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A systematic review of Chinese students' online learning experiences

Research Article

Yiyi Mao[1]*, Kyungmee Lee[2]

[1]Department of Educational Research, Lancaster University, Lancaster, UK
[2]Department of Education, Educational Research Institute, Learning Sciences Research Institute, Seoul National University, Seoul, South Korea

Abstract: The COVID-19 pandemic prompts a number of university students to engage in online learning. China is one of the countries that has experienced a radical shift in this sense. Before the pandemic, the online mode of university study was not recognised as a legitimate educational experience in China; thus, a small number of Chinese students engaged in online learning. Subsequently, there was a relatively incomplete understanding of their online learning experiences. Given the exponential expansion of online learning in China since the pandemic, it would be a timely effort to synthesise knowledge on online Chinese students' experiences. For that purpose, the present article presents the results of a systematic literature review of 34 published journal articles concerning Chinese students' online learning journey. The results give a deep insight into Chinese distance higher education from students' perspectives and call for more studies on the implications of relevant policy and cultural dimensions on Chinese students' online learning experiences.

Keywords: *Online learning; Higher education; Chinese students; Systematic literature review*

Introduction

While China has one of the largest higher education systems in the world, distance higher education in China started late on a small scale. However, its use across China is rapidly increasing. The number of higher education institutions providing distance programmes has increased from 4 universities in 1998 to 86 universities, including six open universities, in 2021. Despite its brief history, Chinese distance higher education has developed through three phases—from correspondence-based distance education to radio- and TV-based distance education and then to e-learning or online distance education, similar to countries that adopted distance education far earlier in the 1960s and 70s (Lee, 2017). Thus, it is only a recent few years that online learning has come into play in the Chinese higher education system, and a range of issues have been reported, such as inadequate technology infrastructure (Chen et al., 2016).

Without having a chance to address those issues, the COVID-19 pandemic has led to an increasing number of Chinese college students studying online. The Ministry of Education of the People's Republic of China (2020a) reported that 3.5 billion college students were involved in distance learning during the outbreak. Nevertheless, Liu et al. (2020) and Yang et al. (2021) pointed out that the completion rate of online courses was noticeably low, and students' motivation was dramatically decreased in online learning contexts. In such a climate, the Chinese government has put forward a new proposal for the further development of higher education, including encouraging Chinese universities (CUs) to adopt online learning programmes (Ministry of Education of the People's Republic of China, 2020b).

A small group of researchers have investigated online Chinese students' experiences, such as influencing factors (Jin et al., 2021). Nevertheless, there is a lack of in-depth understanding of Chinese students in online distance learning contexts, corresponding to the relatively short history of online distance education in China. Consequently, such a knowledge gap has created unhelpful stereotypes, assumptions and biases against online Chinese students (Lee & Bligh, 2019). Therefore, it is a timely attempt to systematically review and synthesise a knowledge base that is empirically constructed and tested and to display the current status of the maturity of the scholarship in the field of online distance education. Thus, the present authors have collected and reviewed the relevant literature to provide

* E-mail: y.mao11@lancaster.ac.uk

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a deep insight into Chinese students' online learning experiences—both perceived benefits and challenges in their experiences. This article is an extended version of the conference paper (Mao & Lee, 2023) presented at the EDEN 2023 conference in Dublin. The study aims to clearly identify a gap in the literature that can be a useful departing point for future research and offer some practical recommendations for higher education institutions and online distance educators to better design their online programmes and support Chinese students.

The following research questions drive this review:

Q1. What are the main characteristics represented in the previous studies?

Q2. What are the main topics of the previous studies?

Q3. What statements about Chinese students are represented in the previous studies?

Methodology

This systematic literature review aims to explore the characteristics of the current status of online learning scholarship and knowledge of online Chinese students' experiences. Unlike other literature review approaches, which can be arbitrary and prejudiced, a systematic literature review follows a rigorous and transparent process, enabling researchers to develop a comprehensive overview of the current knowledge by reviewing existing research (Zawacki-Richter et al., 2020). Therefore, in the present study, a systematic literature review on the selected 34 articles was conducted to answer the aforementioned research questions in a rigorous and transparent way.

Search process

To decrease the risk of researchers' selection bias, systematic literature review projects employ an explicit search strategy to find, select and include previous studies for the review (Evidence for Policy and Practice Information and Coordinating Centre, 2010). In this review, the literature search and selection were conducted following the guidelines by Newman and Gough (2020). This review project selected the largest database of peer-reviewed literature, Scopus (www.scopus.com), to search for relevant papers to ensure a balance between comprehensiveness and relevance of online Chinese students' literature (Owen et al., 2016). Three sets of broad search strings were established (see Table 1) to locate relevant articles concerning 'Chinese students' engaging with the 'online delivery mode' of 'higher education'. Subsequently, the literature search conducted in November 2021, without time restrictions, initially produced 177 items.

Table 1. Search strings

Topic and cluster	Search string
Student	"Chinese student" OR "Chinese learner" OR "Chinese * learner" OR "Chinese * student"
AND	
Mode of delivery	"online" OR "distance" OR "remote" OR "emergency"
AND	
Education level	"higher education" OR "universit*" OR "college" OR "tertiary education" OR "higher Institut*" OR "postgraduate" OR "undergraduate" OR "graduate" OR "PhD"

Selection process

Figure 1 shows this selection process. Firstly, all 177 items were imported into a reference management software EndNote to check duplication. There was no duplicate item. The publication information of all 177 items was reviewed and 54 items were filtered out—41 items were not journal articles or book chapters (editorials, reviews and conference papers were filtered out), 11 items were not published and two items were written in languages other than English or Chinese. Abstracts of the remaining 123 studies were reviewed based on the inclusion and exclusion criteria (Table 2). The original inclusion and exclusion criteria included 'Chinese students enrolled in non-Chinese higher education institutions' to develop a comparative perspective on Chinese native students (and Chinese international students). However, this criterion was inapplicable in practice because the number of papers meeting it was disappointingly small, which was not conducive to developing a comprehensive understanding of online Chinese students' experience. Thus, the conceptual scope of Chinese students was extended in the criterion, including Chinese students who reside outside China as well as those in China.

The authors selected 40 papers and excluded 83 articles, where 81 studies were unrelated to online learning and 2 items did not focus on Chinese students. As 6 of the remaining 40 papers were unavailable due to access limitations, only 34 papers were used for further analysis.

Analysis process

To answer the research questions, a coding framework involving the following aspects was developed: (i) characteristics of the selected studies, including geographical locations (countries of the first authors, countries of research sites and countries of higher education institutions), theoretical framework and

Table 2. Final inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Student nationality	Chinese students	Non-Chinese students
Education level	Higher education	Not higher education
Mode of delivery	Online, distance, remote, emergency remote learning	Face-to-face, blended, hybrid learning
Empirical study	Papers include empirical data	Conceptual papers, literature review

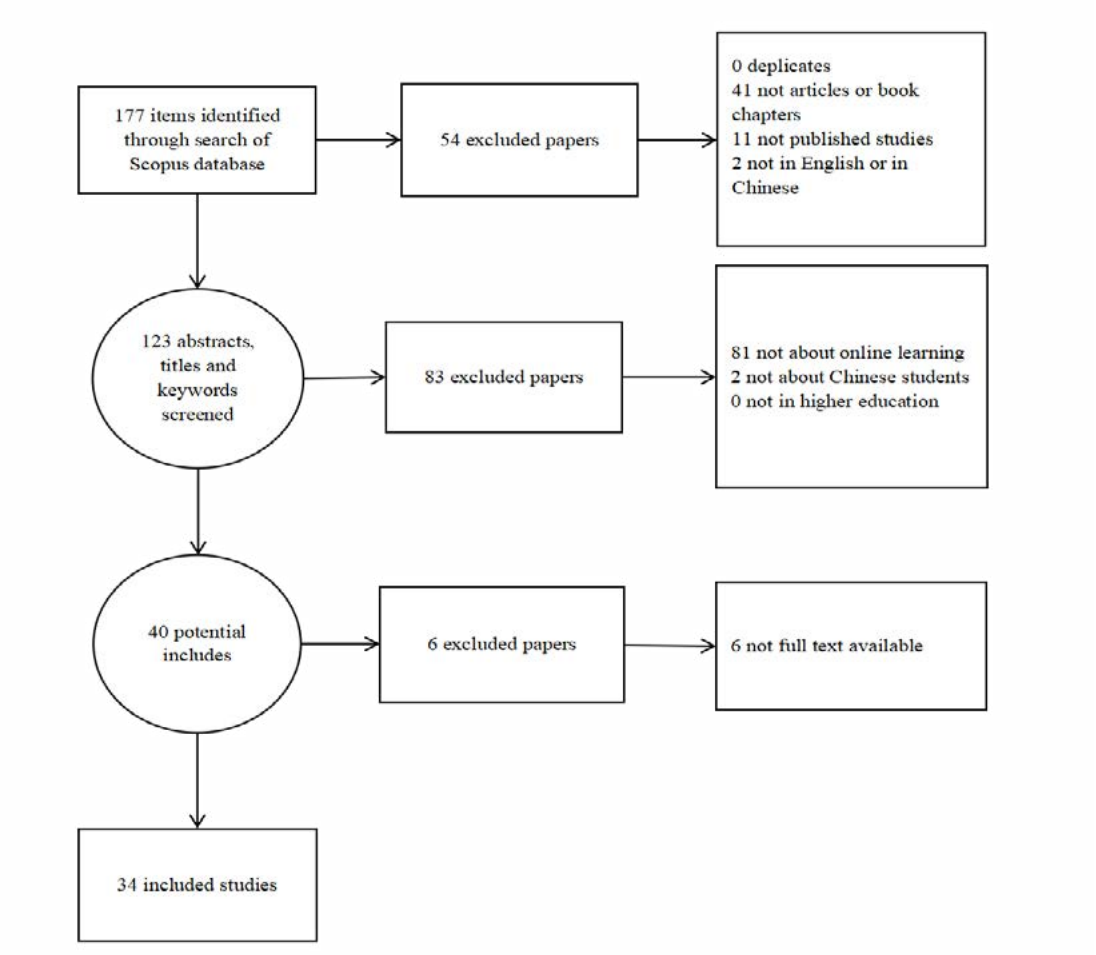


Figure 1: Systematic review PRISMA* chart.

* PRISMA is the abbreviation for The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, which was designed to improve the quality of systematic reviews (Page et al., 2021).

research methodology (research approach, research design, data collection methods and data analysis methods); (ii) main topics, findings, limitations and implications of the selected studies; and (iii) characteristics of Chinese students (assumptions and attitudes) and their online learning experiences (perceived benefits and challenges) reported in the selected studies. Both authors coded the first five articles separately and reviewed the coding results to establish inter-coder reliability. The remaining articles were coded

by the first author using the qualitative analysis software ATLAS.ti[1], and the coding results were again checked and reviewed by the second author. The comprehensive answers to the three research questions were drawn from the coding results.

Results and Discussion

This section will present the answers to each of the three research questions.

What are the main characteristics of previous studies?

1 ATLAS.ti, a software for qualitative analysis, is released by Scientific Software Development GmbH in Berlin, Germany (ATLAS.ti Scientific Software Development GmbH, 2024).

Geographical characteristics of the corpus

About half of the first authors of the selected papers (*n* = 16) are located in China. One of those authors is affiliated with a transnational university (TU) in China, and the other is with CUs. The first authors of the remaining 18 articles are located in seven countries other than China (Figure 2). Similarly, 18 studies have focussed on Chinese students' online learning experience within CUs, including two studies at TUs in China (Figure 3). Fourteen articles have focussed on Chinese students' online learning experiences outside China. The other two articles (Zhu et al., 2009a, b) have made a comparative attempt to examine the differences between Chinese students and non-Chinese students in their online learning experiences. There have been more studies on Chinese domestic participants than on Chinese overseas students, at 20 and 15, respectively (Figure 4). One study (Turnbull et al., 2021) has been

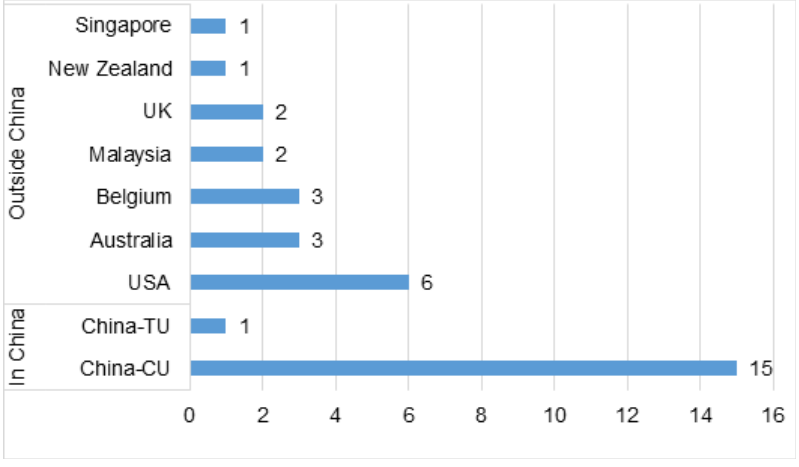


Figure 2: Country of the first author(s).

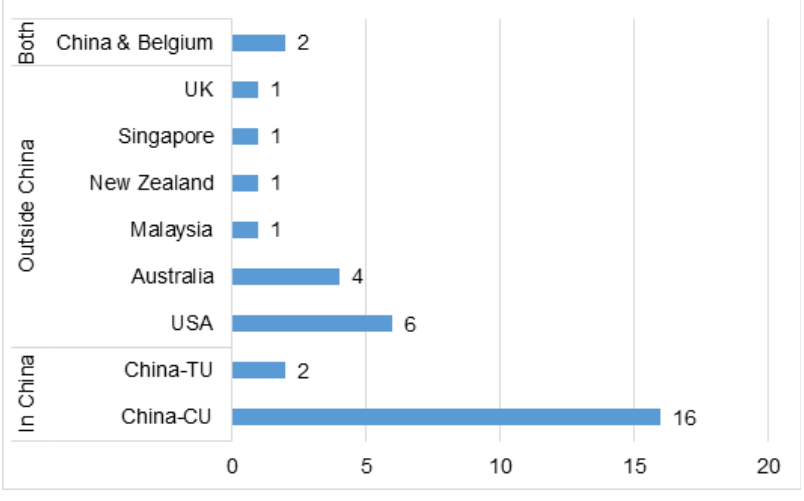


Figure 3: Country of research.

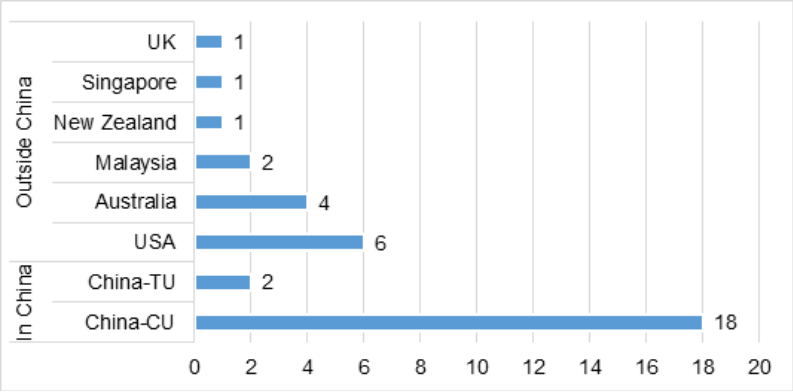


Figure 4: Country of HE institutions.

counted twice since it includes both Chinese domestic students and Chinese overseas students.

Theoretical characteristics employed in the corpus

There were four main categories of theories utilised in the reviewed articles (Figure 5). Firstly, theories related to learning and learners are most frequently adopted (26%, *n* = 11). Here, five articles discuss different factors affecting learners' self-regulating learning (Table 3). Two articles utilise the motivation theory. The rest of the four use flow theory, language learning theory, a theoretical notion of learner beliefs and self-efficacy, respectively.

Secondly, theories about culture and knowledge construction are utilised in nine articles (24%). The acculturation framework is popular in exhibiting

Table 3. Specific theories used in the selected articles

Specific theories	n	Examples
Learning-related theories (*n* = 11)		
Self-regulated learning theory	5	Hou (2020)
Motivation theory	2	Xiao and Hurd (2010)
Flow theory	1	Zhou et al. (2021)
Language learning theory	1	Zheng et al. (2016)
Learner beliefs	1	Xiao and Hurd (2010)
Self-efficacy	1	Cui (2021)
Culture-related theories (*n* = 10)		
Acculturation framework	4	Forbush and Foucault-Welles (2016)
Interpretivism	1	Thompson and Ku (2005)
Social constructivism	1	Zhu et al. (2009b)
Sociocultural constructivism	1	Commander et al. (2016)
Theory of culture	1	Thompson and Ku (2005)
Theory of cultural attributes	1	Zhang (2013)
Theory of interest	1	Du (2016)
Technology-related theories (*n* = 8)		
Technology acceptance model	3	Cui (2021)
Diffusion of innovation	1	Duan et al. (2010)
Media richness theory	1	Zhou et al. (2021)
Multimedia learning theory	1	Tsai (2019)
Push–pull–mooring model	1	Jin et al. (2021)
Transactional distance theory	1	Liu (2020)
Studies without theories (*n* = 13)		
Studies without theories	13	Cheng and Ding (2021)

students' online academic adaption process in a cross-cultural context (n = 4). Three articles employ a theory of culture, cultural attributes and interest. The others (n = 3) present interpretivism, social constructivism and sociocultural constructivism as a chosen theoretical framework concerning the authors' (or students') knowledge development processes.

Thirdly, theories useful to explain the educational adoption of technology are also applied (19%, n = 8). In particular, the technology acceptance model has been used to identify the factors affecting Chinese students' intention and acceptance of online learning (n = 3). Other technology-related theories, including diffusion of innovation, media richness theory, multimedia learning theory, push–pull–mooring model and transactional distance theory, guide five studies. Notably, 13 studies do not explicitly mention any particular theoretical framework.

Methodological characteristics

Overall, 41% of the selected articles use the quantitative research methodology (Figure 6), such as regression models (Cheng & Ding, 2021). Twelve articles present qualitative studies (35%), including autoethnography (Wong et al., 2002), ground theory (Law et al., 2013), and phenomenology (Kung, 2017). A total of 24% of the corpus (n = 8) discusses the results of mixed-methods studies (e.g. Hou, 2020).

There is a great variation in the authors' selection of specific research designs (Figure 7). The majority of researchers (n = 22) employ a case study design. Some scholars (n = 8) select a comparative design and a cross-sectional design. The experimental design is also used in three articles. Only one study (Tawil et al., 2012) uses an action research design to explore the differences in the acceptance of online learning among Chinese students and non-Chinese student groups (n = 1).

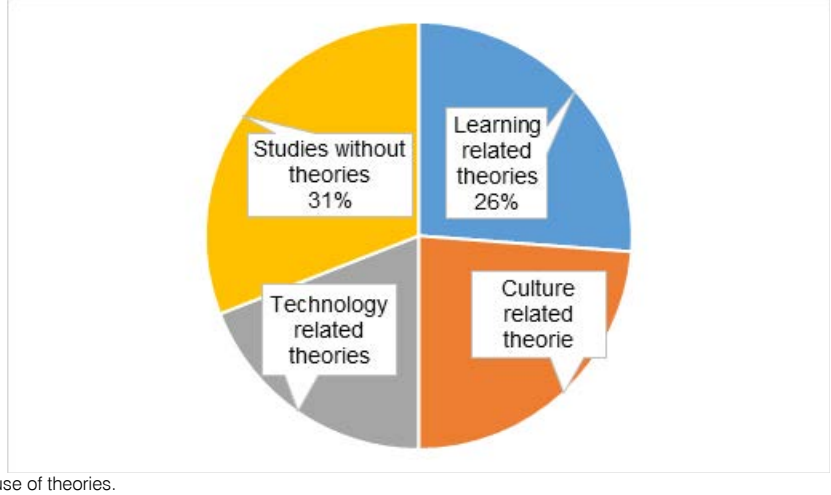


Figure 5: The use of theories.

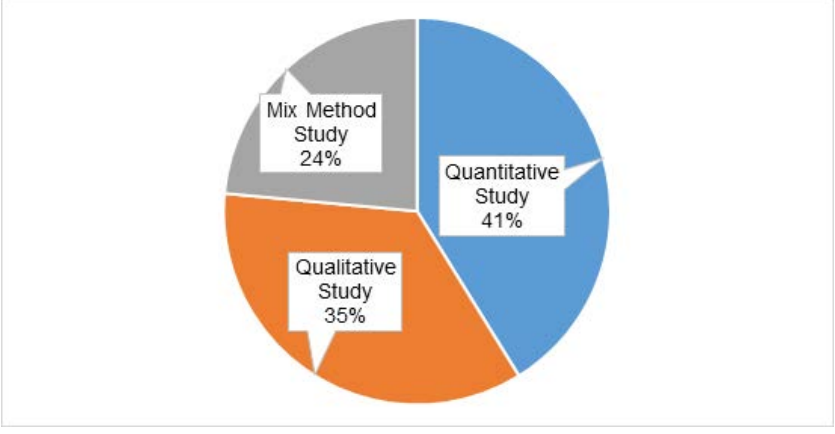


Figure 6: Research approaches.

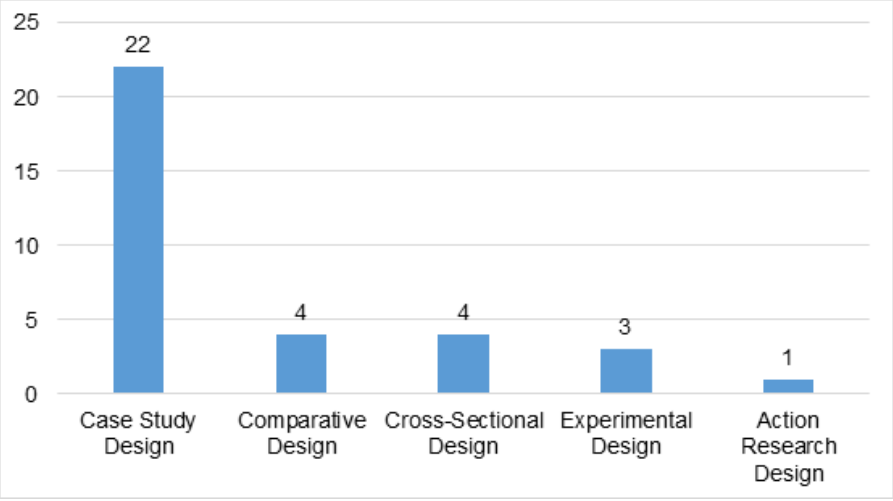


Figure 7: Research design.

Data collection and analysis methods employed in the selected articles are also diverse (Table 4). Not surprisingly, surveys (n = 22) and interviews (n = 15) are most frequently used in data collection. Many authors used more than one data collection method—Jin et al. (2021) and Law et al. (2013) conducted both surveys (questionnaires) and interviews (focus groups). Experiments involving a pre-test and post-test comparison, secondary data collection and observations are also often conducted, as reflected in 11 articles. Personal experience and students' postings are less frequently adopted by four studies.

Regarding data analysis methods, inferential statistics and descriptive statistics are used in 19 articles and 14 studies, respectively; however, they are often employed by the same authors. Cheng and Ding (2021), for example, examine students' perceptions of online review exercises using both inferential statistics and

Table 4. Data collection and analysis methods

Data collection methods	n	Examples
Survey	22	Jin et al. (2021)
Interview	15	Law et al. (2013)
Experiment (pre- and post-tests)	4	Tsai (2019)
Secondary data	4	Thompson and Ku (2005)
Observation	3	Yong (2021)
Personal experience	2	Wong et al. (2002)
Students' postings	2	Commander et al. (2016)
Data analysis methods	*n*	Examples
Inferential statistics	19	Cheng and Ding (2021)
Descriptive statistics	14	Cheng and Ding (2021)
Qualitative coding	9	Hou (2020)
Thematic analysis	3	Yong (2021)
Content analysis	2	Smith et al. (2005)
Narrative analysis	1	Turnbull et al. (2021)
Systematic analysis	1	Turnbull et al. (2021)
Triangulation	1	Thompson and Ku (2005)

descriptive statistics. Twelve papers adopt qualitative coding and thematic analysis, and content analysis is presented in two articles. Narrative analysis, systematic analysis and triangulation are the three other methods that appear in a small number of articles (*n* = 3).

Discussion

Overall, we can conclude that online Chinese students' experiences have been relatively under-researched, as the small number of selected articles demonstrates. Especially given the large higher education system in China (also a large number of Chinese overseas students worldwide), 34 is a somewhat disappointing number when it comes to the studies concerning Chinese students' online learning experiences at CUs and foreign universities. This might be related to Chinese education policy. Until the pandemic, during which all face-to-face educational provisions were banned, the Ministry of Education of the People's Republic of China (2020c) did not recognise distance learning as a legitimate medium of study in China. All Chinese students studying abroad, for example, had to stay in the destination country for at least 180 days a year with a small number of exceptions (e.g. studying at open universities). Due to the lack of government and social recognition of distance education degrees, Chinese students were unwilling to participate in distance learning programmes, leading to a lack of relevant research. Even though Chinese students were allowed to stay in China during the pandemic, attending online courses offered by foreign universities, at the moment of the present review, there is still insufficient research outcome reporting online Chinese students' experiences.

Many of the reviewed articles use one or more theories. In these studies, learning-related theories are most commonly used, followed by culture-related theories. Surprisingly, fewer scholars use theories related to the educational adoption of technology or online learning. This suggests that the current knowledge of the focussed topic has not been benefitted and connected to the established scholarship of online learning and distance education. There are also a good number of studies without utilising any theories. Theories can help researchers effectively challenge their biases and taken-for-granted assumptions and more meaningfully and comprehensively interpret and understand the social phenomenon (Bligh & Lee, 2020). Therefore, it can be especially recommended to employ a range of theoretical frameworks to examine online students' behaviours and attitudes.

There is a good balance in methodological approaches (i.e. quantitative, qualitative and mixed-methods research), with the quantitative approaches used more frequently than the other two (*n* = 14). As Popkewitz (2012) claims, quantitative research approaches can decrease ambiguities and contradictions in research, helping researchers develop generalisable knowledge. Therefore, the previous researchers who selected the quantitative approaches were interested in developing accurate images and descriptions of Chinese students and their learning experiences. Despite their own merits, however, those research approaches can lead to creating other problematic biases and stereotypes about the focus group, which need to be done with caution. When it comes to specific research design, a case study design is disproportionately employed by the majority of previous studies (*n* = 22). Even though the 22 studies provide meaningful knowledge and understanding of online Chinese students and their experiences, the scholarship can benefit from utilising more diverse research methods. Surveys and interviews are also the two exceedingly adopted data collection methods. The result was less surprising, given that the two are the most frequently used methods across the social sciences research fields (Fylan, 2005; Wright, 2005). It is worth stressing that despite the small occasions, there have been some attempts to use different methods to collect and analyse data.

What are the main topics, findings, limitations and implications of the previous studies?

Focussed topics of the previous studies

Most of the selected articles deal with more than one research topic, exploring different aspects of online Chinese students' experiences and related factors (see Figure 8). These topics are categorised into eight general research themes with 33 more specific research topics (Table 5). The most frequently researched topic has been Chinese students' attitudes towards online learning (*n* = 19). The selected studies have also investigated students' perceptions of online learning technologies and tools (*n* = 15). The review results suggest that the literature's most commonly utilised and studied online learning activities have been online discussions and knowledge co-construction (both synchronously and asynchronously). Ten studies concern how Chinese students learn specific learning subject knowledge online, with five of them focussing on language learning. Other scholars (*n* = 10) have explored various cultural matters that emerged in Chinese students' online learning context. In addition, a small number of studies examine online Chinese students' learning strategies, performances and influencing factors.

Table 5. Specific research topics

Specific topics	n	Examples
Students attitudes (n = 19)		
Perceptions	5	Zhu et al. (2009a)
Preference	5	Du et al. (2016)
Acceptance	2	Zhou et al. (2021)
Beliefs	2	Zheng et al. (2016)
Motivation	2	Xiao and Hurd (2010)
Satisfaction	2	Tsai (2019)
Self-efficacy	1	Cui (2021)
Learning technologies/tools (n = 15)		
Internet/Web search/virtual platform	3	Mikal et al. (2015)
Social networking tools	3	Saw et al. (2013)
Learning management system	3	Turnbull et al. (2021)
Massive open online course (MOOC)/interactive courseware	2	Tsai (2019)
Automatic essay-scoring services	1	Hou (2020)
E-library	1	Ng and Tan (2017)
Game-based learning tool	1	Windsor (2021)
Synchronous communication tools	1	Liu (2020)
Learning activities (n = 15)		
Discussion/knowledge co-construction	6	Commander et al. (2016)
Assessment/review exercises	5	Cheng and Ding (2021)
Groupwork	3	Du (2016)
Learning environmental structuring	1	Du (2016)
Learning subject (n = 10)		
Language learning	5	Zhou et al. (2021)
Accounting education	2	Yong (2021)
Architecture	1	Wong et al. (2002)
Design education	1	Law et al. (2013)
Engineering education	1	Tawil et al. (2012)
Culture/cultural issues (n = 10)		
Culture differences	5	Smith et al. (2005)
Intercultural adaptation	4	Mikal et al. (2015)
Influence of traditional culture	1	Zhang (2013)
Learning strategies (n = 7)		
Self-regulated learning	4	Zhou et al. (2021)
Collaborative learning	3	Du (2016)
Learning performance (n = 5)		
Learning outcomes	3	Tsai (2019)
Effectiveness	2	Windsor (2021)
Influencing factors (n = 5)		
Factors on students' online learning uptake	4	Cui (2021)
Factors on students' online learning outcomes	1	Zhu et al. (2009a)

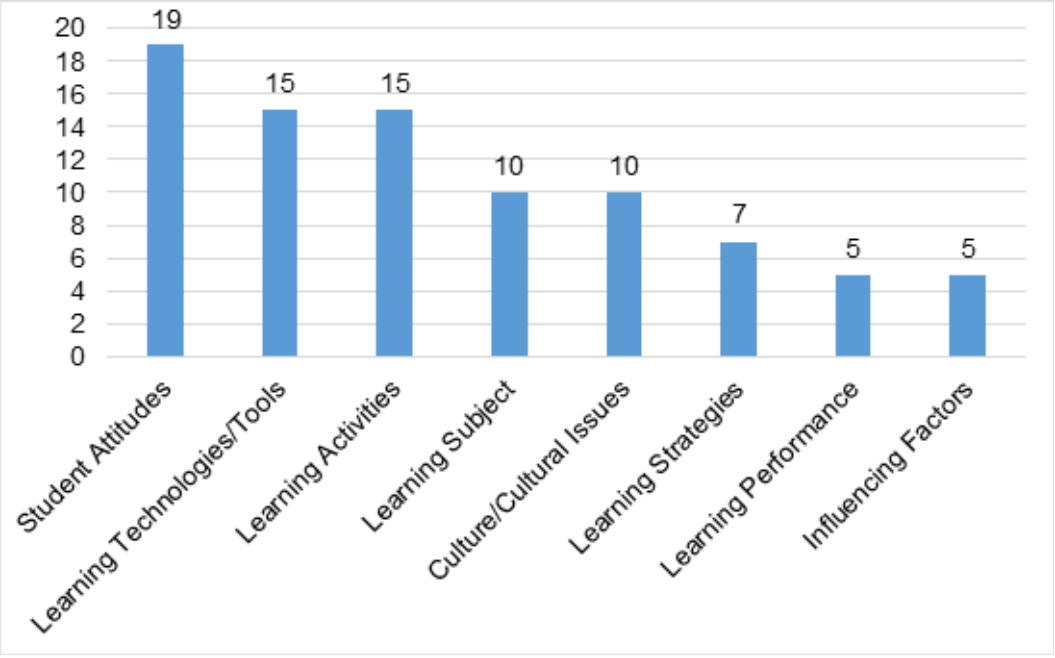


Figure 8: Main research themes.

Key findings of the previous studies

The findings in the corpus have been categorised into three broad themes (Table 6). The first theme focusses on the effectiveness of specific online learning tools and the differences in their usage among students (*n* = 12). Here, a majority of studies (*n* = 8) report positive impacts of learning tools on online Chinese students (e.g. Hou, 2020; Turnbull et al., 2021). They confirm that online communication tools and collaborative learning tools, such as social media platforms and learning management systems, not only improve students' performance but also help international Chinese students adjust to their lives abroad, providing valuable information academically and culturally and promoting students' interaction.

Interestingly, however, Forbush and Foucault-Welles (2016) and Mikal et al. (2015) find conflicting results. Some online communication tools, such as social networking tools, limit Chinese students' effective cultural integration in the foreign institutional context by making students rely on building insular and co-national networks. The other two articles (Ng &Tan, 2017; Zhou, 2014) detect meaningful differences in Chinese students' usage of certain online learning tools. They find that male students tend to use online learning tools more effectively to search for information than female students.

Key findings of online students' behaviours can be explained as the dynamic interplay among six components: learning culture, learning motivation, learning outcomes, learning activities, learning environment and learning strategies. There is no denying that Chinese traditional culture strongly affects online Chinese students. Two studies (Nield, 2004; Zhang, 2013) discover that Chinese students are intimidated to seek help from their instructors due to the perceived power distance existing in Chinese traditional culture. Yong (2021) also proves that Chinese overseas students seek assistance from instructors less than other international students. Kung (2017) finds that instructors' lack of cultural awareness is detrimental to students' effective intercultural adaptation and Chinese overseas students tend to feel anxious when participating in online discussions.

On the other hand, Commander et al. (2016) confirm that engagement in cross-national online discussions facilitates Chinese overseas students' new knowledge construction. Chinese students also prefer participating in asynchronous discussions such as online discussion boards to synchronous discussions (Thompson & Ku, 2005). Zhu et al. (2009b) find that Chinese students' learning strategies align with a social–constructivist learning approach, and their learning outcomes improve after studying online. Regarding other influencing factors, there is a positive correlation between Chinese students' learning environment management behaviours and their online learning performance—which is also strongly influenced by instructors' feedback practices

Table 6. Findings of the studies

Findings about specific online learning tools		N	Examples
Automatic essay-scoring services improve students' learning performance.		4	Hou (2020)
Internet/Web search/virtual platforms provide valuable information and help students seek academic resources.		2	Mikal et al. (2015)
Social networking tools discourage students' cultural integration.		2	Forbush and Foucault-Welles (2016)
There are gender differences in students' selections and usages of learning tools.		2	Ng and Tan (2017)
Social media platforms are effective in helping students to adjust to their lives abroad.		1	Chen and Yang (2015)
Learning management systems help students interact with others.		1	Turnbull et al. (2021)
Findings about Chinese students' behaviours		N	Examples
Learning culture	There is a strong cultural clash between Chinese traditional education and online pedagogic practices, which strongly affects students' learning behaviours.	4	Yong (2021)
Learning motivation	Interest in subjects and positive self-talk improve students' motivation.	2	Zhou et al. (2021)
Learning outcomes	Students learning outcome is generally improved.	2	Commander et al. (2016)
Learning activities	Students are heavily involved in the discussion board.	1	Thompson and Ku (2005)
Learning environment	Feedback and help-seeking contribute to managing the learning environment.	1	Du (2016)
Learning strategies	Students' learning strategies are more in line with a social–constructivist learning approach.	1	Zhu et al. (2009b)
Findings about Chinese students' emotions and perspectives		N	Examples
Students are satisfied with online learning.		3	Zhou et al. (2021)
Students are less comfortable with online learning.		2	Zhu et al. (2009a)
Students show that they need pastoral care		1	Yong (2021)
Due to language problems, international students feel more isolated and alienated.		1	Kung (2017)
Students prefer to take blended learning.		1	Thompson and Ku (2005)

and students' help-seeking behaviours (Du, 2016). Interest in subjects and positive self-talk are additional motivating factors for engaging with online learning, particularly in language learning situations (Xiao & Hurd, 2010; Zhou et al., 2021).

Eight studies are categorised into the third theme on Chinese students' emotions and perspectives. Three studies (Tsai, 2019; Wong et al., 2002; Zhou et al., 2021) indicate that Chinese students are generally satisfied with online learning experiences, while Zhu et al. (2009a) demonstrate that Chinese students are less comfortable with online learning than other students. The review results also suggest that Chinese students experience difficult emotions in online learning. Kung (2017) argues that Chinese overseas students feel more isolated and alienated than Chinese domestic students in online learning due to their language limitations. Yong (2021) also reveals that Chinese students had a significant need for pastoral care during the COVID-19 pandemic. Thus, Chinese students prefer blended learning (Thompson & Ku, 2005).

Limitations and implications of the previous research

The limited data scope is one of the frequently stated research limitations by the previous authors (48%, *n* = 14), followed by the existence of potential biases in collected data (17%, *n* = 5) (see Figure 9). The short study duration and the small sample size are reported in six articles. The authors of four studies are concerned about a lack of validity and credibility of some of their findings, potentially caused by the subjective nature of their investigation (e.g. Hou, 2020). Despite the limitations, these authors have provided valuable suggestions for educational practices and future research. Researchers indicate that instructors and universities should put more effort into facilitating intercultural communications for Chinese students and design specific programmes to help students' cultural adaptation in online settings (Forbush & Foucault-Welles, 2016; Kung, 2017). Suggestions for future research focus on diversifying research methodologies and expanding research directions. Here, qualitative studies and mixed-methods (or multi-angle) research are recommended.

Discussion

Students' attitudes towards online learning impact their behaviours and intentions to attend online courses, which has been a spotlight of previous research. Ferrer et al. (2022) reflect that Chinese students' attitudes impact their acceptance and engagement with online learning. However, the previous studies provide conflicting explanations of Chinese students' perceptions of different aspects of online learning. Although Chinese students are generally satisfied with their learning experience, they hold a conservative attitude towards the fully online distance learning mode. This may simply be caused by Chinese students' unfamiliarity with online learning (or familiarity with on-campus learning), given that online distance education has been a relatively new phenomenon in China (Andersson & Grönlund, 2009).

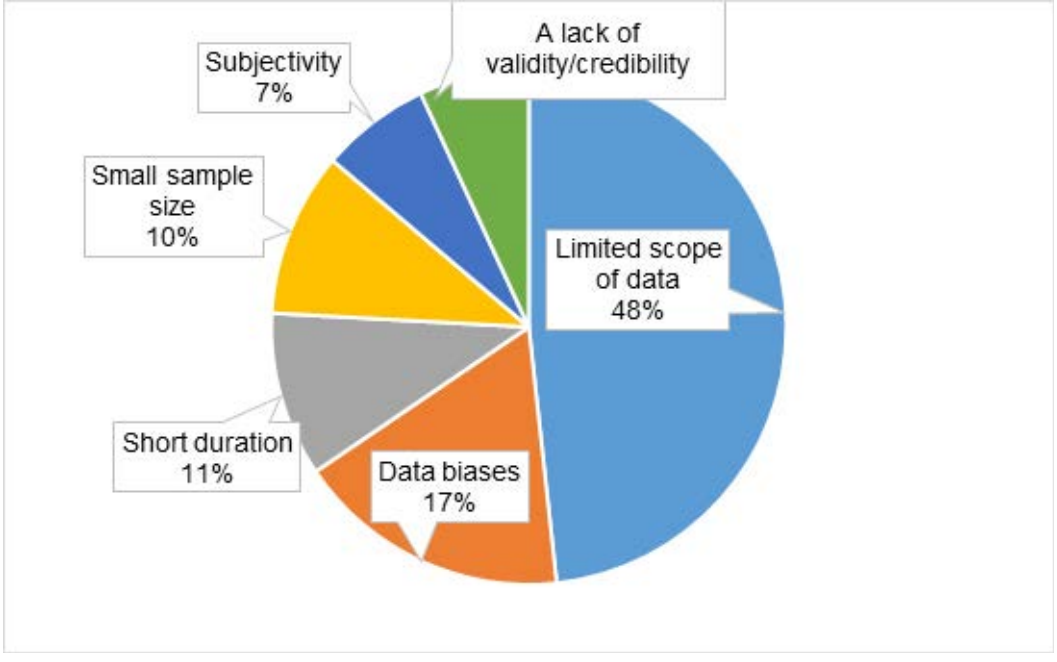


Figure 9: Limitations of previous research.

The effectiveness of specific learning technologies and tools is also the central focus. The review results indicate that online Chinese students' experience is generally enhanced through the effective adoption of digital tools and other technological platforms (Chen et al., 2010).

Although there have been individual studies examining different influencing factors, including learning activities, culture, motivation and strategies, those findings need to be reviewed and further explored. Also, as Gorard (2013) criticises, case studies often focus on collecting a limited dataset to simply describe a case, which aligns with major limitations identified by previous authors in this review (i.e. the limited data scope and small sample size). Therefore, future research can employ diverse research methodologies with extended scopes of data and topics, aiming to establish a complete account of online students' experiences. At the same time, we have noticed that none of the previous studies looked into the impact of national and institutional policies that shaped and influenced students' experiences. Given that a

Table 7. Characteristics of Chinese culture stated in the selected articles

Chinese culture	Statements	n	Examples
Authoritative	Negative	8	Nield (2004)
Competitive	Negative	3	Du (2016)
Face-saving	Negative	3	Yong (2021)
Collectivism	Neutral	8	Du et al. (2016)
Harmony	Positive	4	Zhang (2013)
Chinese education	Attitude	n	Examples
Teacher-driven instruction	Negative	5	Windsor (2021)
Achievement-focussed	Negative	4	Commander et al. (2016)
Authoritarian	Negative	1	Turnbull et al. (2021)
Spoon-fed education	Negative	1	Xiao and Hurd (2010)
Content-based instruction	Neutral	3	Tsai (2019)
Fundamental skills training	Neutral	3	Tsai (2019)
Difficult subjects	Neutral	1	Nield (2004)
Long-term oriented	Neutral	1	Thompson and Ku (2005)
Learner characteristics	Attitude	n	Examples
Conservative	Negative	5	Zhu et al. (2009a)
Silent	Negative	5	Zhu et al. (2009a)
Afraid of losing face	Negative	4	Law et al. (2013)
Avoiding conflict	Negative	2	Zhang (2013)
Diligent	Positive	2	Du (2016)
Adaptive	Positive	2	Cheng and Ding (2021)
Holistic	Positive	1	Thompson and Ku (2005)
Learner behaviours	Attitude	n	Examples
Being passive	Negative	9	Windsor (2021)
Not asking for teacher guidance	Negative	9	Law et al. (2013)
Being pragmatic and utilitarian	Negative	6	Law et al. (2013)
A lack of critical thinking	Negative	3	Cheng and Ding (2021)
Content-oriented in discussions	Neutral	1	Zhu et al. (2009a)
Searching for new knowledge	Positive	1	Zhang (2013)

lack of government and social recognition of distance education has led to the slow development of online learning in China and the low participation rate among Chinese students in online higher education, it may be necessary to investigate the impact of policy changes on online students' experience, especially in the context of the post-pandemic.

What statements about Chinese students and online learning are represented in the previous studies?

Statements about Chinese students and Chinese culture Generally speaking, the previous scholars' claims about Chinese students and Chinese culture (largely in evaluative nature) are negative (see Figure 10). The previous authors seldom use positive statements describing the characteristics of Chinese students and culture (see Table 7). Here, Chinese traditional culture is often described as authoritative (*n* = 8), competitive (*n* = 3) and face-saving (*n* = 3), while it places importance on collectivism (*n* = 8) and harmony (*n* = 4). Many scholars appraise Chinese education as teacher-driven instruction (*n* = 5), achievement-focussed (*n* = 4) and authoritarian (*n* = 1). Some authors show rather neutral attitudes towards Chinese education, focussing on content-based instruction (*n* = 3) and fundamental skills training (*n* = 3). Conservative and silent students tend to be the dominant representation of Chinese students (*n* = 10), followed by being afraid of losing face (*n* = 4) and avoiding conflict (*n* = 2). Five studies include positive statements about Chinese students, describing them as diligent, adaptive and holistic learners. Likewise, Zhang (2013) compliments Chinese students genuinely searching for new knowledge. Nevertheless, there have been a greater number of negative statements about Chinese students' learning behaviours—being passive (*n* = 9), pragmatic (*n* = 6) and seldom asking for teacher guidance (*n* = 9). A lack of critical thinking was also noted in three studies.

Statements about the benefits and challenges of online learning

Unsurprisingly, the main benefits of online learning stated in the reviewed papers are its convenience and flexibility (*n* = 14), followed by the collaborative and interactive nature of online learning (*n* = 6) (Figure 11). Online learning supports Chinese international students' cultural adoption in the host country and helps them easily access more learning resources online (*n* = 3). Four studies conclude that online learning improves Chinese students' learning outcomes and motivation, and one study particularly notes that students acquire information and communication technology (ICT) skills. Ironically, however, a lack of interaction and a sense of isolation are also considered the main challenge stated in 13 articles (Figure 12)—interactivity is a double-edged sword of online learning. At the same time, four papers state that online learning negatively influences students' learning motivation. A lack of cultural exchanges (*n* = 3), a range of technical challenges (*n* = 2) and a high cost (*n* = 1) are stated as additional challenges.

Discussion

The previous authors' attitudes towards Chinese culture and Chinese students are predominantly negative. Most

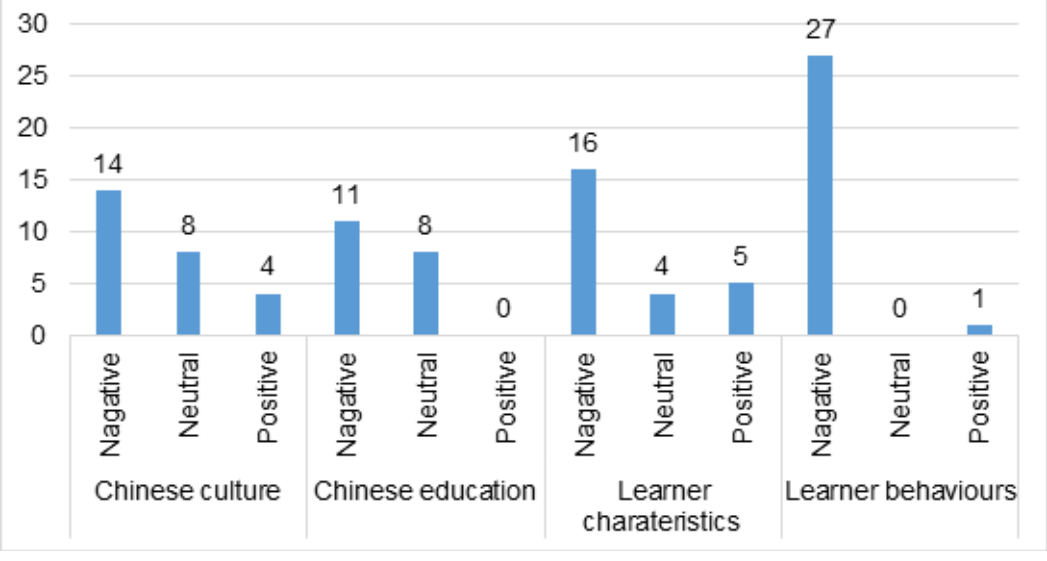


Figure 10: Authors' attitudes to different aspects of Chinese culture.

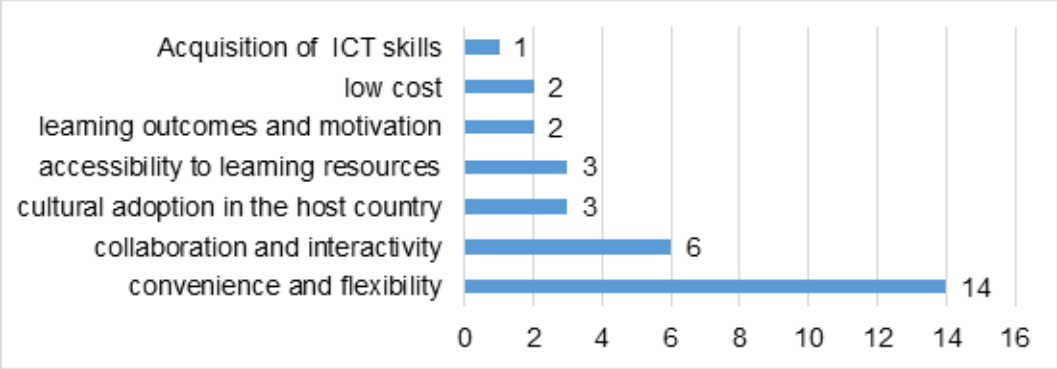


Figure 11: The benefits of online learning. ICT, information and communication technology.

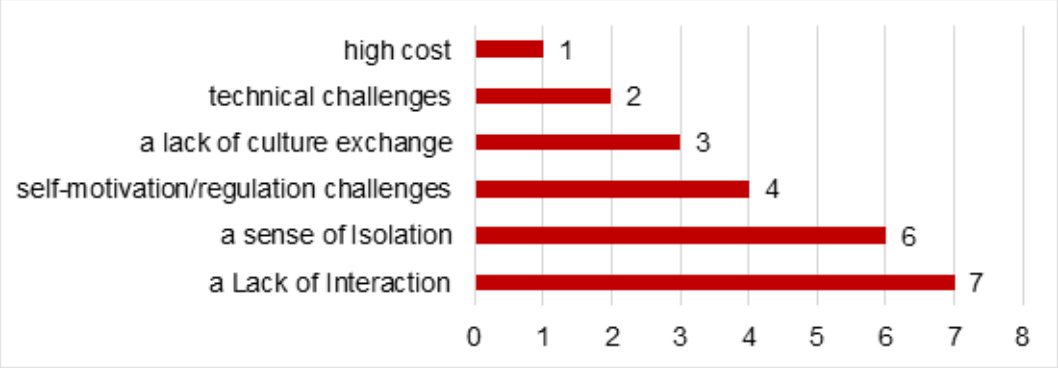


Figure 12: The challenges of online learning.

studies attribute the negative aspects of Chinese culture and education to their traditional root in Confucianism, as evidenced by Zhang (2013). The review indicates that students' learning behaviours are closely related to their cultural background. Du et al. (2016) point out that Chinese students view instructors as the chief source of knowledge and show the greatest respect for instructors linked to the authoritarian Chinese culture with high power distance it in. Subsequently, Chinese students' characteristics and behaviours are also negatively regarded as the outcomes of such cultural and educational characteristics. Windsor (2021) argues that Chinese students are highly dependent on lecturers' instruction, instead of actively acquiring knowledge from the surrounding environment or personal experiences. Although some other characteristics such as conforming to norms, pursuing high standards in their work and valuing academic success are not necessarily negative traits, such statements are devised rather negatively in the reviewed articles. The stereotype of Chinese students as being conservative and silent is commonly observed across the reviewed articles. Given that many authors are actually Chinese themselves, such a stereotype can be even more reinforced by their claims, which we have found worrying.

While previous authors acknowledge that online learning is flexible and convenient, they point out several drawbacks, including a lack of interaction and a sense of isolation. Nevertheless, in our view, these arguments are disputable. Firstly, the interactivity of online learning is controversial. Although those issues are commonly experienced in online learning contexts (see Du et al., 2016; Kung, 2017), Mikal et al. (2015) observe that online learning improves Chinese students' collaboration and interactions with their instructors and peers. Thus, it can come down to the fundamental issue of ineffective course design and facilitation, influencing all students' learning experiences. Secondly, international students' cultural experiences can also be varied, depending on multiple factors. Several scholars (Forbush & Foucault-Welles, 2016; Mikal et al., 2015) have observed that Chinese international students find it challenging to learn about the culture of a host county when studying online. Contrarily, other researchers suggest that online learning helps international students to adjust new culture in a host country. Chen and Yang (2015) and Zhang (2013) prove that online learning improves interaction among students from different cultural backgrounds and online

learning tools effectively support them to adjust to local culture. Again, such wide discrepancies among previous authors' observations provide a caution of having fixed and deterministic views both on Chinese students and their online learning experiences.

Conclusion

This study systematically searches, selects and reviews previous research concerning online Chinese students' experiences. Based on the review results, the present authors of the article have argued that there is a significant gap in our understanding of online Chinese students. The gap has been driven both by the historical backdrops of the development of online distance education in China and by a range of limitations of previous studies. Most studies focus on Chinese students' attitudes towards online learning and learning tools, but those studies do not investigate the impact of Chinese national and institutional policies on such attitudes. Especially the fast-changing government policies on online and distance education since the pandemic deserve some careful examination as they are likely to create both short-term and long-term effects on Chinese students' engagement with online learning. Perhaps more importantly, the present authors note that the characteristics of online Chinese students are considered predominantly negative, creating unhelpful and problematic stereotypes that fail to capture diversity among the large group. This calls for more in-depth and comprehensive research efforts in the field of online and distance education.

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