

Learning Online Through Community of Inquiry and Culturally Responsive Teaching (COI-CRT) Framework: Insights from Chinese Students Studying in Malaysian Higher Education

ABSTRACT

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Received: 31/12/2025 |

First Revision: 14/1/2026 |

Second Revision: 15/4/2026: |

Accepted: 15/5/2026

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APA citation for this article:

The internationalisation of higher education has led to a growing number of Chinese students pursuing academic opportunities abroad, including in Malaysia, one of the region's major education hubs. At the same time, online learning has emerged as a mainstream form of instructional delivery, requiring international students to adapt not only to new academic environment, but also studying within an online learning system. This study examines how Chinese students in Malaysian higher education experienced online learning through the interpretive lens of the Community of Inquiry (CoI) framework, focusing on teaching, cognitive, and social presences with the integration of Culturally Responsive Teaching (CRT) framework. Using a qualitative design, interviews were conducted with a total of ten Chinese international students from two public universities. Data were analysed inductively, with the CoI-CRT framework serving as a sensitising concept to guide interpretation. Findings show that students navigated online learning through a personal check and balance process that involved monitoring their understanding, managing flexibility, and compensating for the absence of in-person structure. Teaching presence strongly shaped their experiences; with clear organisation, timely responses, culturally relevant examples, and technological guidance were key enablers of productive engagement. Cognitive presence was enhanced when instructors used simulations, case-based examples, and interactive activities that encouraged deeper thinking. However, cognitive engagement was easily disrupted by technical issues such as lagged lectures and unstable internet connections. Social presence emerged as the most challenging dimension. Students reported reduced interaction, limited nonverbal cues, and uncertainty in multilingual discussions, which contributed to feelings of disconnection. Different cultural norms can further heighten fear and hesitancy among the learners to participate in online settings. The study underscores the need for culturally responsive teaching (CRT) practices within online environments, where intentional design and facilitation can foster inclusion, reduce uncertainty, provide safe space and support more meaningful engagement for diverse international learners.

Keywords: Online learning, international students, Community of Inquiry, culturally responsive teaching.

1. Introduction

Tertiary education is currently going through a rapid globalization that is driven by academic and economic imperatives to meet internationalisation standard. Internationalisation in this context is defined as the intentional process of integrating international, intercultural, and global dimensions into the purpose, functions, and delivery of post-secondary education (Knight, 2004). This definition underscores the fact that internationalisation in higher education does not happen at the periphery—it is a strategic, planned, and systemic transformation across teaching, research, community engagement, and institutional operations. Internationalisation has also become a strategic priority in the current knowledge economy, thus reshaping how universities design and deliver their programmes in order to attract students around the world who are looking to pursue their education abroad.

This global push towards internationalisation has encouraged many nations to strengthen their higher education systems to compete internationally, Malaysia included. Therefore, many universities have increasingly integrate online and blended learning approaches into their curricula, reflecting a broader national shift toward digitalised teaching and learning environments (Kathirveloo, 2024). As one of the prominent destination for international students, Malaysia has consistently ranked among the top choices for China students due to its affordability, cultural proximity, and quality of higher education. Malaysia's position as a major educational hub in Southeast Asia has received over 130,000 overseas students annually, with Chinese students constituting about 41% of this population (Ministry of Higher Education, 2025).

Chinese students' motivations for studying abroad are shaped by a combination of academic aspirations, social expectations, and structural pressures within China's competitive education system (Liu & Morgan, 2017). They highlight that many Chinese students pursue overseas education to access higher-quality programmes, international learning environments, and obtain degrees that are perceived to have stronger global recognition. Their decision-making is also influenced by family expectations, where these Chinese parents view foreign education as an investment in social mobility and future employability of their children. In addition, the limited availability of places in top-tier Chinese universities also serves as a strong push factor, driving students to seek opportunities abroad.

Despite their strong motivation to pursue studies abroad, Chinese international students often encounter significant challenges when adjusting to overseas higher education environments. Research shows that they frequently struggle with language barriers, especially in English-medium classrooms where unfamiliar academic vocabulary may limit active participation in academic discussions (Zhou & Todman, 2009). Many also find it difficult to adapt to more interactive, student-centred pedagogies that contrast with the teacher-directed approaches common in China, leading to perceived gaps in their participation in classroom engagement and critical discussion (Heng, 2018). Social integration is another hurdle, as cultural differences, communication norms, and feelings of isolation can hinder meaningful connections with peers and instructors. When in online learning contexts, these challenges are further amplified by reduced opportunities for informal interaction, uncertainties around self-directed learning, and the need to navigate new digital platforms independently (Castulo, 2025; Tu, 2010).

These challenges align with broader patterns observed among international students, who must navigate psychological, sociocultural, and academic transitions as part of their adjustment process (Rahim, 2021). More importantly, Rahim (2021) found that academic adjustment is viewed a central priority for international students, influencing how they navigate and make meaning of their overall adjustment process so that they can function academically. The emphasis on academic functioning suggests that, for many international students, adjustment is not only focuses on cultural or social adjustment but deeply connected to their ability to learn, participate, and meet academic demands. Such priorities become even more pronounced in online learning contexts, where students must adapt to new modes of instruction, digital platforms, and independent learning expectations.

In this study, the interest to focus on the Chinese students' experiences in learning online is motivated by the rapid internationalisation and digitalisation in Malaysian higher education practices. As China remains as one of the largest international student groups globally (OECD, 2025), understanding their learning experiences is crucial in enhancing the quality and inclusivity of Malaysian higher education to remain globally competitive. Currently, there is an underexplored area where the intersection of cultural factors of these Chinese students rarely being examined together with online instructional design in Malaysia higher education context. Therefore, this study wishes to frame their online learning experience from the lens of Community of Inquiry (CoI) framework (Garrison, 2017) and Culturally Responsive Teaching (CRT) (Gay, 2010).

The CoI framework bring forth three intersecting elements, namely social presence, cognitive presence, and teaching presence, to help illuminate the context and complexities of online learning as experienced by these Chinese students. Meanwhile, culturally responsive teaching (CRT) emphasises recognising learners' cultural backgrounds, validating their ways of knowing, and designing instruction that supports diverse participation and learning needs (Gay, 2010). In online settings, these principles become especially important, as students' sociocultural adjustment and academic engagement are shaped by differences in communication norms, learning expectations, and familiarity with interactive digital environments.

Insights from this study, interpreted through the Community of Inquiry framework, point to specific areas—such as impactful teaching presence, culturally sensitive facilitation to strengthen social presence, and designing relevance instructional design to deepen cognitive presence—when bridged together with the CRT framework. Understanding how Chinese international students experience online learning is critical for strengthening culturally responsive teaching practices in Malaysian higher education. These insights can inform more inclusive online teaching approaches that not only address common challenges faced by Chinese international students but also enhance the broader institutional goal of fostering culturally responsive and supportive learning environments in higher education.

2. Literature Review

2.1. Learning Online in Cross-Cultural Contexts

Online learning is a form of education where the majority of content delivery, interaction, and assessment occurs through web-based systems or internet-based platforms, allowing flexible access to learning experiences independent of time or location (Moore, Dickson-Deane & Galyen, 2011). In the post COVID-19 era, online learning has now become an integrated approach used by many higher education instructors in their curriculum delivery to provide students with access to different knowledge, resources and ways of learning. It is no longer just a method of delivery aimed for those who are learning at distance, but as part of innovative approach to learning, reflecting global shifts toward digitalisation and technology-supported instruction.

In Malaysia, similar development are evident as higher education institutions expand their use of technology-enhanced learning in line with national priorities for digital transformation. The integration of online platforms, learning management system, and digital assessment systems has become common across public and private universities, shaping everyday teaching practices and student learning experiences (Muniisvaran, Jose, & Anusia, 2025). These platforms support a range of academic activities—from accessing materials and submitting assignments to participating in discussions and collaborative tasks—reinforcing the role of online environments as routine components in the curriculum delivery. Therefore, online participation is now expected among both local and international students to fulfil their academic expectations, engage with instructors, and collaborate with peers.

Nevertheless, for overseas students, learning online added another layer of unfamiliarity arising from the cross-cultural nature of their academic experience abroad. Adapting to online learning requires understanding new technological platforms, communication norms, and participation expectations, but

for students studying outside their home country, these demands intersect with the broader process of navigating different cultural, linguistic, and new educational environments (Zhou & Todman, 2009; Heng, 2018). Cultural norms around classroom interaction, questioning, collaboration, and teacher–student relationships vary across educational systems, and these differences can become even more pronounced in online settings where cues are reduced and expectations are less explicit. Studies note that international students must simultaneously negotiate technological adjustment and sociocultural adaptation, making their online learning experiences more complex (Castulo, 2025).

Research consistently shows that Chinese students may encounter additional challenges when adjusting to online learning, including differences in communication norms, hesitation toward open classroom discussion, and a preference for structured teacher guidance—patterns rooted in their prior educational experiences and cultural expectations of learning (Heng, 2018). These cultural orientations can influence how they interpret teaching presence, participate in peer interactions, and construct meaning in online learning environments. A core element affecting Chinese students' adaptation is the cultural diversity between their home and host educational backgrounds. Hofstede's (1980) seminal work on cultural dimensions recognized collectivism as a key value in Chinese culture, forming students' study actions, including dependence on group work and respect for authority figures (Triandis, 1995). By contrast, as influenced by the Western pedagogical models, Malaysia's education approaches tend to integrate more student-centred learning approaches with active involvement expected from the learners. These contrasting values can result in the feeling of dissonance among the China international students during the online learning process.

Studies further indicate that Chinese international students often report difficulties establishing social presence and navigating unfamiliar learning platforms, especially when studying abroad where both the academic culture and digital expectations differ from those in China (Castulo, 2025). Language proficiency adds another layer of complexity to their learning. Although a lot of Chinese students are skilled at written English, the conversational capabilities can be hampered by language anxiety. This can result in decreased engagement and missed chance for collaborative or student-led learning. According to studies by Cao, Zhu, and Meng (2021), language difficulties worsen pressure among Chinese students, so that they are less likely to seek assistance or ask any questions in online environments.

The learning platform is also important in forming students' online study experiences. As Venkatesh et al. (2003) believed, perceived ease of application and usefulness are important in deciding users' acceptance of technology. For Chinese students used to platforms such as WeChat and QQ, adapting to using different communication platforms in Malaysia such as emails or forums, may be perceived as unfamiliar. The absence of proper training and instruction often results in frustration, decreasing the effect of online study contexts (Ng & Fang, 2023). Social separation is also an ongoing issue in online learning, especially for overseas students who are isolated from their familiar surroundings. With regard to Chinese students, limited spontaneous communication that can happen during online learning can limit their opportunities for peer interactions, thus making their online learning process less effective (Tu, 2010).

Educational organizations in Malaysia have included some measures to build a more inclusive online learning setting. Nevertheless, Heng (2018) discover that the success of these involvements often relies on their capacity of conforming to the cultural expectations, linguistic abilities and technical capabilities of these Chinese students. Gaining a clearer understanding of these factors is essential for improving their online learning experiences, particularly as it highlights the need for teaching approaches that are sensitive to students' cultural background and linguistic ability. In this sense, incorporating elements of culturally responsive teaching can help ensure that online learning supports and includes Chinese learners more effectively.

2.2. Culturally Responsive Teaching (CRT) in Online Context

Modern internationalisation emphasises educational quality, inclusivity, and student support, not merely recruitment. Scholars argue that internationalisation is not only about increasing student mobility alone, but also about creating inclusive learning environments where culturally diverse students can participate meaningfully and succeed academically (Jones, 2013; Leask, 2015). Culturally responsive pedagogy plays a central role in this process by drawing on students' cultural knowledge and experiences, acknowledging differences in communication norms, and designing learning activities that promote equitable participation (Gay, 2010; Ladson-Billings, 1995). Such approaches are especially important in higher education contexts that enrol large numbers of international students, as these learners often navigate unfamiliar academic conventions while simultaneously managing sociocultural adjustment demands.

Culturally responsive teaching (CRT) is grounded in the recognition that students' cultural backgrounds, identities, and ways of knowing significantly shape how they engage with learning. Gay (2010) defines CRT as the use of cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant and effective for them, emphasising that teaching should build on rather than ignore learners' cultural resources. In recent years, CRT has increasingly been discussed in relation to higher education and international students. Studies highlight that culturally responsive pedagogy can help create more inclusive learning environments.

Furthermore, recent scholarship has begun to emphasise the value of using CRT to analyse online learning in internationalised or multicultural higher education systems. Mahani (2023) argues that applying culturally relevant pedagogy to online learning requires intentional design of course structures, activities, and communication practices that support diverse students' engagement and sense of inclusion in digital spaces. Similarly, Khoo and Huo (2022) demonstrate that culturally responsive online support programmes can enhance international students' academic language development and confidence by aligning instructional approaches with students' cultural and linguistic needs. These studies collectively suggest that CRT can inform the design of online courses that are not only technically accessible but also responsive to varied cultural expectations of teaching, interaction, and knowledge construction.

2.3. The Community of Inquiry (CoI) Framework as a Lens for Online Learning

Within this broader literature, the principles of CRT intersect meaningfully with the Community of Inquiry (CoI) framework. Practices that enhance teaching presence—such as making expectations explicit, providing culturally sensitive feedback, and structuring clear guidance—can be viewed as culturally responsive when they take into account students' cultural backgrounds and prior learning experiences. Likewise, efforts to foster social presence by validating diverse voices, encouraging equitable participation, and designing collaborative tasks that respect different communication styles align with CRT's emphasis on inclusive and affirming learning communities. As online learning becomes a standard mode of delivery in Malaysian higher education, integrating CRT perspectives into the analysis of teaching, social, and cognitive presence offers a useful pathway to better understand and support the experiences of culturally diverse student groups, including Chinese international students.

The Community of Inquiry (CoI) framework is one of the most widely adopted models for examining and designing meaningful online learning experiences in higher education. First introduced by Garrison, Anderson, and Archer (2000), the framework conceptualises online learning as a collaborative process in which knowledge is constructed through the dynamic interaction of three core elements: teaching presence, social presence, and cognitive presence. These presences work together to shape the quality of learners' engagement, the coherence of instructional design, and the depth of understanding that develops in virtual learning environments (Garrison, 2017). The CoI framework therefore offers a structured lens for analysing how students experience online learning, particularly in contexts where interaction, communication, and guidance occur primarily through digital platforms.

Teaching presence refers to the design, facilitation, and direction of learning activities, and is central to establishing clarity, structure, and guidance in online courses. Research shows that strong teaching presence supports learner confidence, reduces uncertainty, and anchors students' navigation of course expectations—features especially important in environments where immediate, in-person cues are absent (Garrison & Arbaugh, 2007). Social presence, defined as learners' ability to project themselves as real and authentic individuals in online environments, enables the development of trust, connection, and expressive communication among participants. Studies indicate that social presence contributes to students' satisfaction and learning outcomes (Richardson et al., 2017). Lastly, cognitive presence captures the extent to which learners construct meaning through reflection and discourse. It represents the intellectual dimension of the model, emphasising inquiry, exploration, and sustained engagement with ideas.

The CoI framework is particularly relevant for examining online learning within culturally diverse settings because it highlights the relational, instructional, and cognitive conditions needed for effective participation. In cross-cultural learning environments, differences in norms related to communication, authority, peer interaction, and classroom participation may shape how teaching, social, and cognitive presences are perceived and enacted. For international students—who must simultaneously adapt to unfamiliar academic expectations and digital modes of learning—the CoI lens helps illuminate where misalignments or challenges arise, such as limited social presence due to differing communication styles, or uncertainties about teaching presence when expectations are not made explicit. As Garrison (2017) notes, the CoI model serves as a lens that illuminates the complexities of online learning, making it especially suitable for understanding the layered realities of learners navigating new cultural and academic terrains.

The expansion of online learning has prompted scholars to consider how CoI elements can be translated into this learning environment. For instance, Arbaugh's (2013) study looks at how specific academic discipline of a course influences the effectiveness of teaching strategies across 51 online MBA courses. The research demonstrates that common, standardized prescriptions for designing online courses must have considered the context of its academic disciplines. Although not specifically examined in multicultural context, Arbaugh's study offers insights on how CoI elements are applied in multidisciplinary context. Likewise, a study on blended learning design for intercultural communication courses in Chinese universities demonstrated that applying the Community of Inquiry (CoI) framework can enhance students' intercultural competence, including their knowledge, attitudes, and awareness, while also improving engagement and learning behaviours (Wei, 2024).

These insights align closely with the goals of culturally responsive teaching, reinforcing the idea that online learning environments must accommodate diverse academic identities, communication norms, and learning expectations. In this study, the integration between CoI and CRT provides a robust theoretical base for examining the experiences of Chinese international students and identifying practices that enhance their engagement and learning success within online context. The intersection of these two theories forming the conceptual integration for this study is provided in Figure 1.

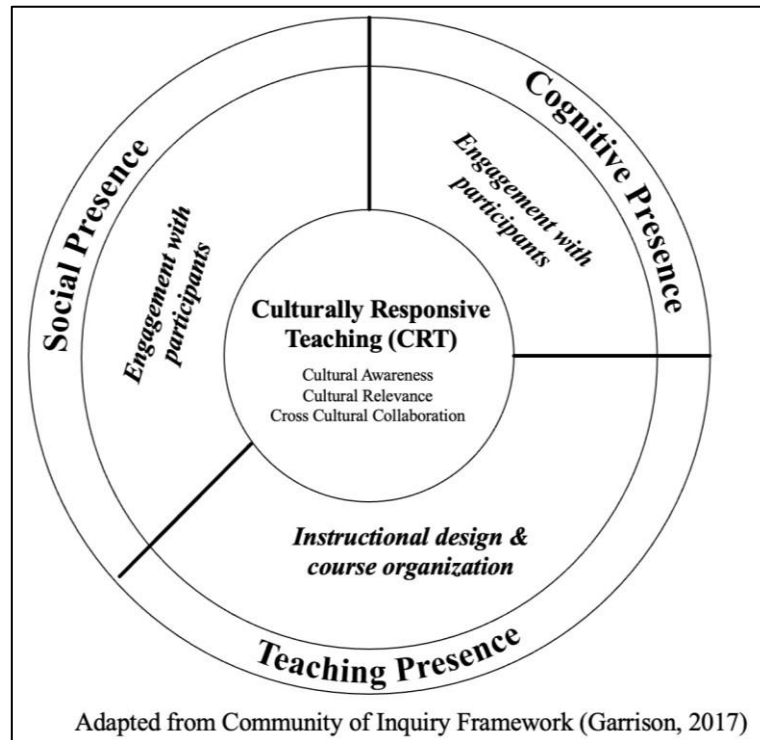


Figure 1. Conceptual Integration of Community of Inquiry (CoI) with Culturally Responsive Teaching (CRT) Framework

As illustrated in the conceptual figure, CRT is positioned at the centre of the model as an integrative layer that informs and shapes how each CoI presence is enacted. Meanwhile, the outer structure represents the three core elements of the CoI framework—teaching presence, social presence, and cognitive presence the three key areas that must be considered in designing effective and meaningful online learning experiences (Garrison, 2017). The circular design of the figure indicates the dynamic and interdependent relationship between the three presences, with CRT embedded across all dimensions, rather than functioning as a separate construct. This integration highlights that effective online learning for international students is not solely dependent on instructional design alone, but also on how teaching, social and cognitive presence are considered as contextually and culturally relevance.

3. Methodology

3.1. Research Design

This study adopted a qualitative research design to explore how Chinese international students experience online learning in Malaysian higher education. Qualitative research is fundamentally concerned with understanding how individuals interpret and make meaning of their experiences within specific social, cultural, and contextual conditions. Rather than seeking to measure variables or generalise findings to large populations, qualitative inquiry prioritises depth, richness, and the exploration of phenomena as lived and perceived by participants (Merriam & Tisdell, 2016). Given that online learning is embedded within broader sociocultural and academic adjustment contexts for international students, a qualitative design enables a nuanced exploration of how these intersecting factors shaped the Chinese learners' experienced when learning online through CoI-CRT framework. Therefore, a qualitative approach is well-suited for investigating complex, context-dependent phenomena such as teaching presence, social presence, and cognitive presence, which are best understood through meaning-making processes and experiences as reported by these learners. By foregrounding students' voices, the study prioritises depth over breadth and seeks to understand the complexities of learning online from the perspective of those who experience it directly. This approach

aligns with calls in the literature for more interpretive, culturally aware investigations into international students’ online learning experiences, particularly within Asian higher education contexts.

3.2. Location and Sampling

This research recruited participants from two public universities in Malaysia, targeting universities with large recruitment of China international students and have been identified as educational institutions that integrate online learning as part of their instructional design in curriculum delivery. Sampling from two universities allowed the study to capture broader online learning experiences that may arise from differences in programme structures, online teaching practices, and learning management systems used across different learning institutions, while still situating the research within the shared academic context of Malaysian public higher education.

Within these two public universities, selection of participants was recruited based on purposive sampling, where researchers select samples where the study can learn from the most (Merriam & Tisdell, 2016). Furthermore, criterion sampling was used to identify study participants that meet some predetermined criterion of importance (Patton, 2015), ensuring that all samples selected are directly relevant to meet the purpose of the study. The inclusion criteria include i) International students from People’s Republic of China (PRC); ii) Enrolled as full-time students at a Malaysian public university as undergraduate or postgraduate students only (excluding mobility or exchange students); iii) Have participated and learned in online or blended learning for at least two semesters in courses offered at their university. During the open recruitment process, a total of 55 emails and text invitations have been sent out, with twenty-three favourable responses have been received initially. Six participants opted out due to language requirements, two was excluded due to being exchange students, while the remaining was not included in the interview process due to the unavailability of time. In total, 10 participants were recruited as part of this study’s sample, consisting of both undergraduate and graduate international students from China, who expressed willingness to participate in this study and met the study inclusion criteria as listed. Please see Table 1 below for the participant’s demographic profiles.

Table 1. Participants Demographic Profiles

Participant ID	Gender	Age	Program Major	Program Level
P01	Male	22	Business	Undergraduate
P02	Male	24	Engineering	Postgraduate
P03	Female	23	Education	Postgraduate
P04	Female	26	Law	Postgraduate
P05	Male	25	Computer Science	Postgraduate
P06	Female	21	Business	Undergraduate
P07	Female	23	Economics	Undergraduate
P08	Female	22	Economics	Undergraduate
P09	Female	24	Psychology	Postgraduate
P10	Male	23	Education	Postgraduate

3.3. Data Collection Methods

In this study, interviews served as the primary method of data collection. Semi-structured interviews were chosen specifically for the flexibility and depth allow by this data collection method, enabling the researchers to guide the conversation with predetermined questions while also allowing the participants to express their individual’s experiences in their own words (Merriam & Tisdell, 2016).

Interviews were conducted individually to allow participants the privacy needed to share personal reflections about their experiences navigating and learning online. The interviews were conducted by the first researcher with the presence of the senior researcher (as observer), therefore it was primarily conducted in basic English for consistency. Mandarin was only used in case the participants did not understand the question asked, but all responses were requested in English. Each interview lasted between 45 to 60 minutes and was conducted either face-to-face or via Zoom, depending on participants’

preferences and availability. Conducting interviews online was especially useful when participants' schedules were constrained or when they preferred to demonstrate their learning platforms directly using screen sharing function.

Furthermore, an interview protocol was developed to provide balance between ensuring coverage of key areas of the study's interest while also allowing participant-led conversation to occur. Rather than imposing a rigid structure on the protocol, the interview questions were intentionally designed to be general and conversational, while avoiding jargon and abstract academic terminology. The protocol was developed to follow a three-stage flow that moves from general to specific, with the purpose of supporting rapport-building and allowing participants to ease from the general conversation to deeper reflection (Merriam & Tisdell, 2016).

In the first part, the interviews opened with introductory questions about participants' background, academic programme, and general impressions of online learning in Malaysia. In the second stage, participants were asked to describe their online learning experiences in more details, focusing on the factors contributing to their positive online learning experiences and the challenges they encountered. To ensure sufficient coverage of the interview guide meeting the objectives of the study, questions were developed as guided by the corresponding research questions (Please see Table 2).

Table 2. Samples of interview questions

Corresponding RQ	Selected Samples of Interview Questions and Probes
RQ1: How do Chinese students describe their online learning experiences at public university in Malaysia?	<ol style="list-style-type: none"> 1. How do you feel about studying online as an international student in Malaysia? 2. In what ways is learning online similar to or different from your previous learning experiences? 3. Can you give some examples of what you just described?
RQ2: What are the factors that contribute to the Chinese students' positive online learning experiences?	<ol style="list-style-type: none"> 1. What aspects of online learning have helped you learn effectively? 2. What kinds of activities or tasks made online classes more engaging or meaningful for you? 3. Can you describe any teaching practices or instructor behaviours that supported your learning online?
RQ3: What are the challenges that Chinese students faced in online learning experiences?	<ol style="list-style-type: none"> 1. What difficulties did you encounter while learning online? 2. How did studying online as a Chinese international student challenge your learning process? 3. What are your suggestions to deal with these challenges?

Lastly, the third stage involved an online learning platform walkthrough, where participants were invited to demonstrate how they navigated their Learning Management System (LMS) or course platforms as part of their online learning experiences. This stage was included for gaining contextual insight that can reveal aspects of their online experience that participants may struggle to describe verbally, which tends to occur among international students especially due to language and terminology barriers.

Data collection continued until thematic saturation was reached, defined as the point at which no substantially new themes or codes emerged from additional interviews (Saunders et al, 2018). Saturation was assessed through ongoing comparison of data during the analysis process, guided by several criteria, including increasing repetition and redundancy in participants' responses and the absence of new codes in the coding framework (Guest et al., 2006; Strauss & Corbin, 1998). In this study, repetition began to occur after the eighth participant, with no new codes identified in two consecutive interviews thereafter. Subsequent interviews served to confirm and deepen existing themes rather than generate new insights, indicating that sufficient depth and coverage of the phenomenon had been achieved. The process of data management and data analysis followed as described in the next sections.

3.4. Data management and trustworthiness

This study adheres to the ethical consideration as outlined by the University Ethics Committee for Research Involving Human Subjects (JKEUPM), aligned with international ethical standard guidelines as articulated in the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) and the British Educational Research Association Ethical Guidelines for Educational Research (British Educational Research Association, 2018). Therefore, all safeguard measures have been applied in the study following internationally recognised ethical principles governing qualitative research in data management and for trustworthiness purposes.

First, all participants provided informed consent after receiving clear information about the study's purpose, procedures, and their rights as voluntary participants. Additionally, pseudonyms were assigned to all participants, and any identifiable details—such as programme, year of study, or references to specific instructors—were removed or generalised in the data transcription and during reporting.

All data were transcribed and managed through NVivo software (Version 12) in order to facilitate a systematic data management and analysis process as described below. All data properties inside NVivo are password-protected to safeguard access only to the researchers. In accordance with recognised research data management practices, these data will be retained for five years for audit trail purpose.

Several strategies were incorporated to strengthen the study's trustworthiness. All participants were invited to take part in the member check process to evaluate the accuracy of their narratives. Additionally, a peer debriefing process also took place between the first researcher with the senior researcher who has prior experience in conducting qualitative research and online learning studies, but not directly involved in the study. Given the first researcher's shared cultural background with the participants, this process was used as a mechanism to minimise researcher bias to ensure credibility and reliability of the data collected. Particular attention was given to the flow of interactions during the interview, clarity of questions asked as well as identifying any instances where questions may have been unintentionally leading or framed in ways that could influence participants' responses.

The debriefing process also extended during to the analysis process as the primary coding and analysis process were conducted by the first researcher who is also a Chinese international student studying in Malaysia. Due to the primary coder's positionality in connection with the topic under study, conscious efforts were made to keep the researcher bias in check by practising reflexivity and keeping audit trail throughout the research process. During these sessions, emerging codes, theme definitions, and illustrative excerpts were reviewed and critically discussed. This process helped challenge assumptions, refine theme boundaries, and ensure that interpretations were grounded in the data rather than researcher bias. The next section outlines the details of the data analysis that took place in this study.

3.5. Data Analysis

In this study, the data analysis was approach while recognising the importance of subjective and open interpretation in qualitative inquiry. Therefore, to remain open in the interpretation of findings, the data analysis was conducted using inductive thematic analysis to elicit themes grounded in the data that are being driven by the participants' experiences, using the steps recommended by Braun and Clarke (2006).

To ensure theoretical rigor in the analysis, the CoI framework was applied as a sensitising concept to provide an interpretive frame that orients the researchers to certain features of the data while preserving its openness (Bowen, 2006). Therefore, in the initial phase, open coding analysis was conducted to provide holistic understanding of each participant's narrative, staying close to their language and expressions. This allowed early patterns, meanings, and tensions to surface organically from the data, ensuring that the analysis remained grounded in the participants' words. All these processes were done recursively by revisiting the coding logs until the corresponding themes were satisfactorily refined and accurately reflective of the participants' experiences. Only after these inductive themes were established, the CoI-CRT framework was brought in as a sensitising concept to help interpret how

elements of teaching presence, social presence, and cognitive presence were reflected in the emerged themes. As noted by Bowen (2006), sensitising concept enhances the trustworthiness of a qualitative research as it provides conceptual grounding to the interpretation while preserving the analytical openness of the findings. The overall steps conducted in the study’s analysis are outlined under Table 3.

Table 3. Steps of Data Analysis

Analytic Step	Description of Analytic Activity	Source of References
Familiarisation	Transcribing and repeated reading of transcripts to gain an overall sense of participants’ experiences	Braun & Clarke (2006)
Generating initial codes	Line-by-line coding conducted inductively, staying close to participants’ own words	Braun & Clarke (2006)
Searching for themes based on RQs	Re-focuses the analysis at the broader level of themes and producing preliminary thematic mapping of findings	Braun & Clarke (2006)
Reviewing the themes through sensitising process	Introduction of CoI and CRT as interpretive lenses to refine themes and examine theoretical linkage	Braun & Clarke (2006) Bowen (2006)
Defining and naming finalized themes	Themes clarified and articulated with conceptual depth while retaining inductive grounding	Braun & Clarke (2006)
Producing the report	Findings presented and discussed in relation to CoI and CRT literature	Braun & Clarke (2006) Garrison (2017) Gay (2010)

To maintain consistency during data analysis process, a coding scheme was developed to guide the sensitizing process. Drawing upon the CoI–CRT framework, these sensitising concepts provide an interpretive lens rather than fixed categories or themes for the findings. This process ensures the theoretical rigor was applied consistently during the analytical process. The following Table 4 outlined the definitions of key constructs, guided analytical interpretations, and a corresponding key indicators that informed how these key constructs were recognized in the data and used as basis to realign the findings with the CoI-CRT theoretical framework.

Table 4. Key constructs and guided analytical interpretations of CoI-CRT model during data sensitising process

Theoretical Framework	Key Construct	Guided Analytical Interpretations (adapted for online learning context)	Key Indicators
CoI	Teaching presence	How instructors design, organise, and facilitate online learning experiences, including the structuring of online content, guidance of learning activities, and maintenance of instructional clarity within online learning environment.	<ol style="list-style-type: none"> 1. Clear organisation and explicit instructions for online tasks and assessments 2. Instructor responsiveness to questions during online and offline session 3. Timely and constructive feedback provided through digital platforms like LMS
CoI	Social presence	Captures the extent to which learners experience a sense of connection, belonging, and interpersonal interaction	<ol style="list-style-type: none"> 1. Active participation between instructors and learners in discussion forums or chats

		within online learning environments, despite physical separation.	<ol style="list-style-type: none"> 2. Perceived sense of community and established safe space in the online class environment 3. Peer encouragement and support during both online and offline session
CoI	Cognitive presence	Describe the ways instructors sustain the learner's attention with teaching strategies that aligned the content and tasks within online learning environments	<ol style="list-style-type: none"> 1. Effective use of digital tools to support understanding of the learning materials (e.g., recorded lecture, short videos, slides) 2. Facilitation of discussions that encourage exploration of ideas 3. Design activities that support application of concepts to real-world contexts
CRT	Cultural awareness	How instructors demonstrate awareness of students' diverse cultural backgrounds in online learning by acknowledging, anticipating, and responding to cultural differences in communication styles, learning expectations, and participation patterns.	<ol style="list-style-type: none"> 1. Acknowledgement of students' diverse cultural backgrounds during instruction 2. Adapting different communication approaches to suit culturally diverse learners 3. Awareness to varying levels of participation or silence in online settings
CRT	Cultural relevance	Describes how instructors intentionally design and deliver online learning content, examples, and activities that are aligned with students' cultural contexts, making learning more meaningful and relatable.	<ol style="list-style-type: none"> 1. Use of culturally relevant examples in teaching 2. Design of instructional materials that reflect cultural diversity 3. Encourage students to connect learning to their own cultural experiences into discussions and tasks
CRT	Cross cultural collaboration	Reflects how instructors facilitate and structure opportunities for students from diverse cultural backgrounds to interact, collaborate, and learn from one another within online environments to form a learning community	<ol style="list-style-type: none"> 1. Design of group activities involving culturally diverse peers 2. Facilitation of inclusive interaction across cultural backgrounds in online discussions 3. Support for managing challenges in cross-cultural online collaboration

In total, the analysis process underwent several iterative cycles before arriving at the final themes. Initial coding was done primarily through in-vivo coding technique (Saldana, 2016) emphasizing on the actual words used by the participants to describe or express their experiences. General themes focused on clustering the initial coding into broader patterns, whereas the CoI-CRT sensitizing process reexamined how these themes intersect with the elements of CoI-CRT as guided by Table 4, leading to the finalized

themes for reporting the findings. An excerpt of codebook is presented below in Table 5 to illustrate how the data was thematized from coding to theme through the analytical steps applied in this study.

Table 5. Excerpts of codebook used in developing codes to theme

Initial codes (In-vivo coding)	General themes description	Value	Theme refinement (CoI sensitising process)	Naming finalized themes
Revisit lecture recordings	Self-paced and flexibility of online learning	+	Cognitive presence	Theme 1: Navigating the check and balance of online learning experiences
Pause and rewinds		+	Cognitive presence	
Can re-review difficult topic		+	Cognitive presence	
Can fall behind	Not staying focused	-	Cognitive presence	
Delaying revision		-	Cognitive presence	
Clear instructions	Conducive online learning environment	+	Teaching presence	
Friendly and welcoming		+	Teaching presence	
Hard to follow	Language barrier	-	Cognitive presence Social presence	
Mixed languages used		-	Social presence	
Difficult to coordinate group project		Lack of social engagement	-	
Less engaging	-		Social presence	

4. Findings

The findings are organised into three overarching themes students’ experiences of online learning, the factors that shaped their positive online learning experiences as well as the challenges they encountered while learning online. While these themes emerged inductively from the data, the Community of Inquiry (CoI) framework provided a useful interpretive lens to understand and discuss how aspects of teaching, social, and cognitive presence shaped their experiences when viewed together with CRT perspective.

4.1. Theme 1: Navigating the Check and Balance of Online Learning Experiences

The reported students’ experiences while online learning reflected varying degrees of check and balance learning experiences. Flexibility and convenience were often emphasized as main merits of online learning, greatly forming most of the students’ experiences. A lot of participants appreciated the capacity of revisiting recorded lectures and administrating their study schedules independently. One participant shared

“I liked being able to revisit lecture recordings to fully understand the material. It allowed me to pause, rewind, and really digest difficult concepts that I might have missed in a live class.”

Additionally, flexibility in online learning also allowed some students to manage conflicting priorities, such as balancing ongoing internship with their studies. As another participant explained:

“Online classes meant I could be at my internship [place] and still not miss lectures, but it required me to be very organized. There were days when juggling both was incredibly stressful.”

Participants consistently noted that online learning provided them with significant scheduling flexibility and control over pace. Many appreciated being able to listen to recorded lectures, revisit difficult content, or balance academic work with personal commitments. However, this flexibility also required them to impose self-discipline on themselves. Several students mentioned that without a fixed class structure or physical presence in the classroom, they needed to create their own routines to maintain continuity in their studies. This often involved scheduling designated study hours, planning weekly

tasks, and revisiting materials proactively in order to avoid falling behind. This aligns with research showing that online learning environments place greater responsibility on learners to self-regulate, manage time independently, and monitor their own understanding (Broadbent & Fuller-Tyszkiewicz, 2018).

Students' narratives indicated that while instructional design and teacher organisation supported these practices, much of the effort still fell on learners to monitor their progress and maintain regular engagement. The self-initiated routines they developed demonstrate a heightened awareness of the need for personal accountability when learning online. For instance, one participant admitted:

“Sometimes, knowing I can always watch the recording later made me delay reviewing the material. In the end, the backlog became overwhelming, and I struggled to catch up before exams.”

The flexibility afforded by online learning was frequently highlighted by students as a positive aspect of their experience, yet this flexibility also intersected with deeper cognitive and instructional design dynamics. From a cognitive standpoint, flexibility allowed students to revisit lecture recordings, pause and replay difficult explanations, and engage with materials at their own pace—actions that supported their meaning-making processes and helped them manage the cognitive load of learning in a second language. Many students described using this ability to control the pace helped enhance their understanding, support their comprehension, and resolve uncertainties. This demonstrates how flexibility facilitated the iterative process of reflection and inquiry when learning online associated with cognitive presence.

At the same time, students' ability to benefit from this flexibility depended heavily on the clarity and organisation provided by instructors. When teaching presence was strong—through clear task instructions, well-structured learning materials, and accessible guidance—students felt better able to navigate the open-ended nature of online learning. Conversely, when instructions were unclear or course materials were dispersed across multiple platforms, the same flexibility became overwhelming, prompting students to rely more on personal strategies to stay on track. In a way, flexibility was experienced not only as a feature of online learning but as a condition shaped jointly by teaching and cognitive presence.

However, while flexibility was celebrated, many students expressed dissatisfaction with the limited interaction that is inherent in online learning. The lack of face-to-face communication often left students feeling disconnected. As expressed by one participant,

“Online interaction feels less engaging; I miss the spontaneous discussions we had in physical classes. The lack of eye contact and real-time reactions makes it hard to feel connected.”

This loss of immediacy diminished the sense of belonging students typically derive from shared physical classroom spaces, as it did not extend the same in online shared spaces. It also affected their experiences in conducting group project, which was initially meant to foster collaboration and establish networking among their peers from local and/or international background. Instead, they reported more on how the experience was marred by logistical challenges, as informed in the following:

“In group projects, it was harder to coordinate because we couldn't just meet after class like before. Sometimes we had to rely on long message threads to make decisions, which was inefficient.”

In some instance, language barriers further complicated interactions. Students described their struggles to follow discussions when lecturers or peers shifted between languages, causing them to second-guess whether they had understood instructions correctly or whether their interpretations of concepts aligned with the rest of the class. Studies have shown that such linguistic overload weakens students' ability to sustain cognitive presence in online learning because they must devote substantial mental effort to basic

understanding before they can meaningfully process content (Cao, Zhu, & Meng, 2021). This uncertainty often translated into hesitation: students reported holding back their questions, delaying responses, or remaining silent in group discussions out of fear of misunderstanding, mispronouncing terms, or giving an inaccurate answer. As one participant reported

“Sometimes I couldn’t follow discussions because of the mix of English and Malay terms. This made me hesitant to participate, fearing I might misunderstand or give the wrong response.”

Upon probing for example, the participant showed a Forum Discussion inside the university’s LMS, and narrated *“Like this, the first posting was in English, but discussion after is mixed with Malay. I can translate but not sure if I will disturb [interfere in the discussion]”*

Such experiences reveal that reduced social presence—combined with language uncertainty—intensified feelings of isolation and withdrawal in online learning spaces. Across the participants’ accounts, the lack of social presence stood out as the most significant gap in their online learning experiences. To address this, some participants indicated including more frequent instructor-driven discussions for opportunities to have more social presence in online environment. As one participant commented:

“If the professor could host informal Q&A sessions, it might make the environment feel more interactive.”

Overall, the students’ accounts illustrate how their online learning experiences were shaped by an interplay of flexible structure for higher autonomy, instructional clarity for better cognitive engagement, as well as more desirable social connection to provide better online learning experience. Viewed through the CoI framework, their experiences suggest that online learning environments were strongest in delivering content in flexible manner especially when presented in well-structured forms and interactive materials, but less effective in fostering interaction and deeper meaning-making, highlighting the need for a more balanced integration, especially the element of social presence, in online learning settings.

4.2. Theme 2: Enablers of Effective Online Learning Experiences

Under this theme, participants also described several conditions that helped them learn more effectively in the online environment. These “enablers” reflected features of the learning experience that were most appreciated by these students.

First and foremost, efficient instructor involvement was key to forming positive online learning experiences. This aligns with Garrison, Anderson, and Archer’s (2000) concept of teaching presence, where effective instructional design and clear organisation provide the foundation for purposeful, meaningful learning experience. For example, one participant noted

“Due to the professor’s rapid [quick] respond to our questions, I felt backed and less anxious about hard [tough] homework. It displayed that they cared about our advancement [progress in study].”

Then instructors responded promptly to questions or clarified confusing points during live sessions, students reported heightened motivation and reduced cognitive strain. Anderson et al. (2001) highlight that timely and continuous facilitation strengthens learners’ engagement by ensuring that instructional support is ongoing rather than episodic. For China international students, such responsiveness played an even more crucial role in reducing language-related uncertainties and ensuring they interpreted

instructions correctly. This responsiveness made the presence of instructors felt even in asynchronous spaces, reinforcing the perception that help was available when needed.

Students also shared that interactive teaching approaches played an important role in keeping them engaged and helping them understand course content more deeply. Activities such as breakout discussions, simulations, and case-based tasks encouraged them to move beyond passive listening and actively apply what they learned, as illustrated below:

“The simulated courtroom activities made the legal ideas come alive. They pushed us to think critically and use principles in actual scenes.”

“Our professor adopted case research and asked us to display solutions, which maintained us involved throughout the semester. It also assisted us in developing problem-solving abilities related to our real lives.”

These strategies supported cognitive presence while learning online, as they required students to make sense of ideas, analyse situations, and use concepts in meaningful ways. Recent studies show that online learning becomes more effective when instructors integrate authentic tasks and opportunities for problem-solving, which prompt learners to engage in deeper thinking and reflection (Fiock, 2020; Cleveland-Innes & Campbell, 2020). Students in this study similarly found that simulations and real-world cases made lessons more relatable and sustained their interest. This aligns with recent evidence suggesting that purposefully designed interactive tasks and instructional strategies help strengthen cognitive presence by promoting inquiry, application, and reasoning (Sadaf, Wu, & Martin, 2020).

What also emerged from the participants’ narratives was sensitivity to cultural differences as exhibited by some instructors during teaching. Teachers who knew cultural difference stood out as especially useful, illustrated as follow:

“When professors tried to know our cultural views, it felt like they truly cared about our study. For example, one professor modified instances to incorporate cases from Asia, which made the material more relatable.”

The above highlighted how teaching presence can intersect with the concept of culturally responsive teaching (CRT), which emphasise the importance of validating learners’ cultural identities and building instructional connections that resonate with their lived realities (Gay, 2010). Beyond providing clarity and organisation, students valued instructors who acknowledged and incorporated their cultural perspectives into course discussions and examples. Such efforts signalled acknowledgement for their backgrounds and presence in the class, and made learning materials feel more meaningful. When instructors adapted examples to include Asian contexts or invited students to share views shaped by their cultural experiences, students felt seen and understood. Within the CoI framework, these practices enriched teaching presence by strengthening both design and facilitation in ways that were culturally attuned rather than one-size-fits-all. They helped reduce the cultural distance that international students often feel and supported a more inclusive and personally relevant learning experience.

Lastly, as online learning environment is heavily mediated by the use of technology-based platform, strong digital platforms were also reported to be important in driving positive online learning experiences. Participants noted favourably on features like resource sharing, live discussions, and calendar functions for enhancing productivity. One participant observed:

“Microsoft Teams is comprehensive; it allows me to access resources, submit assignments, and engage in discussions seamlessly. The integration of all these functions saves a lot of time [when learning online].”

However, students also emphasized the need for ongoing training to maximize the potential of these platforms. When asked during LMS walkthrough, the participant illustrated some navigation that move back and forth between different courses and postings by weeks.

“There were so many functions I didn’t know how to use until halfway through the semester. More training sessions would be helpful, especially at the beginning of the [semester] term.”

These forms of support may act as a practical extension in considering aspect of teaching presence in online learning. When students received ample guidance on how to use online features provided, they reported feeling less anxious and more confident in engaging with course requirements. This echoes Martin, Sun & Westine’s (2020) argument that instructor support for technology, including clear instructions and troubleshooting guidance, directly enhances learners’ perceptions of effective online teaching. Ensuring learners can access and navigate course tools effectively when learning can extend and affirm the concept of teaching presence. Additionally, the strategic use of digital tools, when paired with clear instructions, can scaffold cognitive processes and help students engage more meaningfully with course content (Sadaf, Wu, & Martin, 2020).

4.3. Theme 3: Constraints on Effective Online Learning

As part of their shared experiences, the students also reported several constraints that made their online learning experience challenging and, at times, discouraging. While no one learning experience can ever be flawless, knowing about these constraints in online learning can serve as important lessons learned for future improvements in online teaching practices.

From their narratives, the data revealed the interplay of Chinese cultural perspectives within students’ online learning experiences. Many of the difficulties they described—such as hesitancy to speak, fear of misunderstanding instructions, and reluctance to interrupt or ask questions—were closely tied to Chinese cultural norms surrounding communication, learning, and classroom behaviour. For example, one participant reported

“It was hard to adapt to the open classroom style where students are expected to speak up. Back home, we were more used to lectures where the teacher led everything.”

Language and cultural constraints also posed significant challenges for many participants, particularly in adapting to local accents and unfamiliar teaching methods. As elaborated by the participants:

“Sometimes I couldn’t observe discussions due to the blend of English and Malay terms. It felt like I was always a procedure behind in insight.”

“In chat discussions, it’s difficult to tell the tone, and I sometimes miss explain what others represent [said]. This has resulted in awkward moments where I had to clarify my reactions.”

Chinese learners often come from educational environments that emphasize accuracy, respect for authority, and maintaining social harmony, which can discourage risk-taking or public expression of uncertainty (Heng, 2018). These values shaped how students responded to reduced social cues, language switching, and the unpredictable interaction patterns of online platforms. In the absence of clear guidance or immediate reassurance, students defaulted to culturally familiar strategies such as staying silent, observing before participating, or deferring to peers they perceived as more linguistically confident. As a result, the online environment amplified their tendencies toward being self-cautious,

indicating that their challenges were not only technical or pedagogical in nature but also deeply influenced by the socio-cultural influence they brought into the learning space.

Another constraint reported by the students is the technical issues faced when online learning. Technical difficulties, especially network unsteadiness, hampered their learning experiences as it can disrupted their cognitive presence during online learning. One participant mentioned:

“Sometimes the network lagged, and I missed core parts of the lecture. It was frustrating because it felt like I was missing out on crucial explanations.”

These disruptions affected more than just access, it also impacted their cognitive presence. It interfered with the students’ ability to process information and maintain continuity in their thinking in order to make sense of the course content. This aligns with studies showing that technical instability increases cognitive load and reduces learners’ capacity to engage in deeper inquiry or problem-solving during online lessons (Adedoyin & Soykan, 2023). Students also expressed the need for more reliable and accessible technical support or alternative resources to address the disruptions they frequently encountered during online sessions. These participants suggested:

“Having a devoted tech back team for students would make a great diversity [to the teaching practice]. They could provide real-time help during live meetings.”

“Professors should always upload lecture slides or offer alternative methods for access content in case of failed live session. It guarantees no one is left behind.”

Although technical difficulties may appear to fall outside the instructor’s control, their narratives hinted on how the element of teaching presence plays a significant role in mitigating the impact to their learning. When students encountered technical difficulties, what made the difference was not the technical failure itself but how instructors anticipated, responded to, and supported learners through these disruptions. Teaching presence involves instructional design, facilitation, and direction (Garrison, Anderson, & Archer, 2000), and in online contexts, this includes planning for technological breakdowns and providing clear alternatives to support multimodalities when learning online. In this sense, even though technological issues were unavoidable, strong teaching presence—through thoughtful organisation, contingency planning, and clear communication—helped buffer the disruptions and enabled students to continue learning effectively.

5. Discussions and Implications

Using the Community of Inquiry (CoI) framework as an interpretive lens, this study highlights how the three CoI elements —teaching presence, cognitive presence, and social presence—shaped Chinese international students’ experiences of online learning in Malaysian higher education. Although the themes emerged inductively, the CoI model provides a useful lens to sensitise their experiences from these three interrelated aspects.

Teaching presence emerged as a central determinant of students’ online learning experiences. The findings implied that teaching presence must be intentionally designed and actively maintained in online courses. When instructors provided prompt feedback and structured learning pathways, students reported feeling more confident and better supported. This aligns with research emphasising that strong instructional design, visible facilitation, and responsive communication form the backbone of effective teaching presence in online environments (Garrison, Anderson, & Archer, 2000; Fiock, 2020). Moreover, teaching presence should extend beyond content delivery to include proactive monitoring of students’ progress, timely clarification of misunderstandings, and the provision of alternative learning pathways when challenges arise. Such practices not only support students’ academic confidence but

also help stabilise their engagement and sustain learning momentum in online environments. From the perspective of CRT, intentionally designed instructions must include elements of cultural awareness, whereby instructors actively consider students' cultural backgrounds, language use, and prior learning experiences when structuring learning activities (Gay, 2010). In online settings, this is particularly important, as culturally informed behaviours—such as hesitation to speak or preference for indirect communication—may otherwise be misinterpreted as disengagement (Heng, 2018).

From the reported findings, cognitive presence was reported most positively when students engaged in interactive and authentic learning activities. Simulations, case-based learning, and breakout discussions prompted students to analyse problems, apply principles, and construct meaning—behaviours consistent with deeper inquiry processes described in recent CoI research (Cleveland-Innes & Campbell, 2020). A similar consideration can also be applied from a CRT perspective, as what Gay (2010) refers to as cultural awareness. When abstract concepts are being explained with familiar contexts, deeper meaning-making in the learning can be achieved.

However, cognitive presence can be highly susceptible to disruption when it comes to learning online. Technical challenges such as lagged lectures, an unstable internet may interrupt students' thought processes and made it difficult to follow complex explanations. These disruptions increased cognitive load and hindered sustained engagement, echoing findings that technical instability directly undermines learners' ability to maintain cognitive presence (Adedoyin & Soykan, 2023). Therefore, these findings implied that instructors should be mindful of the cognitive load imposed by online learning, particularly for multilingual learners. When students must simultaneously process content, manage technical issues, and navigate language demands, their capacity for deeper engagement may be reduced.

Among the three elements, social presence was the most vulnerable element reported in online learning. Students consistently reported feeling disconnected due to minimal interaction, absence of nonverbal cues, camera-off cultures, and limited opportunities for spontaneous, informal conversation with peers. These barriers align with research showing that online learning environments often struggle with disconnection and isolation, and lacking in verbal and non-verbal behaviors, thus limiting social presence (Richardson et al., 2017). For Chinese international students, cultural norms around communication—such as being cautious in public expression, fear of error, and deference to authority—coupled with multilingual language barrier, can heighten hesitation and withdrawal (Heng, 2018; Tu, 2010). As a result, it can have reduced their confidence leading to suppressed participation, and indirectly hamper their cognitive engagement when learning online. This suggests that instructors need to deliberately design opportunities for interaction, such as cross-cultural collaborations because in online learning environment, social presence cannot be assumed by default (Tu, 2010). This can be cultivating in support using the third principle of CRT, which calls for a learning culture that centered on diverse partnerships and group functioning where everyone helps one another and everyone contributes to mutual gain.

The implications of this study can also be considered in terms of immediate intervention in the instructional design, as well as long-term institutional strategies, particularly in strengthening the integration of CoI presences through culturally responsive approaches. Instructors may consider designing low-risk interaction opportunities, such as using chats and polls to support social presence among the students who hesitant to speak. Embedding culturally responsive teaching practices—such as structured peer discussions based on context relevance and low-risk participation activities that reward efforts and attempts—can help strengthen social presence and foster a greater sense of belonging in online learning environment. Clear and consistent communication can also help reduce uncertainty and enhance teaching presence. Suggestions may include providing weekly summaries of classes completed and list of things due or topics to be prepared for the following weeks.

Meanwhile, long-term strategic implications may include preparing professional development courses for instructors on exposure to the CoI-CRT principles and strategies. Institutional-level guidance on the CoI-CRT framework should be proposed to systematically embed teaching, social, and cognitive presence into course design rather than treating them as incidental elements.

6. Study Limitations and Recommendations for Future Research

This study was intentionally designed as an exploratory qualitative inquiry aimed to gain in-depth understanding of Chinese international students' online learning experiences from two intersecting perspectives from CoI and CRT. As such, the sample was limited to a small group of students from two public universities in Malaysia, allowing for rich, contextualised insights within the specified settings, but limiting the generalisation of the findings to other institutional or national contexts.

Future research can build on these findings by examining a wider range of institutions, including private universities or transnational programmes, and by purposively involving larger and more diverse samples of international students to reveal and analyse greater variation in the experiences reported. Mixed-methods or quantitative studies could also be employed to test the patterns identified here as variables, and to examine the relative strength of CoI three presences with CRT elements across different contexts. Such approaches would complement the present study by extending its exploratory insights and contributing to a statistically significance models connecting both the theoretical grounding of CoI and CRT together. In addition, a longitudinal study can also be considered to examine how these students' online learning experiences change over time, particularly in relation to the dynamic interplay of teaching, cognitive, and social presence. Such an approach would provide insights into how culturally responsive practices and students' engagement and participation develop across different stages of their learning journey.

7. Conclusion

Taken together, the findings of the study show that a balanced integration of teaching, cognitive, and social presence, when considered along with culturally responsive teaching (CRT), is critical for effective online learning, particularly for culturally diverse learners. The study highlights that China international students' online experiences are shaped not only by pedagogy and technology, but also by cultural perspectives, language barrier, and technical issues. Rather than viewing teaching, cognitive, and social presence as purely online instructional constructs, the findings illustrate how these dimensions are layered by cultural expectations, communication norms, and learners' prior experiences in their home countries. Positive experiences emerged when instructional clarity, cognitive engagement, and interpersonal connection were aligned; negative experiences often reflected weaknesses in instructional design in one or more of these CoI elements. In redesigning online learning using the CoI framework, this study imparts how the learners' cultural and contextual realities aligned well with the CRT principles. As online learning becomes a strategic feature of internationalised higher education, it is no longer sufficient to consider instructional design in isolation from cultural context. This study highlights how the integration of CoI and CRT offers a more holistic lens for understanding international students' experiences, emphasising that meaningful engagement emerges from the alignment of cultural responsiveness with teaching, cognitive and social presences.

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