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Research Article

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Higher education faculty concerns teaching in a hybrid environment: Implications for Chinese private higher education faculty developers and faculty

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ABSTRACT

Through a lens of cross-cultural collaboration and change theory, this study explored the concerns of higher education faculty from 11 private institutions in Shanghai, China who, with little to no training, were asked to develop and teach a hybrid course. Faculty taught a range of subjects. Using the stages of concern dimension of the concerns-based adoption model of change, results showed faculty were primarily concerned with learning more about hybrid teaching and learning. The greatest disparity between concerns of faculty groups (i.e., experience, content taught) was related to online teaching experience. It is recommended that prior to engaging higher education faculty in faculty development, consideration must be given to cultural norms and individual differences. Facilitators must get to know participants on a professional level and cultural level. The study implications extend to faculty development facilitators and to the way in which relationships are viewed in Chinese higher education.

Keywords: hybrid teaching and learning, concerns-based adoption model, private higher education, cross cultural

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INTRODUCTION

As many educational institutions and students adjust back to on-campus schedules after the sudden shift to emergency remote teaching (ERT) in March 2020, educators globally at all levels have been reflecting on their experience with ERT while seeking ways to rejuvenate their teaching and their students' motivation to learn. According to a 2021 survey administered in the United States (on behalf of the Online Learning Consortium and University Professional Continuing Education Association), 68% of college students surveyed were in favor of hybrid courses after experiencing remote teaching for the first time, and 57% of faculty indicated a preference for hybrid teaching post pandemic. Interestingly, in the same survey, 68% of students also indicated a desire for more technology integration in their in-person/on-campus courses. It is fair to assume the shift to ERT in higher education has served as a catalyst for reform in higher education pedagogy and policy.

Of specific relevance to this study, we notice a similar trend of development and reform in China (Zhu & Liu, 2020). However, relative studies focus more on samples consisting of public universities (Jiang et al., 2021; Yang & Huang, 2021). In contrast, private higher education institutions (HEIs) in China deserve more attention and support to improve their education quality based on the trends of historical development of higher education in China and the current demand in the face of the long-lasting effects of COVID-19 outbreak.

From a historical perspective, four keywords often characterized the development of higher education in China since the 1980s in the literature: decentralization, marketization, massification, and internationalization (de Wit & Altbach, 2021; Gu et al., 2018; Hayhoe et al., 2012; Mok, 2009). Private education has played an important role in this process in supporting diversification and providing enough education opportunities for Chinese people (Mok, 2021a; Wu & Li, 2021). However, the insertion of private capital into the education market turns it into a profitable industry (Kwong, 1997; Ngok, 2007). Along with the decentralized process, a stratification among different types of HEIs was formed in China (Luo et al., 2018).

While top-tier public universities enjoy more autonomy and receive financial support from the state, private HEIs, in general, receive limited public financial support and predominantly rely on tuition and fees to operate (Yan & Lin, 2012). Private HEIs play a fundamental role at the bottom of the hierarchy to sustain the massification of higher education (Luo et al., 2018), and their teaching quality has been questioned often (Liu, 2018). In the 21st century, internationalization and quality-improvement are becoming the

strategic center of higher education in China (Minister of Education [MoE], 2016, 2017). According to State Council People's Republic of China (2020a), higher education enrollment in China is increasing, new forms of private HEIs have begun to emerge (Mok, 2021a, 2021b), but quality assurance is still at the government and public's centers of attention.

In another report from the State Council People's Republic of China (2020b), MoE indicated students who have grown up in the Internet era valued online learning. The shift to online learning has prompted a more student-centered teaching approach in contrast to traditional in-person teaching and learning. This change has increased the need for Chinese higher education faculty to allow more student creativity and independent learning.

Despite Liui's (2016) suggestion in *China Daily*, the ministry of education is integrating online MOOC resources to create "an online teaching and learning space which benefits life-long learners" (para. 11), and the MoE's (2016) statement that hybrid or blended course design and pedagogy will serve to promote the integration between information technology and education and ultimately further improve the quality of education, we suggest online learning–specifically student-centered online learning–is a relatively new approach, especially for private HEIs. Until recently, online teaching and learning in China have often focused on massive open online courses and university-level open educational resources that do not include a strong faculty presence and require sustained student engagement.

With this shift to online and hybrid teaching combined with a potential change in pedagogical practices, one is led to wonder how the faculty feel about this new expectation of them. Moreover, depending on the nature of different HEIs, faculty members may view and experience challenges in different ways. Hybrid teaching and learning for private HEIs may be more than just a teaching model in response to the emergency, but it also fits within the reform of Chinese private higher education from a historical perspective. It is important to consider the challenges related to education quality, capital regulation, and governance that private higher education currently faces in China (Liu, 2016, 2020; Mok, 2009).

This context is vital for our study, which includes participants from Chinese private HEIs. The participants enrolled in a remote faculty development program focused on hybrid teaching and learning, which is crucial for quality improvement in light of the current development of higher education in China. A concurrent self-study derived from this program, in which we explore our personal professional growth as cross-cultural collaborators, helped us discover many cultural differences between higher education programs, policies, and expectations in China and the United States.

We uncovered, for example, that student expectations of faculty are vastly different, as are administrator expectations of faculty. Knowing cultural and historical differences exist between private and public institutions in China, it is important for us to consider the context and the significance of developing hybrid learning environments in private institutions in China, adopting a bottom-up approach to study private higher education teachers' concerns toward hybrid teaching and learning in the setting of faculty development. In this study, we explored the concerns of private higher education teachers toward hybrid teaching and learning in China and tried to interpret the reasons behind their concerns based on the results of data analysis.

LITERATURE REVIEW

As cross-cultural collaborators (Gu and Ma from Shanghai, and Donovan and Green from the United States) who facilitated the program for Chinese educators situated in Shanghai, China, learning what we discovered from our concurrent self-study led us primarily to consider existing research published in China. We will first examine the cultural differences in using hybrid or blended terminology and research on these approaches. Then, we close with a look into higher education faculty concerns.

Defining Hybrid Education

According to the China National Knowledge Infrastructure Database's Chinese Social Science Citation Index (CSSCI), studies on hybrid teaching and learning (e.g., He, 2005; Tian & Fu, 2004; Tian & Jiao, 2005) first emerged in China at the beginning of the 21st century. Consequently, the Chinese studies in our literature review focus on the concept of blended teaching and learning. Only one study (Xu & Zhou, 2005) explicitly discussed the word *hybrid* and its difference with other teaching modalities.

In the Chinese context, hybrid and blended are both frequently referred as "混合 (hun he)," which means "mix" or "mix together" in Chinese (Harper Collins, n. d.). However, English and Chinese literature show that terminology varies when describing the combination between face-to-face and online teaching and learning. Nevertheless, whether the word *blended* or *hybrid* is used, one common feature is that Internet-based technologies are combined with face-to-face teaching and learning in education (Chang & Chang, 2014; Hall & Villareal, 2015; Halverson et al., 2012; Helms, 2014; Johnson et al., 2018). Contrastingly, Gleason and Greenhow (2017) consider the two terms equivalent.

In this study, we use the term hybrid to define the combination of synchronous in person and asynchronous online teaching and learning for a specific course. As we explored literature on hybrid and blended teaching and learning, we found three major focus areas in the literature. This finding was supported by the meta-analysis of published papers in CSSCI from 2005 to 2020 related to hybrid and blended teaching and learning (Peng & Jin, 2021). These areas were identified as hybrid course design, application of theory, and instructional design and implementation.

Faculty Concerns

Given the complexity of designing appropriate hybrid teaching and learning environments and experiences, it is not surprising there is also research exploring faculty concerns. Especially for higher education teachers, various factors (e.g., constantly evolving technologies, dichotomy of fields of study, didactic and education theories, institutional constraints) could impact a teacher's perception of hybrid teaching and learning and what they do in practice. Illeris (2007) discussed the feeling of ambivalence through which educators are excited and worried at the same time and encounter difficulties while trying to make a change in practice (Liu et al., 2020). A solid line of research, including our own, explores concerns of higher education faculty in the United States. Donovan and Green (2010) showed that when the teaching environment underwent a shift, faculty concerns varied by individual role. As a group of educators, faculty shared concerns about first understanding what the innovation involved (e.g., in the case of our former research, a 1:1 student/laptop ratio), and were

Table 1. Distribution of courses taught by participants by content area

Content area	English/language	Education/health/social sciences	Creative & practical	Design & development	Business
Course name	Business & financial English, spoken & advanced English, grammar & writing, college English, German, & Chinese	Nursing, nutrition, psychology, early childhood education, education, & sociology	Dance, fitness, photography, painting, & documentary creation	Art & design, gemology, engineering drawing, & web design	International business, business correspondence, business, foreign trade, & economics
Count	10	6	6	4	6

concerned about the impact of the changed pedagogical expectations and environment on their professional status and role as educators. Linder's (2017) research supported our findings and described a primary concern to address when supporting faculty transitioning to the hybrid environment was understanding what hybrid teaching meant. Other concerns reported by Linder (2017) include time and training. Specific to Chinese faculty and this cross-cultural study, Dai (2014) found Chinese scholars had concerns about cultural differences when considering standards for quality online education despite finding that faculty perceived the standards as valuable.

Literature exploring Chinese teachers' concerns from CSSCI has focused primarily, if not completely, on faculty members in K-12 education. Jin and Yin (2003) used a concerns-based model (CBAM) of change to analyze teachers' concerns toward curriculum reform and concluded that previous experience of change or reform facilitated teachers' level of use regarding the new curriculum. Cui and Yu (2015) and Li (2013) discovered significant differences in concerns when controlling for various demographic variables (e.g., level of education, time of teaching, and gender). These findings also indicate that individual background factors could influence one's level of concern. Moreover, Zhang et al. (2014) found a significant correlation between the implementation of media literacy education and primary teachers' stages of concern (SoC). Hao and Jiang (2021) found, in a curriculum reform scenario, teachers' concerns could further influence the implementation of the new curriculum. These studies demonstrate a feasible approach to studying the actual implementation of change from a concern perspective. Additionally, for our Chinese faculty participants, investigating these concerns that may prevent them from adopting hybrid teaching and learning is important, especially in the Chinese sociocultural context.

METHODS

This study was conducted using the CBAM as the theoretical framework and methodological approach. We all know educators who felt overwhelmed, frustrated, lost, and misunderstood during ERT. As researchers, we know from educational change theory (Hall & Hord, 2020; Rogers, 2003) that to see sustained change, always consider the experiences and opinions of those being asked to change. Hall and Hord's (2020) CBAM suggested that before making judgments about the impact or sustainability of innovations, in this case, hybrid teaching, educators must consider the individuals and how they implemented the innovation. Donovan and Green (2010), and Donovan et al. (2014) has highlighted the importance of understanding how educators adopt an innovation, which can vary greatly even in one teaching and learning environment. With that in mind, the purpose of this study was to identify and explore the concerns of Chinese (from Shanghai) private higher education faculty asked to develop and teach a hybrid course with little to no training. In this study, we explored their initial concerns and considered implications for professional developers and faculty trainers who support innovation adoption in higher education, especially in international contexts.

Participants and Setting

Thirty-two faculty from 11 private HEIs in Shanghai, China, were considered participants. Participants were invited by a public university in Shanghai to participate in a 15-week faculty development program about hybrid teaching led by the authors of this paper. The faculty development program is one element of an ongoing partnership between a university in Southern California, United States, and a public university in Shanghai. To be considered participants in the faculty development (and in the study), the higher education faculty were required to have a proficient level of written and spoken English, commit to fully participating for 3 hours per week for 15 weeks, and complete all course requirements.

The higher education faculty participants have a range of experiences in higher education. **Table 1** shows the different disciplines taught by these faculty. Collectively, participants teach elective and required courses at their respective private institutions. Anecdotally, we know their class sizes range from 21-100 students.

Figure 1 shows hybrid and online teaching experiences based on content area. Most participants have had online teaching experience during the last 24 months, which is expected considering faculty members were required to conduct ERT during the initial phase of the pandemic. On the contrary, when asked about hybrid teaching experience, more than half of the participants have not implemented any hybrid teaching models in the last 24 months. These differences indicate most of the participants are not familiar with hybrid teaching or its implementation; it also shows that hybrid teaching means more than the use of online channels or tools in teaching.

Tools and Data Collection

The primary data collection tool for this study was the SoC dimension of CBAM. This dimension of CBAM uses a stages of concern questionnaire (SoCQ) for understanding change from the perceptions of those involved with innovation adoption (Hall & Hord, 2020). The SoCQ is a 35 item Likert-scale questionnaire that asks participants to respond on a scale of 0-6 (0=*irrelevant* to 6=*very true of me now*) to statements about innovation adoption. For example, participants respond to statements such as "I am concerned how hybrid teaching and learning affects students," "I would like to know the effect of hybrid teaching and learning on my professional status," and "I would like to know what other faculty are doing in this area." One extra open-ended question is "what other concerns, if any, do you have at this time?"

It should be noted that this survey and study are part of a larger research project. The survey included demographic questions from which we were able to describe our participants. The survey was translated into Mandarin and administered electronically via WeChat to all participants. Participants were asked to complete the survey prior to the first faculty development session.

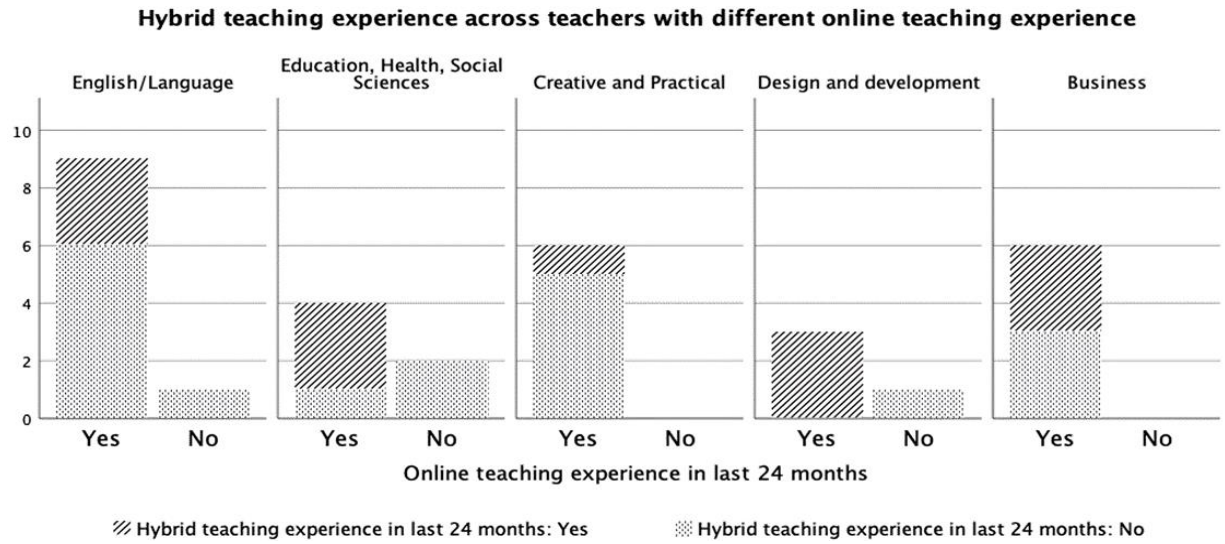

Figure 1. Distribution of hybrid teaching experience across different content areas for teachers with different online teaching experiences (Source: Authors)

In addition to the SoCQ, the SoC dimension of CBAM includes informal conversations referred to as one-legged interviews between the researchers and participants. Because this study was conducted before we met participants and occurred across two continents, we did not engage in any informal conversations with them. However, at the conclusion of the first introduction session (which was focused on community building and a course overview), we asked participants to submit a written reflection. Specifically, we asked them, "what are your biggest concerns about facilitating an online course? Provide details that would help a reader of your journal understand where your concerns may stem from." These responses are considered data for this study.

Data Analysis

All 32 higher education faculty agreed to participate in the study and completed the SoCQ. Data analysis followed the protocol of SoC dimension of CBAM and is represented as a continuum of concerns in levels of unconcerned to self, to task, and finally, impact concerns. The SoCs are within each level. **Table 2** shows the different levels and stages. The innovation for this study was hybrid teaching and learning. The SocQ questions were designed so certain questions reflect the different SoCs. Data were entered into Excel, and data for each individual were tallied to determine raw scores for concerns at each stage. Raw scores were then converted to percentages using the scoring guide provided in the SoCQ manual. These percentages were then averaged across all participants to develop a group concerns profile. A concerns profile is a line graph of the percentage of each stage concern (0-6). When analyzing the graphical representation, peaks and valleys represent high level or low level concerns at the various stages. Because this profile was part of the larger survey, we created separate profiles based on instructional content area, teaching experience, and previous exposure or experience to hybrid and online teaching.

Open-ended questions and journal entry data were used to gain insights into more specific concerns of the higher education faculty. We began by creating a word cloud using an online word cloud generator to determine broad categories of concerns from journal entries. We used a personal coding strategy to group open-ended statements and relevant journal statements into the SoC.

FINDINGS

We first look at the faculty as a collective and then explore their concerns based on experience or exposure to online teaching and academic content areas.

All Higher Education Faculty Concerns

Figure 2 shows the concerns of all faculty participants. This diverse group of higher education faculty were mostly concerned at the self level and informational stages. Essentially, they want to know more about what it means to develop and teach a hybrid course. This finding was also expressed in journals and open-ended question on the SoCQ.

Statements and questions on the SoCQ such as, "what are the teaching tools for blended learning?", "what is blended teaching?", and "what is the difference between blended teaching and project teaching?" support the notion that these faculty have concerns at the informational stage. **Figure 3** represents our word cloud from journal entries. To a lesser extent, journal entries also supported faculty concerns at the informational stage, with some of the dominant words being *time* and *hybrid*. Interestingly, the most prevalent terms in the word cloud were students, online, and learning.

It would appear that faculty also had an impact level and consequence stage concerns (e.g., how does this impact students and the community?). An examination of the actual phrases in the journals showed faculty were more concerned at a self-level and personal stages than a stage which prioritizes the concern of innovation's impact. Although some faculty shared concerns about student learning (e.g., "my biggest concern about facilitating an online course is I do not know whether the students are learning"), most comments about students were, in fact, at the self-level and personal stage. Phrases in the journals included "students may be doing other things while they are watching online courses," "the concern about online courses is how can practice courses be better realized through online teaching," and "how to ensure classroom management and learning effects? Of course, for children who love to learn, there is definitely no problem. But for students with poor self-control and distracted attention, how to ensure the quality of teaching." These expressions of concern indicate this group of faculty was more concerned about their role as hybrid educators in ensuring

Table 2. Stages of concern

Level (stage of concern)	Description
0. Unrelated (awareness)	Just beginning to think about the innovation but not concerned about it at all.
1. Self (informational)	Interested, but not concerned beyond curiosity about features of the innovation.
2. Self (personal)	Concerned about own role in innovation adoption and how it will impact them as an individual.
3. Task (management)	Concerned about how they use innovation, how best to find & use resources & how much time & effort is being put into innovation.
4. Impact (consequence)	Concerned about how the innovation is impacting others (e.g., students and community).
5. Impact (collaboration)	Concerned about sharing impact of innovation with others in local and global community.

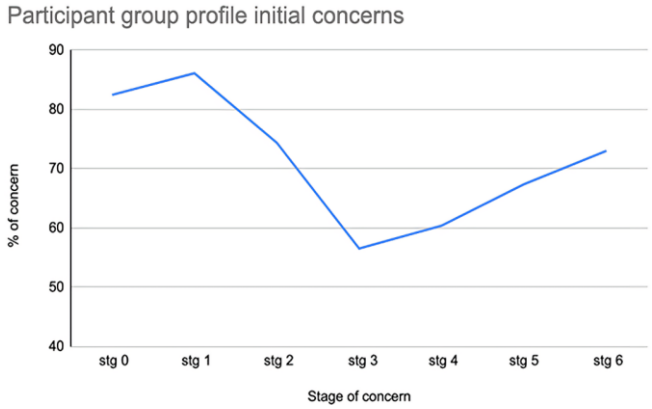

Figure 2. Concerns of all faculty participants (for clarity, the vertical axis starts at 40 instead of 0) (Source: Authors)

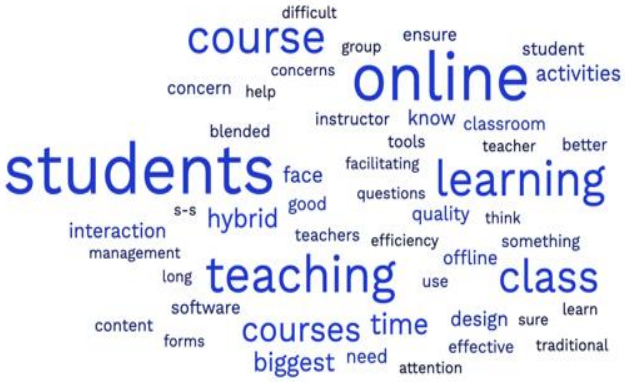

Figure 3. Keywords extracted from answers to open-ended questions about blended teaching (Source: Authors)

their students were attentive, than concerned about hybrid teaching's impact on learning. "There are students who simply don't listen to the class seriously, or use the class software while playing games, listening to music, watching movies, etc., separated by a layer of screens, it is more difficult to restrain students' behavior" offers the greatest insight into why students was a key term in our word cloud.

When considering concerns profiles, in addition to the peaks that indicate high-level concerns, we can learn just as much about concerns by looking at the valleys represented in the graphs, as these indicate collective low-level concerns. Our group profile suggests that the faculty had low task level and management stage concerns as a group. This makes sense as management concerns usually indicate current use of an innovation and represent that, despite perhaps having already engaged in some form of hybrid teaching, they were clearly embarking on this faculty development opportunity to grow as educators.

Concerns Profiles by Content Area

Figure 4 shows the SoC by content area.

Our practical educators seem to stand out slightly from the rest in **Figure 4**, showing a sharper peak at stage 1: information, indicating these faculty need to know more about what hybrid teaching will look like in their respective fields. Similarly, this group also had a sharp valley at stage 3, which indicates they are not at all concerned about how to find resources or manage their current use of a hybrid approach to their courses.

Concerns Profile by Online and Hybrid Teaching Experience

Figure 5 shows the concerns of faculty based on online or hybrid teaching experience. It is clear that faculty participants with online teaching experience have vastly different concerns than those who self-reported having hybrid teaching experience.

Figure 5 illustrates that, as a group, faculty with online teaching experience have very high concerns in stage 2: personal concerns. This peak at stage 2 shows these faculty were concerned about what is expected of them and how developing and teaching a hybrid course will impact them as professionals. This was confirmed in the open-ended question with comments such as "what are the teacher roles?" and "how will I be evaluated?" This group of faculty also had concerns to a lesser extent at stage 4: consequence. Comments such as "how do we achieve best results from blended teaching?" and "what are the teaching results" support the notion that these faculty were thinking on an impact level.

In contrast, the profiles of those with no online or hybrid experience and even those with some self-reported hybrid teaching experience indicate these three groups mostly needed more information about hybrid teaching and learning. Given this is a cross-cultural collaboration between experienced hybrid and online faculty from the United States and Chinese scholars, we do not find it particularly alarming that our experienced hybrid educators were at an information stage, as we gained insights from our literature review that there are differences between Chinese and American perceptions and definitions of hybrid teaching. We can also see clearly that all participants–independent of hybrid or online teaching experience–were not concerned about managing their current use (i.e., stage 3) of hybrid pedagogy. This finding is to be expected, seeing as at the time of this survey, although some may have had hybrid teaching experience, the higher education system in Shanghai was still operating under ERT.

DISCUSSION

In this study, we explored the concerns of Chinese higher education faculty who teach in various disciplines. The results reinforce the idea that educational development regarding hybrid teaching and learning is essential for this group of faculty, especially against the background where quality education is emphasized in the current course of higher education development in China. Using the SoC dimension of the CBAM, we developed concerns profiles of the entire group of faculty

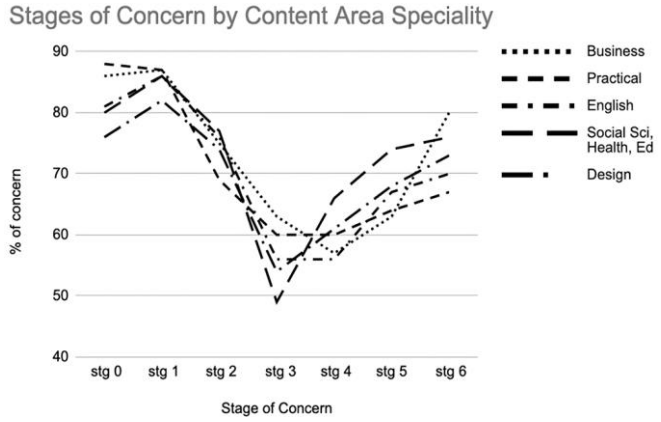

Figure 4. Participant concerns by content area (to make the data more readable, graph is enlarged to include % of concern scale from 40-100) (Source: Authors)

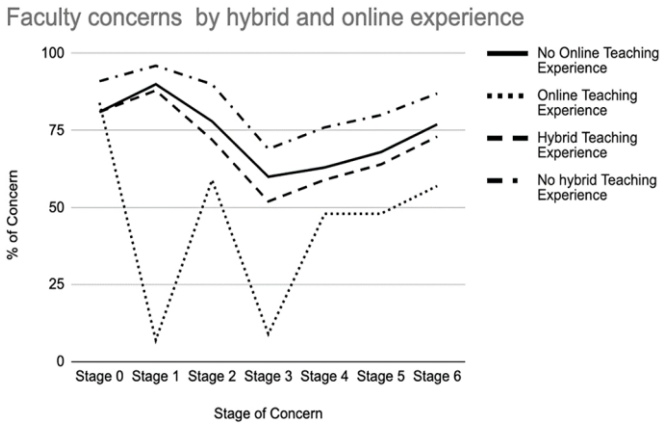

Figure 5. Participant concerns by hybrid teaching experience (the vertical axis represents a 0-100 scale) (Source: Authors)

and profiles based on discipline and experience with online and hybrid teaching. Our findings pointed to three key ideas:

(a) a need for all faculty to have a shared understanding of their role in innovation adoption,

(b) faculty concerns vary based on hybrid or online teaching experience more than on differences in discipline, and

(c) it is important to consider the culture, the individual, and the collective when initiating and supporting innovation adoption.

When we consider the concerns profile for different content area groups (see **Figure 4**), a peak, indicating a high concern, can be observed at stage 1 information and a more pronounced peak at this same concern can be seen for faculty who teach more practical courses. Therefore, we confirm that hybrid teaching and learning may look and feel different for different disciplines despite having a shared definition. This finding was also evident from open-ended question responses but even more evident when considering the data in **Figure 5**, in which our participants with online teaching experience had no concerns related to understanding what hybrid teaching and learning are. As change agents who support innovation adoption, knowing this can help us identify opinion leaders (Rogers, 2003) and organize resources to promote a shared definition. From a cross-cultural perspective, it is important not to make assumptions and to spend an appropriate amount of time ensuring a single foundational understanding before embarking on faculty development. Additionally, hindsight tells us about that cross-cultural collaboration in which we had both Chinese and American 'teachers' in the course would allow for any misconceptions or miscommunications based on language differences to be resolved efficiently and expeditiously.

Findings showing the extreme differences between faculty with and without online teaching experience (see **Figure 5**) surprised us. This disparity tells us first not to make assumptions about faculty concerns. Second, even faculty who have experience with online or hybrid teaching still have valid concerns and should not be excluded from training opportunities. We also feel this reminder was important for us to not simply base the development of a professional learning community on the whole group's concerns. We must consider smaller groups within the larger group who may need unique support based on their concerns.

Our word cloud and the analysis of journal entries have led us to our third major takeaway from the data. At a glance, our word cloud led us to believe faculty had concerns about how hybrid teaching and learning would impact students. We could not have been more wrong. An important reminder in this error comes from the cultural differences between us as American researchers and our Chinese participants. Our cross-cultural collaboration, in which we were afforded access to Chinese journals describing the historical development of private higher education and our conversations as researchers, allowed us to learn about student and administration expectations of faculty (in general). Journal entries used to create the word cloud confirmed these differences. As faculty development researchers and facilitators, we must check our biases and assumptions before and during faculty development facilitation. It is vital to consider the individuals with whom we work. It is important to understand them on both a professional level (e.g., experience and expertise) and a cultural level.

CONCLUSION

As cross-cultural collaborators and researchers, this study provided valuable insights into the planning and implementation of our faculty development project. It also provided an opportunity to gain a more global perspective of faculty training and institutional policies regarding hybrid teaching and learning. The implications of this study are more far reaching than our personal gain. This study serves as a reminder for professional or faculty developers to consider change theory and specifically three behaviors before planning faculty development:

(a) it is important to get to know your faculty as individuals,

(b) it is important to take the time to determine current experiences and perceptions, and

(c) it is most important to consider the culture of the participants.

Given the limited research in this area, our research will provide a starting place for exploring higher education practices in China as this nation continues to expand student-centered and engaging online teaching and learning opportunities. This approach of considering faculty during the innovation adoption process is completely new to the Chinese higher education system. For private HEIs–massive in number but that seem stranded compared to public institutions–this approach could change how faculty are viewed and the relationships between faculty and students and faculty and administration. Faculty

development needs to be designed with differentiation to inflict change in each teacher. We propose that change theory did not simply afford us to conduct our study, but change theory served as the catalyst for change in the Chinese higher education faculty development system.

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Ethics declaration: Authors declared that the study was reviewed by the Regulatory Compliance Coordinator and the Chair of the California State University, Fullerton, Institutional Review Board. The research proposal was determined to be Category 2.(ii): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording). Exempt Status was approved by the California State University Institutional Review Board on November 07, 2021 (HSR-21-22-178). Authors further declared that any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

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