed their initial uncertainty about embarking on the Chinese language journey before attending the program.

Participants in the program experienced a significant boost in confidence and motivation to continue learning Chinese. They enthusiastically shared how their time at the program had a profound positive impact on their self-assurance, inspiring them to persist in their language learning journey. As Ella expressed, "This program makes me feel more confident about learning Chinese. It motivates me to stay committed to my studies." Makenna also observed that after the program, learning Chinese no longer seemed like a daunting task; instead, she felt more confident in her ability to take on the challenge. This heightened confidence was attributed to several factors. Firstly, the program instilled in them a sense of hope and encouragement, fostering the belief that they could successfully master the Chinese language. The use of

effective learning strategies, such as incorporating movement and observing mouth shape for pronunciation, also played a significant role in bolstering their confidence. Participants found these strategies to be both helpful and clever in facilitating their language learning process. Moreover, their sense of accomplishment and the progress they made during the program further fueled their confidence. They gained assurance in their capacity to learn Chinese, which motivated them to continue their pursuit.

One semester after the program, participants demonstrated a continued commitment to pursuing Chinese language studies, despite facing challenges. While many lacked opportunities for continued learning at their schools and encountered difficulties with self-learning, they recognized the program as the catalyst that ignited their Chinese language journey. The knowledge and skills they acquired during the program were perceived as "a solid base" upon which they could build their future endeavors in learning Chinese. Participants viewed the program as a "kick-starter," giving them a valuable head start and an advantage in their ongoing quest for Chinese language proficiency. The background knowledge acquired at the program, including Pinyin, tones, and cultural understanding, was highly regarded by participants. They recognized the significance of this knowledge as "a valuable resource" that would support their continuous progress in learning Chinese. Despite the obstacles they faced, their unwavering determination and appreciation for the program's impact manifested in their commitment to advancing their Chinese language skills and embracing the language's rich cultural tapestry.

### 4.3. Learning context

#### 4.3.1. Motivating influences

Experiences during the program served as motivational fuel for participants' Chinese learning. Upon completion of the program, participants articulated how their teachers, classroom experiences, and the overall learning environment had enhanced their learning drive. The enthusiastic teaching approach and commitment of the program teachers significantly contributed to the participants' motivation for Chinese learning. Dillion noted that the teachers' zeal provided a "boost" for student learning. Christina affirmed that the teachers' positive responses motivated students "to strive for better in learning." Sam valued the "patience" exhibited by all teachers during the learning process. Program teachers' inspiring words and supportive actions fostered a welcoming and enjoyable learning atmosphere, contributing to the establishment of positive and strong relationships with the learners.

At the program, the Chinese instruction implemented research-based pedagogical strategies to cultivate learner motivation and promote active engagement (cf. Moeller & Yu, 2015; Reyes et al., 2012). These strategies

involved incorporating interactive learning activities, integrating real-life language applications, and creating a supportive learning environment to enhance overall language acquisition. Additionally, a "Yuan (RMB)" reward system served as an incentive for fostering active participation among learners. Remarkably, these approaches were frequently mentioned by participants during post-program interviews. In line with Bacon et al. (2018), participants emphasized the significant role played by the program environment in cultivating their motivation to learn Chinese. They specifically highlighted the utilization of Can-Do statements, the small learning "family" group consisting of five students and one teacher, and the absence of a grading system as pivotal factors that consistently encouraged and sustained their enthusiasm for learning.

### 4.3.2. Demotivating influences

Particularly, learning experiences that had an adverse effect on the motivational drive of students emerged during the post-program interviews. One common challenge participants faced was the absence of opportunities for Chinese classes in their schools, which resulted in decreased motivation compared to their enthusiasm after the program. Many participants in the study reported that their schools did not offer Chinese classes. Daniel expressed feeling a loss of significant support, saying, "In the program, we used to learn new stuff with the teacher every day, and we could ask questions whenever we wanted. But now, I have to handle everything on my own—learning new things and reviewing by myself. It's a bit challenging, and I feel like my current level isn't quite ready for independent studying." While Owen tried to learn Chinese with a friend, he noted that their learning was unstructured, stating, "My friend and I practiced together sometimes, but it's not structured like in classes, where we cover specific topics every day, like learning a festival today and a song the other day." Ethan, similarly affected, revealed feeling slightly less motivated after the program, admitting, "I haven't been keeping up with my Chinese lately since we don't have any classes for it at school. I feel like I'm slowly losing the Chinese I picked up during the program." The lack of Chinese classes led to diminished motivation, primarily because of the absence of instructional support and a structured learning environment (cf. Baeten et al., 2013). Participants who sought to pursue Chinese learning independently post-program faced obstacles that contributed to the decline in their motivation. Sarah conveyed a sense of "discomfort" in self-teaching Chinese, and Alex highlighted the "difficulties" he encountered while learning Chinese online. The feelings of discomfort and uncertainty in self-directed learning adversely impacted participants' motivation to persist in their language studies.

## 5. Discussion

This study delved into the motivation of CFL learners within and beyond a two-week summer program, seeking to comprehend the dynamic interplay between their motivation for learning Chinese and their overall learning experiences. The integration of a case study approach alongside the CDST perspective provided a comprehensive examination of CFL learning motivation, crucial for unraveling the paradox embedded in the increasing popularity of Chinese language study contrasted with the low enrollment and retention rates among students.

The analysis of data identified three motivational variables—i.e., (1) learner engagement, (2) learning progression, and (3) learning context—revealing fluctuations in participants' CFL motivation in response to diverse learning experiences and changes in the learning context. As Andrew (2012) aptly noted, "[Learners'] stories . . . show how the experience of learning a language is closely intertwined with a world that extends far beyond the classroom" (p. 107). The participants willingly enrolled in the summer Chinese program, signaling a high level of motivation from the outset, and providing valuable insights into their motivation dynamics. This voluntary engagement reflected the participants' inherent drive and interest in learning Chinese, offering a unique perspective on the multifaceted nature of language learning motivation.

During the program, participants' motivation intensified, evidenced by their increased commitment of time and effort, along with heightened expectations for learning outcomes. This aligns with similar findings in other studies (Liu & Li, 2018; Yu et al., 2022). Various aspects of the program, such as the dedication of program teachers, engaging activities, an extrinsic reward system using "Yuan (RMB)," and the absence of a grading system, served as motivational catalysts for participants. As participants actively engaged in the learning process, they underwent a "demystification" of the Chinese language and culture, gaining insights into the pinyin system, writing system, and the lives of people in China. This demystification not only led to enlightening "a-ha" moments for students but also played a pivotal role in reinforcing their motivation to learn the language and enhancing their confidence in overcoming learning challenges.

One semester post-program, participants exhibited a decline in motivation compared to the levels observed at the program's conclusion. A prevalent challenge encountered was the lack of availability of Chinese classes at school. This aligns with findings from Baeten et al. (2013), highlighting that diminished motivation often stems from a lack of instructional support and a structured learning environment. It is noteworthy, however, that despite the decrease in motivation one semester after the program, participants' overall motivational levels were still high. This trend resonated with participants'

narratives, detailing their efforts to independently sustain their Chinese learning journey. This included activities such as reviewing class notes from the program, practicing with friends proficient in Chinese, engaging in conversations at Chinese restaurants, and reading Chinese menus. Despite the challenges encountered, participants expressed willingness to persist in practicing Chinese, driven by a commitment to retaining and building upon their acquired knowledge. The desire to avoid "losing" what they had learned remained a strong motivating factor for continued engagement with the Chinese language. This outcome validates the findings of Noels et al. (2001), who asserted that motivation is enhanced when learners voluntarily engage in language learning.

These findings indicate a connection between participants' motivation to learn Chinese and their learning experiences and expectations, as demonstrated by Gao (2008) and Liu (2023) in their studies. Individuals learning a language actively engage as participants in a dynamic system, interacting with various factors and fellow participants over time. They play an active role in both influencing and being influenced by their language learning experiences and environments. This further validates the principles of CDST, emphasizing the intricate interplay among language learners, learning experience, and the learning environment (Ellis & Larsen-Freeman, 2006; Van Geert, 2008). The identification of the three motivational variables in this study—learner engagement, learning progression, and learning context—adds depth to the principles of CDST, providing a nuanced understanding of how these factors shape motivation over time within and beyond educational programs. This holistic perspective emphasizes the ongoing nature of language acquisition, highlighting the reciprocal relationship between learners and their evolving experiences and surroundings.

## 6. Conclusion

Recognizing the paramount importance of the dynamic interplay, the implications of the study extend significantly to educators, particularly those involved in CFL settings. Learning a new language often elicits feelings of uncertainty and occasional anxiety among students. Therefore, language instructors must prioritize the establishment of trust and respect from the first day of class, cultivating an environment that promotes risk-taking and learning from mistakes. It is also essential to build meaningful connections that encourage students to apply their language and cultural skills beyond the classroom. As indicated in the study by Ryan and Deci (2020), individuals tend to exhibit greater self-determination and motivation for engaging in specific behaviors when the learning environment caters to their underlying psychological needs. Given the dynamic and temporal nature of motivation, language instructors are urged to maintain continuous vigilance, closely

monitoring students' learning motivation throughout and beyond the structured learning environment. This proactive approach empowers instructors to effectively guide and sustain motivation, recognizing the ever-changing and interconnected nature of the factors influencing language learning. Simultaneously, educators should remain mindful of potential demotivating factors that can adversely affect students' motivation. Challenges such as limited opportunities for real-world practice, insufficient personalized feedback, and a lack of engaging learning materials often contribute to a decline in motivation in a language class. To mitigate these issues, teachers should diversify the learning experience through engaging activities and present tasks in a motivating manner, ensuring that lessons are both invigorating and enjoyable. This approach aligns with recommendations from Dörnyei (2005). Additionally, it is crucial to enhance the overall learning experience to make it more rewarding, as emphasized by Ruan et al. (2015). Lastly, the study emphasizes the imperative for an augmented array of post-program initiatives aimed at sustaining students' motivation and perpetuating their engagement with Chinese language education.

Following the completion of summer programs, establishing study abroad opportunities emerge as a potent strategy. Such programs should be designed to facilitate meaningful connections with individuals whose cultural and linguistic backgrounds motivate continued Chinese language learning. By forging relationships during study abroad experiences, students are more likely to maintain their enthusiasm for the language, thereby fostering a sustained commitment to furthering their proficiency and cultural understanding. Moreover, facilitating mentorship programs or language exchange platforms can provide ongoing support and motivation. Connecting program alumni with experienced mentors or language partners fosters a sense of community, encouraging continuous language learning beyond the structured program. These interactions can serve as motivational anchors, reinforcing the relevance and significance of sustained Chinese language acquisition.

Finally, this study carries certain limitations. The first limitation is about the conduct of one-on-one interview at the "postactional" time point. As stated by Dörnyei (2005), this phase is pivotal for sustained activities such as language learning, given the possible disruptions that may complicate task fulfillment. The Postactional Stage takes place subsequent to the conclusion or interruption of an action and is alternatively referred to as "motivational retrospection" (Dörnyei, 2005, p. 83). In this stage, learners "enrich their store of accumulated experience, elaborate their internal standards, and enlarge their repertoire of action-specific strategies" (Guilloteaux, 2007, p. 78).

In this study, given the distinctive timing of the summer program, I designated the conclusion of the subsequent fall semester at participants' regular school

as the "postactional" time point. This decision justified my distribution of the second (final)-round interview requests one month prior to students completing their fall semester. My intention was for participants to complete interview before summer vacation, however, more than half of the participants underwent the interview at the end of their summer vacation. This explains why these students focused more on their summer experience with learning Chinese during their interviews. This divergence in timing might account for the relatively high motivation observed in student participants one semester after the program. As highlighted by Pyne et al. (2020), student learning undergoes substantial changes during the summer, presenting different learning opportunities. To mitigate the impact of summer on motivation, I propose, for future longitudinal studies, a stratification of the "postactional" motivation development into two distinct phases: pre-summer and post-summer. Secondly, owing to the deliberate use of a purposeful sampling strategy, only 25 students from the summer program participated in the complete data collection process. The limited sample size constrains the generalizability of the findings to broader populations or varied educational settings, despite the comprehensive data collected providing detailed insights into the specific case under study. Subsequent research endeavors should seek to validate these findings by incorporating larger sample sizes drawn from a diverse array of CFL/CSL contexts.

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**Appendix A: Interview guiding questions**

1   What do you generally think about the Chinese language?

2   What are your overall thoughts on learning Chinese?

3   Can you share something you enjoy and something you find challenging about learning Chinese?

4   Do you think it's valuable to know Chinese? Please explain.

5   How would you describe your experience with learning Chinese during/after this program?

6   What aspects do you like or dislike about your experience? Can you share any memorable moments or stories from your learning journey?

7   Have you encountered any challenges in learning Chinese? How do you typically handle these difficulties?

8   How would you express your level of motivation for learning Chinese?

9   Is there anything else you'd like to share?