Using scaffolding resources to facilitate international students’ autonomous online Chinese as a Second Language learning: A case study during the COVID-19 pandemic

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Abstract: This case study explores international Chinese as a Second Language (CSL) students’ use of embedded scaffolding resources to facilitate their Chinese language learning in an autonomous online context during the COVID-19 pandemic. A total of 60 international students enrolled in a Chinese university participated in study. Data were collected via participants’ reflective reports, teacher-led tutorials and individual interviews. This study found that scaffolding resources could be a good facilitator to enhance international CSL students’ autonomy in online Chinese language skill learning, which was not a linear process but a recursive one. In terms of intercultural learning, scaffolding resources were not effective on promoting students’ online learning autonomy. They preferred teachers’ support to their learning. These findings could be instructive for online CSL education during the COVID-19 pandemic, when Learn From Home policy of Chinese universities will last for a long time. Recommendations for future studies are provided on the base of these findings as well.

Keywords: scaffolding; learner autonomy; Chinese as a Second Language; online learning; intercultural learning

# Introduction

Affected by the COVID-19 pandemic across the world, under the guidance of the Ministry of Education, universities in China have postponed the commencement of the Spring Semester of 2020. International students enrolled in Chinese universities are suggested to continue their Chinese as a Second Language (CSL) learning in their home countries via the Internet. Online language learning is often believed to be inherently linked to the development of autonomy, while scaffolding resources play a role in language development (Stockwell & Reinders, 2019).

Scaffolding resources are the learning materials used to help language learners overcome obstacles and challenges in their learning process (Safadi & Rababah, 2012). With the integration of modern technologies, new dimensions of scaffolding have been added to foreign language learning. Digital resources are claimed to be an effective scaffolding tool to enhance language learning (Luhach, 2016). These digital materials are usually presented in various forms, including notes, scripts, hints, reference answers and extending information (Han, 2018), playing a strategic cognitive role as scaffolding to facilitate students’ foreign language learning (Opperman, 2016).

For the scaffolding effects on foreign language learning, a number of studies have been conducted in the area of English as a Foreign Language (Hamad & Metwally, 2019; Li, 2017; Mojarrabi Tabrizi et al., 2019). However, there are not many studies on scaffolding contextualized in a CSL learning context. Previous knowledge on scaffolding might not be applied to CSL learning and teaching.

Besides, many scaffolding resources in CSL learning are usually selected, scheduled and assigned by teachers in the classroom (Xu, 2012). Students have limited autonomy in learning with supportive materials, but rely on teachers to address their learning problems (Shi, Delahunty, & Gao, 2018). It is indicated that the widely-employed approaches in Chinese universities for CSL learning and teaching do not create a supportive context for international students’ autonomous learning, while students are not prepared for autonomous online CSL learning either (Wang, 2019). Current international CSL students are in a different learning context.

Given that the COVID-19 pandemic is widely affecting many countries across the world, international students are supposed to learn CSL online, rather than in the classroom for a long time. It is necessary for researchers and teachers to figure out effective ways to enhance their autonomous CSL learning. The present study is conducted to examine the use of scaffolding resources in international students’ autonomous CSL learning. The findings of the study hopefully enrich the literature on autonomy and scaffolding in foreign language learning, and bring about practical suggestions for CSL students’ learning activities. To achieve the goals, the research question addressed in the current study is: What are effects of scaffolding resources on elevating international students’ autonomy in online CSL learning?

# Literature review

Scaffolding resources have been accepted as an effective means of instruction in learning as well as a source of support, as learners can leverage the knowledge and skills through overcoming their limitations in learning, and achieve meaningful learning outcomes (Levitt, 2017). Learning with scaffolding resources, learners are assisted in doing something that “she or he might not have been able to do otherwise” (Ohta, 2000, p. 52). These resources are a tool to bridge the gap between the “learning needs” and the “target needs” of language learners (Basturkmen, 2006, pp. 25-26). To date, the effectiveness of scaffolding resources on foreign language learning has been widely recognized in different contexts (Altin & Saracaloğlu, 2018; Lin & Chen, 2007).

Embedded supportive materials are a common form of scaffolding in foreign language learning, which is the “static support that can be anticipated and planned in advance” (Brush & Saye, 2002, p. 2). These embedded digital scaffolding is accessible for all learners, and provides general support to their learning needs (Oliver & Hannafin, 2000). Meanwhile, scaffolding also leaves more thinking spaces for learners’ elevation of autonomy than teachers’ or peers’ on-demand responses (Brush & Saye, 2000). In this respect, scaffolding provides necessary support for learners, and encourages them to gain increasing self-initiation and self-regulation at the same time (Adolphs et al., 2018).

Being autonomous is one of the objectives of language learning: learners are expected to become “autonomous objects” in future learning (Dunn & Lantolf, 1998, p. 428), who are more likely to seek learning resources that suit their own learning needs, instead of waiting for teacher’s assignments passively (Nosratinia & Zaker, 2014). In recent years, language learning has largely shifted away from exclusively teacher‐centred models toward student‐oriented and autonomous approaches. Particularly during the COVID-19 pandemic, international students are required to Learn From Home (MOE, 2020). With less teachers’ supervision and instructions are provided online, CSL students’ language learning is largely contextualized in an autonomous context. To figure out ways to enhance international students’ autonomous CSL learning is practically necessary at this moment.

A number of studies have investigated the effectiveness on scaffolding resources facilitate foreign language learning with the increase of learner autonomy. For example, Ge, Xiong and Xiong (2016) used scaffolding resources to help students reduce learning burden and develop their foreign language skills. Lim and Lee (2007) investigate the use of scaffolding materials to improve students’ abilities in autonomously planning their language skill learning and practice. With the integration of technologies, scholars and researchers also develop a set of digital scaffolding materials, which have helped learners achieve productive outcomes in autonomous language skill learning (Marzban, 2011; Yeh & Wan, 2019). Through learning with scaffolding resources, a language learner makes a shift of the role from a passive receiver of language knowledge to an active seeker or a knowledge contributor, and engages in the whole learning process with an autonomous attitude with less teacher supervision needed (Betts, 2004). As Smith and Craig (2013) have put, scaffolding is essential to the exercise of learner autonomy in language skill development.

To develop foreign language abilities, intercultural learning is a necessary part. It is not appropriate to consider grammatical and lexical knowledge to outweigh intercultural awareness (Dervin & Liddicoat, 2013). The intercultural dimension of foreign language education is claimed to be “more than language skill learning” (Sercu, 2002). It is supposed to be integrated into foreign language learning, and to promote students’ overall language abilities. A range of studies have investigated the use of scaffolding on facilitating intercultural learning, particularly in an online context. For example: Walker and Brocke (2009) put that scaffolding resources could be a good facilitator for students’ online intercultural learning; Vurdien and Puranen (2020) found that scaffolding provided students a self-regulative learning context for developing their intercultural competence; O’Neill, Crishton and Scarino (2019) attempted to use the reflection process as scaffolding to enhance students’ intercultural learning, which had obtained satisfying outcomes.

Learning from them, it hypothesizes that scaffolding resources could help learners promote their foreign language learning and elevate their autonomy. However, only a few studies have investigated the employment of scaffolding in CSL learning and teaching, with less focusing on an autonomous CSL learning context: Wang, Liu and Lee (2019) suggested that the use of digital resources could increase students’ confidence in CSL learning; Xu, Chiou and You confirmed the effects of interactive scaffolding on Chinese character learning. These studies have provided a perspective to look into scaffolding in autonomous CSL language skill learning and cultural learning. This study, being illuminated by previous ones, focuses on the effects of online scaffolding resources on facilitating autonomous CSL learning by investigating international students’ learning during the COVID-19 pandemic.

# Methods

A total of 60 international sophomore students enrolled in a university in Southwestern China voluntarily participated in this study. Of all participants, 60% were male (n=36) and 40% were female (n=24). These students came from various countries in different continents like Asia (Korea, Thailand, Mongolia, Kazakhstan, Vietnam, Laos, Indonesia, Iran, Kyrgyzstan, etc.), Europe (Russia, Italy and France), America (U.S.), and Africa (Cameroon, Kenya, Egypt, Chad, South Africa, etc.). They were non-native speakers or heritage speakers of Chinese with different education background and native cultures. In average, this group of participants had studied Chinese for at least four years (m=5.4). All participants had passed HSK-5.

Before the COVID-19 pandemic, these students attended Comprehensive Chinese courses in the university for at least six hours per week. The courses consisted of two major parts: language skill learning part, including learning and practice of four language skills – listening, speaking, reading and writing; and intercultural learning part that focused on the introduction of Chinese history, culture and society. A traditional textbook-based approach with visual-audio resources was adopted in the classroom. Teachers were at the centre of the courses, while students were required to follow teachers’ instructions in class.

During the pandemic, international students returned to their home countries and attended courses at home via the Internet. Due to the time differences of international students in different countries, in-class teaching methods were not applicable during the online learning period. Students’ learning experienced a change from the teacher-centred way to the student-centred. Online CSL learning was largely self-initiated and self-regulated during the COVID-19 pandemic.

Six weeks’ online learning of Comprehensive Chinese courses was investigated in this study from March 2 to April 10. A highly recognized online CSL learning platform was employed as the context. A wide range of embedded scaffolding resources, including notes, scripts, captions, extensive reading materials and reference answers, were provided to facilitate students’ text- and video-based online CSL learning.

After the accomplishment of every two weeks’ learning, a teacher-led online tutorial was provided. Students could engage in the tutorial to seek assistance from the teacher to solve their learning problems. After the tutorials, participants provided their written reflective reports regarding their perceptions and employment of the online CSL learning. The reports were designed to collect information about participants’ immediate reflections of online scaffolding resources and teachers’ assistance.

After six weeks’ online CSL learning, eight of these participants were interviewed online individually. The semi-structure individual interviews provided in-depth descriptions about their experience of scaffolding resources regarding their autonomous online CSL learning. The guiding questions were developed by referring to the literature, and were modified according to students’ reflective reports. The full list of questions is attached in Appendix. Each interview lasted for around 30 minutes. Chinese mandarin was used in the interviews. The transcriptions of the interviews were translated by professionals. A back-translation approach was also used to validate the information.

# Results

Data show that international CSL students’ understanding of scaffolding resources was not the same in three weeks’ online learning regarding the effects of scaffolding on CSL learning, the effects of scaffolding on intercultural learning, and the effects of scaffolding on autonomous learning.

Table 1 lists some key comments from participants in terms of their perceptions and use of scaffolding in language skill learning during the COVID-19 pandemic. Changing attitudes of participants towards scaffolding were noticed in their reflective reports and interviews.

Table 1. Participants’ understanding of scaffolding resources in CSL learning in three weeks.

|  |  |  |
| --- | --- | --- |
| W1 - 2 | W3 - 4 | W5 - 6 |
| “Those notes and reference answers (in listening practice) were useless. … There was no need for me to use them as long as I could have the correct answers.” | “Notes acted like a virtual teacher in the online space. … They enabled me to get the correct answers to difficult task that I could not do without them.” | “These resources provided a 24-hour support to my online learning.” |
| “I thought teachers did not ask us to use them. … If I was in plenty of time, I might have a look at them. However, time for reading tests was so limited. … It (Using scaffolding) was a waste of time.” | “These supports seemed to be useful, although I did not realize how to put them into use effectively. But I could always learn something to improve my Chinese. … At least I got my reading skill practiced.” | “For students who were capable in English learning, these resources provided a larger context of learning. We could promote our learning to a higher level by using these resources.” |
| “Some of those background stories were quite interesting. … But I did not see the use of them. I mean, they could never increase my scores in HSK. So why bothered?” | “Sometimes I did not really use these notes and reference answers. However, it did matter I knew they were there. They made my learning confident. ... I believed they increased my scores.” | “Resources like background information and extensive reading seemed to be more contributing to language learning than I thought. …They could be a tool for students with different language levels.” |

This study also noticed international CSL students changed their ways of seeking assistance in their language skill learning. At the beginning of this study, many participants preferred to seek teachers’ help in online tutorials to target their specific language skill learning problems, instead of using scaffolding resources like notes, scripts and extensive reading by themselves. For example:

Hey Teacher, could you please tell me what does “莫名其妙” (be baffling) mean in the reading? (Tutorial 1)

I do not fully understand the listening part in the test. … There is a word sounds like jì lù (记录). Am I correct? (Tutorial 1)

Hi, when I am doing the reading part, I am wondering what is the difference between 大名（a formal name）and 小名（a nickname）? Why do Chinese people usually have two names? (Tutorial 2)

As CSL students progressed in the online learning, many of them did not rely on teachers to solve their language skill learning problems that they could have used scaffolding for answers. They were noticed to employ tutorials to seek individual CSL learning advices directly from teachers, which was hardly seen at the beginning of their online learning. For example:

Hi Teacher, considering my current learning situations, could you help me plan my writing learning for the next week? (From Tutorial 3)

I find that my listening skill is not good, as I miss many keywords in listening. May I get some suggestions to improve my listening please? (From Tutorial 3)

In terms of intercultural learning, participants were noticed to be dependent on teachers’ support in an online context, rather than using provided scaffolding resources with an autonomous attitude. From Week 1 to Week 6, no significant changes of international students’ learning with scaffolding was seen in this study. These can be seen from Table 2:

Table 2. Participants’ use of scaffolding resources in intercultural learning in three weeks.

|  |  |  |
| --- | --- | --- |
| W1 - 2 | W3 - 4 | W5 - 6 |
| “Those materials contained a lot of intercultural content and Chinese historical stories. These were too abstract and obscure. I did not like to waste my time on them.” | “Extensive reading, from my learning experience, increased my learning burden. They were too difficult for me.” | “learning with extensive reading materials always brought me more questions.” |
| “Intercultural materials seemed not to be valuable since they could not increase my scores in language tests.” | “When I got some leisure time, I had a look at those background stories. … They were quite interesting, but I did not see the reason for spending time on them.” | “Compared with those resources, I preferred my teachers to help me. Teachers’ instructions were more instructive. …Teachers knew much better about me.” |
|  | “Those stories and extensive reading could be a good tool to improve my cultural knowledge. However, they seemed not to solve my learning problems directly. … They were less instructive then my expectation.” | “From my experience, intercultural learning could enhance my Chinese learning. But it was more demanding than listening or reading. … Just those materials might be far from enough for my intercultural learning.” |
|  |  | “Yes, I could learn something from the extensive reading. But I believe it is far from enough. ” |

For intercultural development, scaffolding resources were not the only source of assistance international CSL students sought from. This study noticed that many students preferred their teachers to help their intercultural learning from Week 1 to Week 3, although scaffolding resources had been provided. For example:

Why cannot we say “端午快乐” (Happy Dragon Boat Festival) in China? (Tutorial 1)

This part shared a story about a famous poetess named 李清照 (Li Qingzhao). Who was her? (Tutorial 2)

I went through the extensive reading and I knew that there is a monster called “夕” (Monster Xi) in China and it often comes to the world on New Year’s Eve. So “除夕” (killing Monster Xi) means New Year’s Eve in Chinese language. Am I correct? (Tutorial 3)

Through six weeks’ online learning, international CSL students were found to be different both in their perceptions and their practice regarding learner autonomy with the use of scaffolding resources. From ignoring most scaffolding resources in Week 1 to effective employment of them in Week 6, these changes were seen in their self-initiation and self-regulation learning activities, such as initial motivation to learn, effortful learning behaviours outside the classroom, and planning, monitoring, and evaluating the content and process of their online CSL learning. This can be found from Table 3:

Table 3. Participants’ perceptions and use of scaffolding resources in autonomous learning in three weeks

|  |  |  |
| --- | --- | --- |
| W1 - 2 | W3 - 4 | W4 - 6 |
| “I just finished my assignments in online learning. …To be honest, I did not want to spend too much time on learning.” | “Are those provided supportive resources useless if I could accomplish all learning tasks correctly? After the online learning, I began to doubt that point.” | “These provided answers were quite useful when I needed to know if I was ready for the next session of learning.” |
| “Reference answers were a big challenge for me. I always used them before I actually worked on those tasks.” | “In the past, I had to bother my teachers when I had some problems with my learning. Now I could learn with these supportive materials.” | “I am not sure if my way of learning was correct, but I found that was suitable for my situation, though it was not the same with my peers’.” |
| “Scripts were good for listening practice. … Provided scripts often turned my listening practice into reading one.” | “Studying every single word in online learning seemed to be too demanding. … As the online learning was not supervised, I would better skip them.” | “Compared with my first week’s learning, I believed I could better plan my online learning now. … My time investment to learning tasks and to extensive reading materials was much more reasonable now.” |
|  |  | “What do I learn Chinese for? For knowing about a bigger world. I find these resources, together with the texts and tasks, provided me a picture of the world. …No reason to ignore them.” |

It was found that at the beginning stage, many students relied on teachers to finish their online CSL learning. They expected teachers to solve all their problems, although many of these problems could be targeted by referring to provided scaffolding resources. Participants did not have many ideas about autonomous learning either. They were quite passive and waited for teachers’ instructions. For example:

Hi Teacher, could you please check my answers? (Tutorial 1)

I did not know what part of these tasks I should finish for this week. May I get some hints? (Tutorial 2)

With increasing experience of autonomous online learning, international CSL students were gradually more independent from relying on teachers in online learning. By the end of Week 6, many of them could better plan, organize and evaluate their CSL learning activities in autonomous attitudes by referring to scaffolding resources. It should be noted that international students were more autonomous in online CSL learning, while teachers’ instructions were still valued. This can be found from tutorials:

Hi, this is my learning plan for the next week. Could you please help me better it by considering my current learning situations? (Tutorial 2)

I am planning to get more listening practice as my listening skill is not good enough. But I have only limited time. May I have less reading assignments please? (Tutorial 3)

Teachers’ suggestions are useful. But I still need to say, you are the person who know yourself best. … Online learning should be organized by yourself. (Tutorial 3)

# Discussion

By investigating international CSL students’ online learning during the COVID-19 pandemic, this study noticed that embedded scaffolding resources could enhance their Chinese language development by facilitating their language skill learning and intercultural learning in an autonomous context. This finding is partly consistent with previous indications (Mojarrabi Tabrizi et al., 2019; Stockwell & Reinders, 2019). However, it was noteworthy in this study that students’ knowledge and use of scaffolding in their autonomous CSL learning was not a static status, but a changing process. For autonomous online language skill learning and intercultural learning, online scaffolding was perceived and used in different ways by CSL students as well.

At the beginning stage, participants’ understanding and use of embedded scaffolding resources remained a simple way. They simply used scaffolding as a tool to “check answers” (W1 - 2 & W3 - 4, Table 1). Many participants, as observed in this study, employed resources to serve their preparation for HSK and to finish their assignments. They preferred to invest their time on skill learning tasks, rather than scaffolding resources, as the scaffolding was believed “not to increase my HSK scores” (W1 - 2, Table 1). It shows that many CSL students at this stage did not to know how to make good use of resources to scaffold their CSL learning. They did not realize the value of scaffolding to support their language learning, which should have helped them overcome obstacles (Safadi & Rababah, 2012), rather than simply increasing their test scores. As Hamad and Metwally (2019) have suggested, scaffolding resources could have facilitated foreign language skill learning by providing a larger pool of learning materials and more practice opportunities. Being influenced by the traditional in-class learning approach, students’ understanding of these materials was primary and incomplete at this stage.

International students in a Chinese university context generally follow a test-oriented approach for CSL learning (Zhao, Xu, & Zhu, 2005). With the outbreak of COVID-19 worldwide, however, Chinese language courses in universities changed. Students’ language learning was not evaluated by their performances in language tests during this time period. Students had to change their ways of CSL learning accordingly before they were fully prepared. It was anticipated that participants were not familiar with scaffolding and autonomous online CSL learning, and continued their traditional learning ways in a new autonomous online context. Students did not know how to use scaffolding resources to address their problems, although explanations had been embedded at the early stage of online learning (Tutorial 1 & Tutorial 2).

Participants were also largely dependent on teachers in their CSL learning at the early stage. Although scaffolding resources have been widely used in Chinese language courses for years, like many other learning resources, scaffolding was limited to a traditional teacher-centred context (Wang, 2017), and was mostly selected, scheduled and assigned by teachers in Chinese classrooms (Xu, 2012). International students were accustomed to learning in a teacher-centred way (Bao, 2019). Learning in an autonomous context, these students still expected their teachers to solve their learning problems (Tutorial 1 & Tutorial 2), instead of using embedded resources independently to gain self-initiation and self-regulation in learning (Adolphs et al., 2018). Simply introduced scaffolding into online learning could not successfully help international students become autonomous. They remained passive receivers as less autonomous language learners as they usually did in the classroom.

It did not take a long time before participants deepened the understanding of scaffolding to enhance their language skill learning. In line with empirical studies (Altin & Saracaloğlu, 2018; Lin & Chen, 2007), by using scaffolding resources, students could accomplish the difficulty learning content that they could not do before (W3 - 4, Table 1). They did not focus exclusively on language test in CSL learning, but paid more attention to language skill development. By engaging with more scaffolding resources, participants gradually recognized it to bridge the gap between their current language levels and their learning goals of overall language development (Basturkmen, 2006). Scaffolding could be an effective tool to promote online CSL learning.

With the use of scaffolding in their CSL learning, participants also framed the learning process in their individual Zone of Proximal Development (ZPD). Scaffolding has a close association with ZPD that language learners are expected to develop their learning based on their own situations (Hammond & Gibbons, 2000). In this case, some participants were noticed to use scaffolding resources in their own ways to facilitate their individually different learning, and expanded their learning to a larger context (W5 - 6, Table 1). They also had a clearer vision of their language skill learning (Tutorial 3). This was different from their previous learning in the classroom, where international students’ learning was usually assigned and scheduled by teachers (Hooper, 2014). Embedded online resources, as reflected in this study, were acting a mediation role as scaffolding that was valuable to students’ learning (Ash & Levitt, 2003), and could promote CSL skill learning to a higher level in students’ individual ZPD without teacher’s over-intervention (Khaliliaqdam, 2014).

Through using embedded scaffolding resources, participants were more self-initiative and self-regulated in the online learning process. Many of these international students gradually showed the sign as more autonomous language learners that they could independently evaluate their current learning, plan their future learning, and find resources as scaffolding from a broader context to target their own learning problems (W3 - 4, Table 1; Tutorial 2 & Tutorial 3), being characterized as “high autonomous learners” (Poole, 2005) in language skill learning.

With more digital materials that provided general support to students’ learning were incorporated into their EFL learning, participants became less dependent on teachers (Tutorial 2). In this process, they attempted to shift the role to an active knowledge contributor, and engaged in the learning with an autonomous attitude (Betts, 2004). The use of scaffolding resources helped create a learning context that allowed for the elevation of learner autonomy (Lantolf & Appel, 1994), and helped students achieve the goal of autonomous learning that they could hardly do in a traditional classroom (Shi, Delahunty, & Gao, 2018).

To wrap up, international students gradually realized the value of scaffolding resources for their online CSL learning. With their employment of scaffolding, they promoted their CSL skill learning to a higher level, and catered for the overall development of their language abilities with a more autonomous attitude in the online language learning context.

Regarding intercultural learning, it was found from this study that embedded scaffolding resources could not effectively enhance international students’ autonomy. Teachers’ assistance was the key to support their online CSL learning.

At the beginning of their online learning, participants considered intercultural learning difficult (W1 - 2, Table 2). Facing these obstacles, many students did not make use of scaffolding resources, but believed these supportive tools as “burden” to their online learning activities (W3 - 4, Table 2). Scaffolding should have helped CSL students better conduct their learning, and reduce learning burden to achieve satisfying learning outcomes (Ge, Xiong, & Xiong, 2016). Learners, learning in an autonomous context, are expected to enhance their learning by using scaffolding resources. However, as observed in this study, participants heavily relied on teachers’ assistance, rather than solving their problems on their own (Tutorial 1 & Tutorial 2). In this respect, this group of students showed a low degree of autonomy in intercultural learning at the beginning of online CSL learning. They did not systematically consider or use scaffolding as a facilitator of CSL learning in a new online context.

It showed that embedded scaffolding resources could not effectively enhance international CSL students’ autonomy in intercultural learning. Unlike the elevation of learner autonomy in language skill learning with the increasing employment of scaffolding resources, international CSL students were still dependent on teachers in W2 and W3 in intercultural learning. Some participants indicated that using scaffolding could not fully address their learning obstacles (W3 - 4 & W5 - 6, Table 2). Compared with scaffolding resources, teachers were their preferred sources of assistance in intercultural learning.

Student’ perceptions and uses of scaffolding resources in intercultural learning as observable outcomes were not all correct but a reflection of their long-term CSL learning experience in a China. Intercultural learning in Chinese universities largely follows a traditional approach that teacher-centred, didactic pedagogic discourse is the norm (Cambridge, 2016). Learning in this way, CSL students preferred to wait for teachers’ instructions and assistance, instead of figuring out answers independently. As CSL learning was operated online during the COVID-19 pandemic, many students were not prepared for this change. They continued their traditional ways of learning with teachers, although a new autonomous learning context had been created.

Intercultural awareness is a necessary part of foreign language learning. As Dervin and Liddicoat (2013) have put, grammatical and lexical learning is supposed to be conducted together with intercultural learning in order to develop students’ foreign language abilities. This group of international CSL students showed a high level of learner autonomy in language skill learning. They displayed strong motivation to pursuit development of linguistic abilities and knowledge by using scaffolding resources to promote their learning. However, in intercultural learning, they showed low autonomy and remained passive in the online learning process (W5 - 6, Table 3; Tutorial 2 & Tutorial 3).

# Conclusion

This case study explored international students’ use of digital scaffolding resources to enhance their autonomous online CSL learning. Findings from the study showed that scaffolding could elevate CSL students’ learner autonomy in language skill learning, while its effects on intercultural learning was less significant. Learning with embedded scaffolding resources, international CSL students were autonomous and independent in language skill learning, while they were dependent on teachers in intercultural learning in an online context.

The development of participants’ autonomous CSL learning with scaffolding was a recursive process. As found from this study, learning in the new online context, students developed their learning through frequent attempting, monitoring and reviewing their individual learning. They made many mistakes in the process, and then revised them by seeking assistance from scaffolding resources and teachers. As Eckerth and Tavakoli (2012) have put, learning in a new context is more like a complex process with revision and relearning, as well as opportunities to engage with the resources in the long term. It took time before participants could make full use of scaffolding as a new tool to support their CSL learning in a new environment. In this process, they should be allowed for the room to make errors and mistakes, and had access to teachers’ instructions (Barnard & Campbell, 2005). Besides, appropriate encouragement was also of importance for international students, particularly in a new autonomous learning context (Baz, Balcikanli, & Cephe, 2018).

The COVID-19 pandemic is a challenge for Chinese universities and CSL education as it forces teachers and students to change the traditional approaches before they are fully prepared. A longer process of the investigation of international CSL students’ use of scaffolding resources should be taken into consideration, which may obtain more empirical evidence to better the design and implementation of online CSL learning across the world before COVID-19 is eliminated.

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# Appendix

Guide questions for interviews:

1. For what purpose did you use scaffolding resources in your online CSL learning?
2. What do you think of scaffolding resources in your online CSL learning?
3. What effects scaffolding resources had on your online CSL learning?
4. How did you use scaffolding resources in your online CSL learning?
5. How did you solve your learning problems in your online CSL learning?
6. What do you think of the scaffolding resources for your language skill learning?
7. What do you think of the scaffolding resources for your intercultural learning?
8. Do you think that scaffolding resources could make your online CSL learning more autonomous?
9. Do you think that scaffolding resources could replace teachers in your online CSL learning?