



Willingness and Influencing Factors in Online Chinese as a Second Language Learning: Insights from University Learners

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The advent of the 5G era has provided new opportunities for Chinese online education. Nevertheless, the current online Chinese education model is still in the exploratory stage and the learning effect has not been fully evaluated. The purpose of this study is to explore the willingness of Chinese language learners at a public university in Malaysia to participate in online Chinese courses and the factors affecting their learning outcomes in an online environment. Using the snowball sampling method, the study conducted online qualitative interviews with 24 members of the Chinese Language Club. Discourse analysis was performed using Nvivo software to uncover key factors influencing the effectiveness of online Chinese learning. We found that learners' positive inclination toward online Chinese learning stems from its flexibility and rich resources, while weaker engagement is associated with a lack of interactivity, focus, and learning atmosphere. The study also identified three key factors: interactivity, technical support, and content design. The findings provide practical guidance and theoretical references for the development of Chinese as a second language education online.

Keywords: Chinese as a second language (CSL), online learning, willingness, Influencing factors, interactivity

INTRODUCTION

The origin of online learning dates back to the 1950s (Li & Kou, 2023). Driven by advancements in information technology and the internet, it has evolved into a key form of modern education, with the internet becoming a core driver of innovation and societal transformation into a digital, multimedia era (Nie, 2023). In this new media environment, platforms for information exchange exhibit features like networking, integration, mobility, and compatibility (He & Liu, 2022), breaking traditional constraints of time and space in teaching and fostering flexible and efficient online

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learning. The open educational resources movement, based on the principle of "open sharing," has further transformed online learning from a supplementary tool into an independent educational model (Alsheikhidris, 2020). However, online learning still faces challenges such as limited interaction, technical barriers (Mogavi et al., 2021), lack of appropriate learning spaces (Fabito et al., 2020), low student engagement (Adnan & Anwar, 2020), and difficulties in personalizing learning (Garrison, 2009). Despite these issues, online learning holds immense potential as an innovative model, requiring further technological optimization, enhanced interactivity, and a greater focus on personalization to meet evolving educational needs.

Since 1965, computers have been integrated into language teaching, becoming a widely discussed topic. In the 21st century, technological advancements have transformed education, enabling platforms that provide immersive and authentic language experiences beyond classroom limits (Ling, 2019). Language serves as a critical medium for cultural transmission, human expression, cognitive development, and emotional communication (Cao & Cai, 2022). With China's growing global influence and the rising practical value of the Chinese language, enthusiasm for learning Chinese and understanding its culture has surged worldwide. In the 5G era, fueled by widespread broadband adoption, researchers are exploring innovative applications of technology in computer-assisted and distance teaching (Chia-Ling et al., 2010; Zhang & Wang, 2020). These efforts have shifted traditional Chinese teaching methods toward more efficient and flexible online models, making online learning a dominant approach for Chinese as a Second Language (CSL; Zhao, 2022). However, online Chinese teaching still faces challenges due to the particularity of the language and the early stage of online learning development. Learner identity issues significantly influence learning willingness and outcomes, posing barriers to the advancement of Chinese international education. Addressing these challenges and enhancing learning willingness remain key research priorities.

Online Chinese learning platforms offer diverse interactive formats and personalized features, significantly enhancing learners' ability to access education anytime and anywhere through the internet. These platforms present abstract content in vivid, concrete ways and foster two-way interaction and feedback (Qu, 2023). However, learners' subjective factors, such as willingness and motivation, play a key role in the process of learning Chinese (Rahman et al., 2022). Technical challenges, such as poor network quality, hinder verbal and visual communication, reducing teacher-student interaction (Zhang & Wang, 2020). Limited camera fields of view also restrict the completeness of feedback (Bradley-Dorsey et al., 2022). To optimize online Chinese learning, improvements in technological support, enriched teacher-student interaction, and stronger peer collaboration are essential to ensure the model's efficiency and effectiveness.

LITERATURE REVIEW

Development of Chinese as a Second Language Learning

Chinese as a Second Language learning plays a pivotal role in breaking barriers, fostering cross-cultural connections, and deepening cultural understanding. Mastering Chinese not only facilitates communication but also provides invaluable insights into China's rich history and culture (Min et al., 2022). With a long-standing history, despite changes in teaching models, CSL remains an independent and practical discipline, with its core goal still being to enhance learners' ability to communicate in Chinese (Wang, 2023). Over the past two decades, propelled by economic globalization, CSL learning has experienced remarkable global growth, evolving into a thriving and expansive educational market (Zhang & Wang, 2020). As a tonal language with four distinct tones and a logographic writing system where characters represent meaning rather than phonetics, Mandarin presents unique challenges for learners (Rahmat, 2021). Nevertheless, many students find learning Chinese to be an enjoyable and fulfilling experience. While undeniably demanding, the process is imbued with excitement and challenges, offering learners the opportunity to appreciate the language's uniqueness and engage in a profound cultural and intellectual journey (Zheng et al., 2023).

The history of international Chinese education began in 1950, with the arrival of the first international students in China (Kong, 2021). Initially, teaching Chinese as a Second Language (CSL) served diplomatic needs, fostering international cooperation and nation-building (Gong et al., 2020). A key milestone occurred in 2004 with the establishment of the first Confucius Institute in South Korea, followed by the inaugural World Chinese Language Conference in 2005, marking the start of China's global Chinese education initiative (Ma et al., 2017). By 2015, over 1,500 Confucius Institutes and Classrooms were established in 135 countries, engaging 12,000 teachers and benefiting 1.39 million students (Hanban in China, 2016). By 2019, these numbers increased to 550 Institutes and 1,172 Classrooms across 162 countries (Chinese Government, 2019). By 2021, Chinese education expanded to 180 countries, with over 70 incorporating Chinese into their national education systems and global learners surpassing 20 million (Bao et al., 2021). By 2024, demand pushed this number beyond 25 million (Xu et al., 2022). The growth of Confucius Institutes (As shown in Figure 1) reflects the continuous expansion and influence of global Chinese language promotion (Data Source: Chinese International Chinese Language Education Foundation). The polyline in the figure represents the actual changes in the number of Confucius Institutes worldwide, while the straight line serves as a trend reference, showing the overall growth trend.

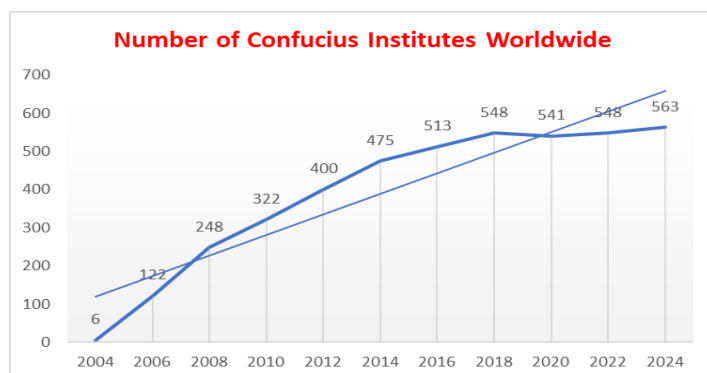


Figure 1
Changes in the number of confucius institutes around the world

The Advantages of Online CSL

Online learning is regarded as a new solution to bridge inequalities in foreign language teaching, offering a new direction for learning Chinese as a second language (Ling et al., 2019). Teachers address the lack of a Chinese-speaking environment through video sharing and live streaming, enabling students to experience Chinese culture directly and fostering an immersive learning atmosphere (Zhao, 2022). Zhao (2021) conducted classroom observations of 10th-grade CSL students to develop a comprehensive Chinese learning curriculum. Specifically, the study found that online learning platforms significantly enhanced interactivity and student engagement by providing effective feedback, diverse assessment options, and rich content presentation. Similarly, Gironzetti et al. (2020) surveyed undergraduate students at a U.S. university about their perceptions of online language learning, revealing that students had a positive attitude toward the technical support, accessibility, and usability of online learning environments. Furthermore, Wang et al. (2022) surveyed 173 learners to compare their attitudes and experiences with online CSL courses, reporting that the primary reason students favored online courses was their flexibility. In addition, Ju et al. (2022) conducted a questionnaire survey of 309 CSL learners at USIM, examining their willingness and participation in online learning. As a result, most learners expressed strong interest in online learning and found online Chinese courses enjoyable and engaging.

The Issues of Online CSL

While online learning of Chinese as a second language offers great flexibility, it also comes with unique challenges. Zhang (2014) outlined the development and teaching of online CSL courses, revealing through a systematic review of empirical studies that some learners require more visual materials to capture their attention. Wang and East (2020) conducted a survey of 163 beginner Chinese learners at the University of Auckland, revealing challenges such as audio delays, unstable internet connections, and a lack of necessary devices. Similarly, Ornaghi and Juan (2022), through their study of Chinese learners at two Italian universities, also identified network issues as a key

factor affecting learners' willingness to engage in online CSL learning. Zhao (2022) conducted classroom observations of students in an online Chinese course at a Cambodian university to explore whether the platform met learners' expectations. The study revealed that the online CSL platform had limitations such as a lack of diverse interaction formats and insufficient group collaboration, leading to a high degree of instability and uncertainty in the learning environment, making it difficult to fully satisfy learners' expectations. Similarly, Zhang and Wang (2020), through a narrative study of reflective accounts from five online CSL teachers, found that the high demands for technical and computer skills, limited teacher-student interaction, and insufficient collaboration among learners significantly increased the complexity of teaching. Moreover, the study highlighted that excessive reliance on digital technology could lead the learning process astray.

Currently, opinions among Chinese language teaching researchers and learners regarding online Chinese learning are mixed. Although many studies have explored ways to optimize online teaching environments, research on learners' willingness and the specific factors influencing the quality of online Chinese learning remains relatively limited. In light of this situation, this study aims to delve deeper into the willingness of online Chinese learners and the related influencing factors by addressing the following questions:

- (1) What is the willingness of Chinese language learners to participate in online CSL courses?
- (2) What are the factors that affect CSL learners' online learning quality?

METHOD

This study adopts a qualitative research method to explore the online learning willingness of Chinese learners and the key factors affecting the quality of learning. Quantitative studies have shown that learners are generally more willing to participate in online Chinese courses, which is conducive to improving language proficiency and is affected by network conditions, teacher-student interaction, and learning resources (Chen, 2022; Zhao, 2022). However, this study did not elaborate on the protocol of the quantitative study, and the results section did not present relevant data, so its application has not been verified. Therefore, this study mainly relies on qualitative analysis to deeply understand learners' experience, provide broader explanatory insights, and provide references for teachers' self-reflection and adjustment of teaching practices.

Setting and Participants

This study adopted the snowball sampling method, starting with a small number of initial contacts who met the research criteria, and selected 24 CSL learners from the Mandarin Club of a university in Malaysia as participants. The Chinese language club is a student-led learning organization established based on the public university. Its members actively learn Chinese and it has a stable learning environment, making it a representative and reasonable subject for research, and all participants are undergraduate or graduate students who have studied Chinese for at least two months. 24 interview records were retained, with only one participant excluded due to technical

or personal reasons, resulting in an effective interview rate of over 96%. Therefore, the sample size is sufficient to meet the research requirements and has high reliability.

Among the respondents, there were 12 males and 12 females (each accounting for 50%). The majority were aged 25 or below, with only 4 participants (10%) over the age of 25. 12 respondents (50%) were local Malaysian students, including 8 Malays and 4 Indians, while the remaining 10 participants (42%) were international students. Additionally, the survey explored the respondents' motivations for enrolling in Chinese language courses and their learning experiences. To protect privacy, all respondents are referred to using pseudonyms, with their detailed information provided in Table 1.

Table 1

Participants information

Name	Gender	Race	Age	learning time
P1	Female	Malay	23	2 months
P2	Male	Malay	21	2 months
P3	Male	Indian	20	9 years
P4	Male	Indian	20	1 years
P5	Female	Malay	21	6 months
P6	Male	Muslim	21	2 years
P7	Male	Arab	21	6 months
P8	Female	Kristian	27	2 years
P9	Male	Indonesian	24	2 months
P10	Female	Kristian	22	1 years
P11	Female	Malay	23	2 years
P12	Female	Sri lankan Moor	23	5 months
P13	Female	Indian	20	6 months
P14	Male	Indo-Aryan	33	2 months
P15	Male	Indian	25	3 years
P16	Female	Malay	20	5 months
P17	Female	Malay	21	6 months
P18	Male	Malay	21	3 years
P19	Female	Malay	21	2 months
P20	Female	Indonesian	28	2 years
P21	Male	Finnish	32	2 years
P22	Male	Australian	22	2 years
P23	Female	Kristian	23	2 years
P24	Male	Arab	23	6 months

Data Collection

In conjunction with the pre-interview, a structured interview outline was prepared, and the interviewees were invited to recall their experience of learning Chinese online. Data collection was completed from May 6 to July 6, 2024, in the form of one-on-one, structured, in-depth interviews via online WhatsApp, with each interview lasting approximately 45 minutes. When discussing students' willingness to engage in online learning, only half of the learners show a preference for this mode, indicating relatively low enthusiasm. The majority still favor the traditional face-to-face learning approach. When discussing students' learning experiences, interactivity is the most frequently

This study was conducted in the first semester of the 2024 academic year. The student interviews were conducted in a synchronous online one-on-one manner. The interaction and response between the interviewer and the interviewee occurred in real time, but online interviews are more dependent on time differences, so sometimes the interview process may not be smooth.



Data Analysis

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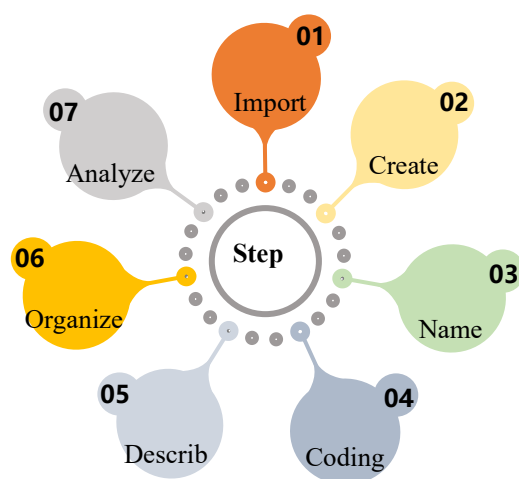


Figure 3
Data analysis process

Table 2
Coding scheme

Main Themes	Sub-Themes	Description (Participants' Parts of Experiences)
Online Learning Willingness	Positive (12)	online classes offer convenience and accessibility. (P6)
		Resources offered by online platforms, providing a well-rounded and dynamic learning experience. (P8)
		Providing the convenience of accessing learning materials online. (P22)
	Weak (12)	It's a bit difficult to consistently mute and unmute myself. (P1) It hard to focus. (P12)
Influencing Factors	Interactivity (18)	Teacher-student interaction can provide guidance, feedback, and support tailored to individual learning needs. (P10)
		Student with student, which can provide opportunities for collaborative learning and cultural exchange. (P15)
		Active engagement with course materials through exercises, practice sessions, and self-assessment plays a pivotal role in reinforcing my understanding. (P8)
	Technical (15)	Technical or connection issues during online courses have a significant impact on the learning experience, disrupting the flow of lessons.....with instructors or peers. (P15)
	Content design (8)	It's frustrating when they occur, but I try to troubleshoot or switch to alternative methods temporarily. (P6)
		A well-designed curriculum ensures we build a solid foundation and gradually can improve our skills. (P13)
		Multimedia lessons, quizzes, and games, which can enhance engagement and retention. (P15)

FINDINGS

This study aims to explore the online learning willingness of Malaysian CSL learners and the factors influencing the effectiveness of online learning. Following the process proposed by Braun and Clarke, relevant themes were extracted from the learners' online learning experiences. The results of this study were organized into two main themes. Two sub-themes related to willingness to learn online were: (1) Positive Tendencies in Online Learning Willingness, (2) Weak Manifestations of Online Learning Willingness. Additionally, the three sub-themes related to factors influencing online CSL learning are : (1) Interactivity, (2) Technological Factors, and (3) Content Design.

Willingness to learn online

Positive Tendencies in Online Learning Willingness

According to the interviews, learners' positive intentions for online learning mainly focus on flexibility and convenience, rich resources and the possibility of repeated learning, as well as personalized support and interactivity. These features enhance learners' willingness to learn online and significantly improve learning effects and learning experience.

Respondents generally mentioned that online learning provides a high degree of flexibility and convenience, allowing them to study according to their own schedule. This flexibility is particularly favored by learners with a fast pace of life or irregular schedules, which increases their willingness to learn online:

It offers the flexibility of online resources.online classes offer convenience and accessibility.

(P6)

I think online Chinese courses can allow us to study at their own pace and schedule. This flexibility is especially beneficial for individuals with busy lifestyles or irregular schedules.

(P10)

It is easier for me to adjust my schedule with other courses.....This is because I do not need to travel from my kolej to my Chinese class at night.

(P19)

The online learning platform provides a wealth of learning resources, such as recorded videos, PPT slides, and supplementary materials. The diversity and repeatability of such resources further stimulate learners' interest and willingness to learn:

Resources offered by online platforms, providing a well-rounded and dynamic learning experience..... including the flexibility to tailor learning schedules, access to a wealth of educational resources, self-paced learning opportunities, making language acquisition more accessible and engaging

(P8)

I also like having recorded videos and PowerPoint slides to refer to when I revise which is why online sounds like a good idea.

(P17)

Learners also highly appreciate the personalized support and interactivity of online courses. For example, instant feedback, progress tracking, and peer support make learners feel more helpful and motivated during the learning process. This personalized experience enhances the willingness to learn:

Online it will be more to listening and understanding. the platform is helpful. I like the interactive exercises and progress tracking.

(P3)

This allows for personalized instruction and immediate feedback while also providing the convenience of accessing learning materials online.

(P22)

Weakness in Willingness to Learn Online

Based on the interview content, a significant portion of respondents expressed a weak willingness to engage in online learning, showing a preference for traditional face-to-face Chinese learning. This is primarily due to the limitations in interaction and language practice, as well as the lack of focus and learning atmosphere. They believe that online courses have inherent shortcomings in CSL (Chinese as a Second Language) learning, particularly in terms of interaction and focus development.

Some respondents believed that the interactive experience in face-to-face learning is superior. Through real-time communication with teachers and classmates, they can quickly resolve issues while enhancing their Chinese language skills, particularly in speaking and listening practice. Such immediate feedback and interaction are difficult to fully achieve in online learning:

Compared with online classes, in FTF classes I can directly ask questions to the teacher and also practice my speaking skills because sometimes online class makes it a bit difficult to consistently mute and unmute myself.

(P1)

It is more productive in FTF class and my tutor can analyze my level more clearly. my learning can be evaluated and also the tutor response would be aligned with my performance.

(P2)

Face-to-face Chinese classes allow for direct interaction with the instructor and fellow classmates.

(P14)

Attending face-to-face classes and participating in club activities have not only enhanced my language skills but also fostered meaningful connections with peers and tutors.

(P21)

Besides, focus is another key reason for respondents' weak willingness to engage in online CSL learning. They believe that traditional courses create a more immersive learning environment, helping learners maintain concentration and feel a stronger sense of motivation. In contrast, online learning is often disrupted by environmental or technical factors:

I would definitely prefer a face-to-face Chinese class since it is actually easier for me to concentrate in an environment where people studying the same thing together. Online class is also a good thing but sometimes I find myself lost.

(P9)

One of the challenges is I always got distracted by the advertisement and notification from social media when learning Chinese online.

(P11)

In general I do not like online classes and find it hard to focus. In face to face classes you can practice your speaking it is more engaging.

(P12)

Factors Affecting Online CSL Learning

Interactivity

Based on the interview content, interactivity in online CSL learning primarily involves teacher-student, student-student, and student-content interactions. These interconnected forms of interaction are core factors in online learning, directly shaping students' experience and outcomes.

Teacher-student interaction is widely regarded as the most critical form of interaction in online Chinese learning. Through the teacher's guidance and real-time feedback, students can better understand key concepts, address questions, and correct mistakes promptly. Effective teacher-student interaction also allows for the adjustment of teaching content and methods based on individual student needs, significantly enhancing learning outcomes:

Teacher-student interaction is important for me because I like to ask questions and I want my answer to be answered right away.

(P1)

For my opinion, teacher-student interaction can provide guidance, feedback, and support tailored to individual learning needs, making it crucial for clarifying doubts and addressing challenges.

(P10)

Teacher-student interaction has the greatest impact on my learning results.....This type of interaction helps clarify doubts immediately, corrects mistakes in real-time, and adjusts teaching strategies according to my learning pace and needs, which significantly enhances the learning experience and outcomes.

(P14)

In terms of impact on learning results, I find teacher-student interaction to be the most influential. The personalized feedback and guidance from tutors help me identify areas for improvement and tailor my Chinese learning approach accordingly.

(P18)

Teacher-student interaction has the great impact on my learning results. If I do not have teacher-student interaction, how can I understand well about the lessons taught by my teacher in class?

(P19)

Student-student interaction plays a vital role in promoting CSL learning and cultural exchange. Through group discussions or peer collaboration, students can understand concepts from different perspectives and help each other correct mistakes. This interaction not only enhances learning motivation but also helps students build a more supportive learning community:

Our thinking, skills, and age are similar, in my communication with them, I can learn from them, understand how they learn Chinese, and make progress faster.

(P5)

I find online group discussions to be particularly enriching, as they promote collaboration, diverse perspectives and active participation, fostering a dynamic and engaging learning atmosphere that encourages interaction, shared learning experiences, and the exchange of ideas among peers.

(P8)

I think any form of group discussions is important. It helps you explore your understanding more and understand where you are lacking.

(P12)

Others may benefit from peer-to-peer interactions that is student with student, which can provide opportunities for collaborative learning and cultural exchange. While group discussions can facilitate peer learning and collaboration, they may also present challenges such as unequal participation, divergent opinions, and difficulty coordinating schedules.

(P15)

Online group discussions to be more conducive to class interaction, as they offer opportunities for collaborative learning and cultural exchange.....allows for diverse perspectives and encourages active participation in language practice activities.

(P23)

Student-content interaction determines the effectiveness of knowledge acquisition and application. Through practices and multimedia resources, students can actively engage in the learning process, deepening their understanding of course material. This form of interaction compensates for gaps in teacher-student and student-student interactions, offering a more flexible learning experience :

Interaction with content, it has the greatest impact on my learning because it directly engages me with the material and making it easier to understand and retain.

(P6)

Interaction with content emerges as the most impactful aspect on my learning outcomes, as it facilitates comprehension, retention, and application of knowledge. Active engagement with course materials through exercises, practice sessions, and self-assessment plays a pivotal role in reinforcing my understanding and proficiency in Chinese.

(P8)

Interaction with content, I find it easier to focus when I tackle the content no matter what form the content is in (books or digital).

(P17)

The interaction with content is particularly impactful due to its multifaceted nature and direct influence on learning outcomes. Interactive exercises, multimedia content, and real-life examples help me grasp difficult concepts and apply them in practical contexts.

(P21)

Technical Factors

Based on the interview content, technical factors affecting online Chinese learning can be categorized into network connectivity issues and technical glitches, along with their impact on the learning experience. Although technical problems are inevitable, respondents generally believe that flexible coping strategies and technical support can mitigate their negative effects on the learning experience to some extent.

Network connectivity issues are among the most common technical challenges in online learning. Many respondents mentioned that unstable connections disrupt lesson continuity and learning outcomes, particularly hindering teacher-student communication during real-time interactions :

I do experience this in cases where technical issues result in data loss or inability to save progress, I may lose valuable study materials, completed lessons, or quiz results, requiring me to repeat tasks or lessons, which can be demotivating.

(P10)

Technical or connection issues during online courses can indeed have a significant impact on the learning experience, disrupting the flow of lessons and impeding communication with instructors or peers.

(P15)

I did experienced connection issues. It does give big impact on my Chinese classes.

(P19)

For some learners, technical issues may cause inconvenience but do not significantly impact the overall learning experience. They tend to address these challenges by adjusting strategies or seeking assistance to ensure continuity in their studies:

I've experienced technical issues, but they haven't significantly impacted my learning experience. It's frustrating when they occur, but I try to troubleshoot or switch to alternative methods temporarily °

(P6)

Technical glitches and connectivity issues have occasionally disrupted my online learning experience, impacted the flow of lessons and caused frustration. Despite these challenges, perseverance and adaptability have been key in navigating such obstacles and maintaining progress in my Chinese language studies.

(P8)

They haven't significantly impacted my Chinese learning experience. I address these issues by troubleshooting problems as they arise and reaching out to customer support when necessary.

(P18)

Content Design

Based on the interview content, course content design has a significant impact on the learning experience of online students. By optimizing content design, online CSL courses can more effectively meet students' needs.

Content relevance and cultural alignment are key factors influencing students' learning outcomes. Courses aligned with students' interests enhance engagement and motivation, while diverse materials complement textbooks and reinforce learning:

The textbook itself is not enough. It would be best if the content is simple and relatable, meaning to say the content suits the culture that the students are interested in so they can relate with the lesson better. It would be best if the content

suits the culture that the students are interested in so they can relate with the lesson better.

(P1)

A reasonable course structure can reduce confusion, enhance organization, lay a solid foundation through a step-by-step design, gradually improve language skills, and make learning more systematic and coherent:

Not everything is needed for students who don't have the basics yet. So, the contents must be presented in the correct order. A well-designed curriculum ensures we build a solid foundation and gradually we can improve our skills.

(P13)

Rich interactive resources are a key advantage of online learning, enhancing engagement and knowledge retention. Multimedia courses, quizzes, and games add enjoyment while efficiently reinforcing concepts. High-quality resources are essential for successful learning:

Online platforms often offer a wealth of interactive resources, such as multimedia lessons, quizzes, and games, which can enhance engagement and retention.

(P15)

I find high quality learning materials very effective to me.

(P24)

DISCUSSION

This study explored the factors influencing the willingness of Malaysian Chinese as a second language learners in online Chinese learning and the quality of their learning. Through thematic analysis, the study revealed two major themes: willingness to learn online (including positive willingness and weak willingness) and factors affecting online Chinese learning (interactivity, technical factors and content design). Similar to existing research on online learning participation willingness, this study also explores the factors related to online learning willingness and learning quality. However, this study focused on the specific context of CSL learners in Malaysia, deeply analyzed the influence of interactivity, technological factors and content design, and divided learners' willingness into positive willingness and weak willingness, further revealing the different attitudes and experiences of learners in online learning.

Interactivity is considered the most critical factor in online Chinese learning. Studies have shown that teacher-student interaction has the greatest impact on learning outcomes, and real-time feedback and personalized guidance can help students solve problems faster and consolidate knowledge. At the same time, student-student interaction promotes cultural exchange and Chinese practice through group discussions and peer collaboration, and enhances learning enthusiasm. Student-content interaction helps students deeply understand the course content through multimedia and practice resources, and makes up for the shortcomings of other forms of interaction.

Strengthening interactivity, such as increasing group discussions, real-time dialogues, and gamification learning, is an important measure to improve learning outcomes.

Technical factors, especially network connection issues and technical glitches, have had a significant impact on the online CSL learning experience. Network instability and system crashes may interrupt class flow and reduce learning efficiency. Although some learners cope with technical problems by troubleshooting or seeking technical support, these problems may still reduce willingness to learn. To address this challenge, online learning platforms need to invest in stable technical infrastructure and provide timely technical support to reduce the negative impact of technical issues on learning outcomes.

Course content design plays a fundamental role in the quality of learning. Learners generally agree that content that is relevant to their interests and culturally relevant increases engagement and motivation. The reasonable course structure helps students lay a solid foundation and gradually improve their language skills through step-by-step design. In addition, highly interactive and high-quality learning materials, such as multimedia courses and gamified quizzes, not only increase the fun of learning, but also effectively consolidate knowledge points. Optimizing content design, especially cultural adaptability, logic and resource richness, will significantly enhance the attractiveness and effectiveness of online Chinese courses.

CONCLUSIONS AND IMPLICATIONS

This study adopted a qualitative research method and conducted thematic analysis using Nvivo. It explored the willingness to learn Chinese online and its influencing factors among 24 participants of a Mandarin club in a public university in Malaysia. The results show that although many learners recognize the flexibility, convenience and rich resources of online learning, most learners prefer face-to-face learning because online learning lacks interactivity, concentration and learning atmosphere. In addition, the study also revealed three key factors that affect online Chinese learning: interactivity, technical factors and content design. In summary, by improving interactivity, optimizing technical support and improving course content design, online Chinese learning platforms can better meet the needs of learners and provide practical references and theoretical basis for the digital development of language education.

Online CSL learning holds significant appeal for Malaysian university students, but improving its teaching effectiveness requires enhancements in course design and instructional strategies. Firstly, reducing class sizes can strengthen interactions between instructors and students, as well as among students themselves, thereby boosting focus and engagement. Secondly, course design should be more structured and incorporate interactive elements such as real-time exercises, engaging quizzes, and gamified learning to enhance students' motivation and participation. Additionally, personalized feedback and real-time practice sessions are crucial, as they not only help students improve their language skills more effectively but also increase their satisfaction with the course. Besides, courses should leverage appropriate technologies to integrate elements of Chinese cultural context and real-life scenarios. Immersive learning experiences, such as virtual cultural tours and daily conversation simulations, can

deepen students' understanding of both the language and the culture. To cater to the needs of diverse learners, short and engaging course modules, daily language and cultural knowledge updates, as well as features like progress tracking and reward mechanisms can be designed to inspire long-term learning interest and optimize learning outcomes. These recommendations not only provide direction for the development of online Chinese language courses but also offer valuable insights into how to better support learners in a digital learning environment.

LIMITATIONS

Although this study provides valuable insights into online CSL learning for Malaysian university students, it still has shortcomings. The study only focuses on the overall situation of online learning and does not compare the specific impact of different platforms or tools on learning quality. In addition, the sample size is small and limited to a specific cultural and educational background, which may not represent learners from other regions or backgrounds. Future research can expand the sample size, cover more regions and educational backgrounds, and make in-depth comparisons of platform differences and their impact on learning quality to gain a more comprehensive understanding of the multidimensional characteristics of online Chinese learning.

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