When Chinese learners meet constructivist pedagogy online

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Abstract International students have become an important part of many universities, both through the income they provide and the diversity they bring to student populations. Studying in a foreign country can be challenging, requiring students to adapt to unfamiliar educational cultures. With the integration of online technologies into higher education, this can raise an additional set of challenges. This paper presents research that explored Chinese international students' experiences of studying online at an Australian university, drawing on qualitative data collected from focus groups and interviews with Chinese students, interviews with their Australian teachers and course documentation. The findings indicate a strong culture clash between these students' educational dispositions, shaped by their previous learning experiences in China, and the online pedagogic practices, which were underpinned by a constructivist approach. This resulted in detrimental educational and psychological consequences, with participants reporting limited development of their knowledge, and feelings of isolation and anomie. The findings suggest that investigating the interplay between learners' prior and current educational experiences is important in understanding how students experience teaching practices.

Keywords Constructivism · Chinese students · Academic adaptation · Cross-cultural learning

Introduction

For many years, universities in the US, the UK, Canada and Australia have been recruiting large numbers international students, mostly from China. At the same time, universities in these countries are increasingly adopting online teaching as a way to expand student access

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to higher education. With the convergence of these two forces, it is likely that Chinese students in these universities will be enrolled in an online course[1] at some point during their studies. Currently, there is extensive research on Chinese students' cross-cultural educational experiences in Western countries and a small body of literature on their online learning experiences at Western universities. However, research combining these two areas, that is, research into the impact of online learning on Chinese international students in these countries is scarce. The study reported in this paper contributes to the literature by investigating these students' experiences at an Australian university.

The online learning literature has been dominated by conceptual articles proposing what online learning *should* be, how it *should* be practiced and its *potential* educational benefits. Much of this literature aligns online learning with constructivist pedagogic approaches (Herrington et al. 2005; Huang 2002). For example, it has been argued that information and communication technologies can provide a rich, authentic context and complex problems for learners to resolve by virtue of critical and reflective thinking (Barab et al. 1998); facilitate collaboration and interdependence between learners (Palloff and Pratt 2001); and encourage high-quality interaction (Taylor 1998). In a pedagogical context of this kind, the teacher acts as a facilitator or a coach rather than a lecturer. Direct instruction is minimal. As Lave and Wenger (1991) claimed, there should be 'very little observable teaching; the more basic phenomenon is learning' (92).

While this pedagogic approach is commonly equated with innovative teaching and learning strategies, evidence for its effectiveness is mixed. Students in some studies reported transformative learning experiences through the less structured, collaborative environment (Gabriel 2004; Milhauser 2006), whereas those in other studies felt their expectations of the course were not met (Stodel et al. 2006) or the teaching design did not have more motivating effects than traditional teaching designs (Gulikers et al. 2005). This raises questions about differences between students, particularly the different practices they bring to their studies. Do some students, especially in the context of internationalisation of the student body, benefit more from this pedagogic approach than others?

Students from Chinese cultural backgrounds have traditionally been viewed as rote learners who demonstrate little enthusiasm for verbal interaction in class and a reluctance to challenge the opinions of authority figures (Ballard and Clanchy 1984). Although this notion of Chinese students has been refuted by subsequent research (Grimshaw 2007; Watkins and Biggs 1996), studies continue to argue that Chinese students are largely passive in class (Campbell and Li 2008; Huang 2005). In respect of Chinese students' experiences of online learning in Western countries, studies have focused on students' views of the written form of communication (e.g., online discussion forums). Students reported greater confidence in stating their opinions online than in a face-to-face environment because the medium removes some language barriers by allowing them to edit what they wanted to articulate. However, they also found the process of reading, composing and editing messages resulted in heavy demands on their time (Thompson and Ku 2005; Zhao and McDougall 2008).

Discussions about Chinese students' proclaimed inclination to passivity have tended to focus on the students not possessing characteristics critical for success in the learning environment. This deficit approach ignores the fact that the outcomes of students' practices are the result of what Bourdieu (1996) called 'the meeting of two histories' (256): the dispositions that students bring to the learning environment and the nature of the learning

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[1] Course here refers to a semester long unit of study which is a component of a program leading to the award of a degree.

environment. In other words, to understand educational experiences, both the learner and the pedagogic approach need to be examined in concert. Furthermore, a limitation of studies of Chinese students' online learning experiences is that they have focused on fairly instrumental questions about students' use of the technology, with little attention paid to the influence teaching practices have on learning. To address these gaps in the literature, the present study explored what students encountered in the learning environment, how they were taught, what they perceived as how they should learn and how they drew on their past educational experiences and knowledge to assist them.

Theoretical framework

This study used Berry's (1987, 2005) acculturation framework as an orienting theoretical framework to conceptualise the process of intercultural contact and the range of possible consequences arising from it. Berry's framework is applicable to a diversity of studies focusing on intercultural contact, encompassing a range of acculturating groups including immigrants, refugees, native peoples, ethnic groups and sojourners (Berry et al. 1987). The participants in this study fell into the final category of 'sojourners', individuals who travel to a country for a relatively short period of time with the intention of returning home.

Originally, acculturation referred to 'phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups' (Redfield et al. 1936, 149). Subsequently, 'psychological acculturation' (Graves 1967) came to refer to the changes in individual members of an acculturating group.

Berry's framework conceptualises acculturation at both group and individual levels (see Fig. 1). From this perspective, to understand acculturation at the group level (shown on the left of the figure), one must investigate key features of the 'heritage' culture (Culture A) and the 'host' culture (Culture B), the nature of their contact relationships, as well as the changes as a consequence of the contact to both cultures. The dynamic interplay among all these components is then held to affect acculturation at the individual level (shown on the right of the figure). Early acculturation outcomes are described as 'behavioural shifts' and 'acculturative stress'. The former refers to the behavioural adjustments individuals make in response to the new environment, which, according to Berry, are usually achieved without too much difficulty. 'Acculturative stress', however, results from the psychological conflicts between the desires to maintain one's original culture and to participate in the host culture. The strategies used to address this stress eventually lead to two types of longer-term outcomes: psychological and socio-cultural adaptations.

For the purposes of this study, we operationalised Berry's framework to focus on characterising the educational culture the students had previously experienced in China (Culture A, the heritage culture), the educational culture in the Australian-based courses students had entered (Culture B, the host culture), and the experiences of students in the course environment (contact leading to psychological acculturation demonstrated in behavioural shifts and acculturative stress). We did not attempt to characterise the experiences of teachers and students from the host culture more broadly because the focus of this research was on the Chinese student sojourners and a more comprehensive examination was beyond the scope of the study. Nor did we examine adaptation because this occurs over a longer time frame than Chinese students had been in Australia and so was not relevant to this study.

CULTURAL/GROUP LEVEL   **PSYCHOLOGICAL/INDIVIDUAL LEVEL**
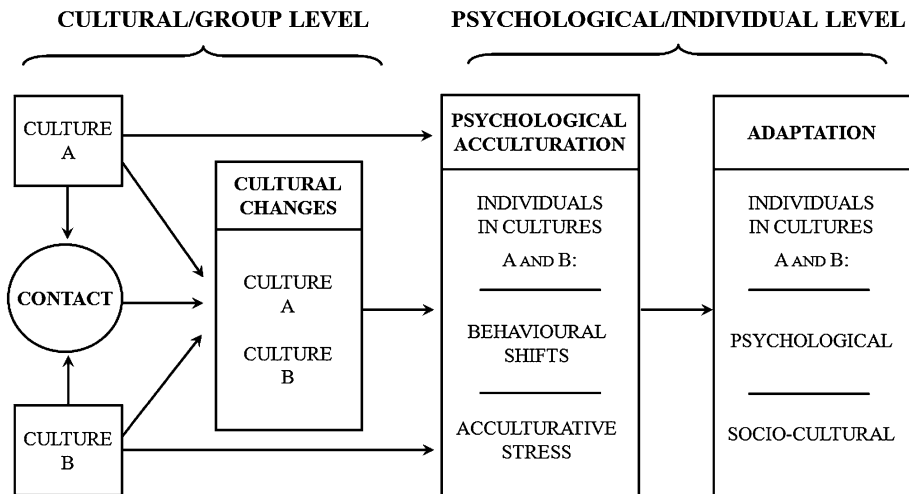
Fig. 1 A general framework for understanding acculturation (Reproduced from Berry 2005)

With the focus of this study being on *educational* cultures rather than culture more broadly, Bernstein's (1977) theory of educational knowledge codes was used to characterise the educational practices in the heritage and host cultures. This characterisation enabled the similarities and differences in the underlying structuring principles of the two educational cultures to be compared and analysed. Bernstein's concepts guided the formulation of research questions, interview questions and data analysis frameworks specifically focusing on educational values and beliefs that underpin learning and teaching practices. A full explanation of how these concepts were used and developed can be found in Chen (2010).

Finally, given claims that globalisation is eroding national and cultural differences in educational practices (Burbules and Torres 2000; Stromquist and Monkman 2000), it is important to note that by identifying 'heritage' and 'host' cultures, we are not suggesting that these cultures are hermetically sealed and internally homogeneous. Making the distinction does not necessarily entail any claims about relations within or between cultures. Neither does it lock one into a binary logic of polar opposites. Rather, one can understand Berry's framework as making an *analytical* distinction between these two cultures as the first step towards enabling *empirical* research into their complexities and interactions. Such a step enables claims over hybridity to be explored empirically by making the distinction for the purposes of analysis.

Methodology

Research questions and setting

The following questions were formulated to guide the research:

1. What are the educational beliefs and values that Chinese international students bring with them to the online educational context in Australia?

2. What are the characteristics of the online pedagogic practices at the Australian university they attend?
3. How do the students negotiate these pedagogic practices?

The first two questions focus on the heritage and host culture components in educational contexts, and the third question is concerned with the contact between these two cultures from the perspective of the student participants.

The courses examined were offered mainly through online communication technologies with no or very few optional face-to-face meetings. All used a learning management system to provide information about the course, learning activities and assignments. Students were encouraged to discuss issues and communicate with the instructor and their fellow students using email and the discussion forums provided. To enhance the flexibility of the course, participation in online discussions was not mandatory. This allowed students to progress through the course at whatever pace they wished during the teaching session.

Data collection and analysis

Data was collected in three phases, which corresponded, respectively, to the three research questions. In the first phase, three focus groups with sixteen Chinese students from different faculties at the university (see Table 1) were convened to explore these students' experiences of teaching and learning in their home countries. We decided to limit the number of focus groups to three because we found that by the third group the point of data saturation had been reached. The discussions were guided by a set of open-ended questions that encouraged participants to discuss the typical roles and activities of students and teachers, for example: 'What is it like to study in your country?', 'What kind of teacher is considered a good teacher in your country' and 'Could you describe what students normally do in class in your country?'. These broad questions initiated discussion and built trust amongst the group, allowing the interviewer to pose further probing questions to elicit students' beliefs and values in relation to teaching and learning practices. Pilot work prior to the main data collection had shown this strategy to be more successful in eliciting comments about beliefs, values and practices than asking direct questions. The aim of this phase was to develop a broad understanding of the characteristics of Chinese students' prior educational experiences.

During this first phase it became clear that only the Faculty of Education offered what could be considered truly online courses in their postgraduate coursework program, whereas other faculties at the time tended to use online learning as a minor adjunct to face-to-face classes. For this reason, the next two phases of data collection focused on postgraduate coursework teachers and students in the Faculty of Education.

To characterise the host culture, the second phase involved collecting information about the online learning context by interviewing eight teachers of postgraduate online courses in the Faculty of Education and collecting their example course outlines. The teachers were recruited from four different specialisations: Information and Communication Technologies in Learning; Educational Leadership; Adult Education and Training; and Language and Literacy. As Table 2 shows, the participants were all experienced university lecturers, who had 3–13 years of online teaching experience. The interview questions asked the teachers about their pedagogical beliefs, the design of their online courses and their interaction with students.

In the final phase, data about how students negotiate the online pedagogic practices was gathered through seven in-depth case studies of Chinese students who were studying or had

Table 1 Demographic information for focus group participants

Group	Name[a]	Gender	Faculty	Level of study	Country of origin
1	Chris	M	Education	Master's	China
	Mary	F	Health and Behavioural Science	Master's	China
	Doug	M	Commerce	Bachelor	China
	Eunice	F	Creative Arts	Doctorate	Taiwan
	Helen	F	Commerce	Master's	Taiwan
	Wayne	M	Commerce	Master's	Taiwan
	Barbara	F	Health and Behavioural Science	Master's	Malaysia
2	Michael	M	Commerce	Bachelor (senior)	China
	Lynn	F	Commerce	Bachelor (senior)	China
	Jane	F	Health and Behavioural Science	Master's	China
	Rachael	F	Health and Behavioural Science	Master's	China
	Eva	F	Health and Behavioural Science	Master's	China
3	Lisa	F	Commerce	Master's	China
	Bruce	M	Commerce	Master's	China
	Peter	M	Informatics	Master's	China
	Jack	M	Engineering	Master's	China

[a] All names are pseudonyms

Table 2 Demographic information for teacher participants

Teacher	Gender	Tertiary teaching experience (years)	Online teaching experience (years)
Teacher A	M	8	3
Teacher B	F	10	10
Teacher C	F	20	8
Teacher D	M	25	4
Teacher E	M	23	10
Teacher F	M	22	13
Teacher G	F	12	12
Teacher H	F	15	10

studied online postgraduate courses in the Faculty of Education. The students were all from Mainland China and were drawn from courses in different specialisations in the faculty. Table 3 outlines their demographic information. Each participant was interviewed three to six times over one semester. They were asked to describe the learning activities in their online courses, their perceived benefits and challenges of these activities, how they approached the tasks involved, and their evaluation of the learning outcome. Conversations were wide-ranging, encouraging participants to reflect on issues and experiences that were important to them.

The focus groups and student interviews were conducted in Chinese and translated into English verbatim for analysis. The use of the participants' native language allowed them to express their thoughts more fully than if the interviews had been conducted in English. This was possible because the primary researcher is a native Chinese speaker, who also undertook all of the transcription and translation. For member checking, a summary of the

Table 3 Demographic information for case study participants

Name	Age	Gender	Work experience in China (years)	Level of study	Current online courses	Completed online courses	Completed semesters
Jennifer	21–25	F	3	Master's	1	0	1
Vivian	21–25	F	1	Master's	3	0	1
Chris	21–25	M	0	Master's	1	0	2
Fiona	36–40	F	5	Master's	1	6	2
Megan	26–30	F	5	Master's	0	6	3
Rita	21–25	F	0	Master's	0	4	2
Diana	31–35	F	3	Doctorate	0	3	1

broad themes that emerged from this data, written in both Chinese and English, was sent to all student participants for feedback in order to ensure the correctness of the researcher's interpretations of their meanings. The analysis started with a provisional list of codes derived from the research questions and from the theoretical underpinnings of the study. The data was then read closely to generate new codes with an inductive technique to account for emerging issues. More than 300 coding categories were generated, which were eventually pared down to 26 hierarchical structures. All coded data was then sorted into components of Berry's framework, depending on whether it characterises issues related to students' educational experiences in China (culture A), the online courses discussed by the teachers (culture B), or the case study students' experiences with their online courses (contact, including the other components related to this component as shown in Fig. 1). The coding categories within each component were continuously modified until over-arching themes emerged. The research team (the authors and another colleague) worked iteratively through the codes until consensus was reached on the definitions and application of each code, thus achieving high inter-rater agreement. The framework was used to code transcripts using qualitative analysis software and was then interrogated for themes and patterns. A detailed description of the specific coding frameworks and procedures can be found in Chen (2010).

Results

The results of the study are organised into three sections based on Berry's framework: heritage educational culture, host educational culture and articulation of these two cultures. To provide a fuller picture of the students' educational experiences in their heritage and host cultures, as well as to enable a comparison of these experiences, the results reported in each section are further classified into three essential aspects of education systems: curriculum, pedagogy and assessment.

Heritage educational culture: students' conceptions of and beliefs about learning

This section reports findings relating to the students' heritage educational culture by drawing on the focus group data. In terms of curriculum, the students experienced the Chinese curriculum as heavily loaded with content knowledge, which was usually covered by the textbook and the teacher's lectures. Unanimously, the students expressed the belief

that the larger the quantity of information that one collects, the deeper one's understanding of the object being studied. For example:

> The reason why the teacher gives you so much information is that they want you to have a deeper understanding of the things they teach you. In our education system, we want to understand more things. This is to increase the depth of your understanding. (Michael, Group 2)

In relation to pedagogy, according to the students, the course content was taught in a pre-established, highly-organised sequence, usually following the table of contents in the textbook or a list of learning materials pre-arranged by the teacher. As one put it, 'If today you are studying, say, Lesson Five, the teacher will expect you to know everything in the previous four lessons before you come to class' (Wayne, Group 1). In addition, lectures were deemed by all students to be the core element of the instructional process, so the ability to deliver a high quality lecture distinguished a good teacher from a poor one. Specifically, a good lecture was depicted as a well-prepared and clearly structured presentation with the intent to help learners understand the content step-by-step:

> A good lecture is very systematic and attractive. The content of the lecture is to the point, very concise, easy to be digested by students, easy for them to remember without even having to take notes. …The teacher highlights the main points for students. (Mary, Group 1).

Apart from exercising this relatively strong control in sequencing student learning, in the students' accounts, Chinese teachers often moved classes at a fast pace, so they could cover all the content included in the curriculum. To maintain this fast pace, they also tended to cater to the class as a group. For example, one student noted that students in China learned 'not to disturb the class [by asking too many questions], [because] even if their questions are brilliant, the teacher still might not answer them because he/she wants to teach something else first' (Rachael, Group 2).

Turning to assessment, in the students' experiences, examinations requiring correct, textbook-based answers were the predominant assessment method in Chinese education. To succeed in this system, the students stated, it was important to 'work hard', 'write down the information the teacher gives you' and 'be able to guess what will be on the test'. Another requirement for success that students described was to refrain from giving personal opinions that might conflict with the correct answers, as these opinions would not earn them marks. As for assessment that was not exam-based, the students' accounts indicated that Chinese teachers often provided them with exemplary assignments, on which they could model their work. They also received corrective feedback from the teacher instructing them on how they could improve their work. Overall, the students in this study felt the assessment criteria in China were clear, fair and attainable.

In sum, the focus group data indicated that the students shared similar educational experiences in China, in which they were expected to gain a thorough understanding of the subject matter by accumulating as much new information as they could (curriculum). In this environment, they were provided with clear procedures of how they could achieve this (pedagogy), as well as explicit criteria against which they could measure their own progress (assessment). On the other hand, personal dimensions of learning, such as personal knowledge developed beyond the educational context and individual learning needs and preferences, were deemed in this environment to be less important.

Host educational culture: constructivist pedagogic practices in an online context

This section outlines the findings that emerged from the teacher interview data. In describing their online teaching, all of the teachers in this study emphasised the importance of pedagogy over technology. They emphasised students' use of their real-life professional contexts and their personal interpretations of the content knowledge based on these contexts. The following comment exemplifies this view:

> What we don't often do with our postgraduate students is recognise that they actually come with a whole range of background and experience and baggage and literature, and what they need is a framework to download that … [and] what we can do is provide that framework for them to work on things that they're interested in. (Teacher F)

The teachers also stressed that the goal of the curriculum was not to teach content knowledge because the importance of different aspects of this knowledge is relative, depending on each learner's background and interest. Accordingly, their courses were designed to encourage students to focus on the parts of the subject content relevant to their own situations: 'Online education is being selective in the things that you read and not relying on a reading list from the lecturer that is the be all and end all and that's all you have to do' (Teacher E). Finally, the teachers shared the view that knowledge is subject to personal interpretations which, most believed, would lead to students 'creating' their own knowledge and thereby feeling 'empowered' (Teacher D).

Flexibility was also emphasised. All teachers allowed students to conduct the learning activities at their own pace. One explained that 'it's not like [students] have to all keep up and do each one each week, because they can't. Online learning has to be more flexible than that' (Teacher C). Another teacher described her course as 'less formally structured, less predetermined' than traditional face-to-face courses (Teacher B) and cautioned against forcing all students to complete learning activities in the same sequence. She felt such a structured format represented instructivist pedagogy and was antithetical to the constructivist design she wanted to create.

Most teachers viewed themselves as 'facilitators' rather than 'instructors' in conducting the courses (e.g., Teachers B, D, F). They also stressed that they did not claim expert knowledge, describing themselves as 'fellow learners': 'It's a joint partnership. I mean in a sense, you know, the people that I work with are professional adult educators so I learn from them, they learn from me' (Teacher F). The teachers did not deliver lectures and avoided telling students directly how they should conduct their tasks. They associated lectures and instructions with a traditional, didactic approach of teaching; for example:

> You don't simply lecture to students at every opportunity. What you try to do is get them more active in their learning so you get them collaborating, working in groups, solving problems. Now you can't do this lecturing. (Teacher E)

Instead, the teachers highlighted their role in providing support, by making themselves available for consultations with students on a one-on-one basis (Teachers D, G, H) and fostering a learning community (Teachers B, C, G, I).

The teacher interviews and course outlines showed the common forms of assessment were 'authentic' tasks (assignments that asked students to solve real-world problems), reflective essays and projects. Out of the eight course outlines collected, approximately 37 % of the task marks came from authentic tasks, 32 % from reflective essays, and 31 % from projects. Most tasks (70 %) did not explicitly mention the use of course readings in

the task description. The type of knowledge students were typically expected to demonstrate in their assignments was personal opinions and beliefs, for example:

> What I want to know is how much *you*, the student, can make the connections between *your* beliefs and *your* theory, *your* beliefs and *your* practices and can you share that with me and justify it. (Teacher C, italics added)

This emphasis on the learner' individuality echoes teachers' repeated statements that there was no correct answer to the problem being explored, for example:

> It's not like learning medicine; you've got to get it right [otherwise] the patient will die. It's not like that. It's more open to interpretation. (Teacher G).

In summary, in contrast to the students' educational experiences in China, the online courses created by the Australian teachers downplayed content knowledge, teacher control in the sequencing and pacing of student learning, and explicit assessment criteria. Instead, the pedagogic practices emphasised learners' experiences and knowledge in their everyday life (curriculum), learners' control in structuring their own learning (pedagogy) and their personal evaluation of their performances (assessment).

Articulating educational cultures: students' experiences of online constructivist environments

This section describes the experiences of the seven case study participants in this study, drawing on data collected from the multi-session interviews with them. Two points should be noted here: first, in their interviews, these students were asked about their learning experiences in China and the findings aligned with those from the focus groups. Second, these students' accounts of the pedagogic practices in their online courses corresponded closely to those of the teacher participants.

Students' perceptions of their online learning experiences

In terms of curriculum, the students found that in the absence of lectures, solitary reading and learner-controlled discussions were the only learning activities in their courses. Knowledge gained through these two activities, they reported, lacked authority because they were uncertain whether their own understanding and interpretations of the content were correct (e.g., Fiona, Interview 1; Vivian, Interview 6). They also considered peer discussions to be unhelpful; for example:

> There were many questions from students, but the teacher didn't give definite answers at the end of the discussion, so this type of discussion appeared to be a little chaotic and unfocused. (Megan, Interview 3)

In addition to doubting the authority of the knowledge they were learning, the students commented that the assignment-based curriculum prevented them from gaining sufficient knowledge about the subject matter. For example, some stated they could easily avoid exploring the issues in the course readings that they did not fully understand, as they were not required to demonstrate a comprehensive understanding of the readings (e.g., Jennifer, Interview 5; Vivian, Interview 4). Consequently, they found what they had learned was limited to the topics they selected for their own assignments.

Data concerning students' experiences of the pedagogy points to three main themes. The students felt: teaching practices were not based on a systematic plan; teachers were

passive and invisible; and valuable peer support was unavailable. First, the students saw the shift of control from the teacher to them in terms of the sequencing and pacing of their learning as teaching without a clear structure. Several students commented that without regular, organised class activities, their learning often took place in short intensive segments, as described by this student:

> When one assignment was due soon, I'd leave other things behind and do this one first. And after finishing it, I rushed to do the readings I was supposed to read for another assignment. (Vivian, Interview 6)

The knowledge gained in this manner, the student added, was not likely to be 'digested well'. Many also considered self-pacing exacerbated the low levels of peer interaction in the online courses. They argued that since students were often in different stages of preparation for their assignments, there were few common concerns that they could discuss.

Secondly, the students expressed the view that their teachers were virtually invisible in their learning process and they held this to be responsible for the poor quality of their online experience. One, for example, perceived her teacher as a passive 'consultant', who only provided help when students requested it (Jennifer, Interview 5). Others described their teachers as 'assistants' (Megan, Interview 2) and 'tour guides' (Vivian, Interview 6); for example:

> It's up to you. If you want to have a look at some spot, go for it. If you want to learn, do so. And if you don't, so be it. (Jennifer, Interview 5)

One student, who was familiar with the notion of teachers being facilitators, insisted that her teachers of the online courses were not entitled to call themselves facilitators because they did not provide sufficient feedback for her learning (Megan, Interview 2).

Lastly, none of the students reported feeling a learning community was formed in their courses. As one explained, 'I felt as if I was the only person in this course. I wondered if I was really in a class, or if I was actually learning. I couldn't feel it' (Chris, Interview 6).

In relation to the assessment approach in the online courses, a recurring theme was that the students felt assessment criteria were 'ambiguous' and that this undermined their academic performances. Two students reported experiences of being unfairly penalised for not meeting requirements that were not actually specified in the task descriptions. One noted, 'We are like producers. We produce the goods as required. You need to give me the standards' (Jennifer, Interview 5). They also considered the marking categories and teacher comments failed to recognise their attainment of this content knowledge and to provide them with concrete procedures for making improvements:

> I knew which category I did badly in and I even knew how badly, but I didn't know exactly what I did badly. So I was unable to improve it. I might do just as badly in this category next time because I didn't know what my problem was. (Megan, Interview 2)

Another theme was that most students prioritised demonstrating the amount of content knowledge gained in their assignments as the key to attaining a good mark, while considering writing about their personal opinions as less important, as shown in this comment: 'Whatever I say, it has to be followed by someone else's statement to prove what I say is right or wrong. So I've cultivated this habit: I won't say my opinion without supporting it with a reference' (Chris, Interview 6).

Acculturative stress experienced by students

The outcomes of students' negotiation with the online pedagogic practices typified one of Berry's categories: acculturative stress. All students experienced some psychological stress while trying to adapt to their online courses. There were many references to negative emotions resulting from their perception that they did not obtain sufficient knowledge and feedback from their teachers. For example, several students reported constantly feeling 'helpless', 'upset', 'anxious', 'frustrated' or 'depressed' from having to read on their own, alone, all the time:

> I was reading all the time, from morning till night… I felt sad. There was so much study to do, and no classes to go to interact with people. What could I do? I was very anxious. At the time, I remember I kept saying to people I was frustrated (Megan, Interview 2)

This experience of diminished interaction with their teachers and classmates caused one student to feel 'isolated' (Vivian, Interview 3), and others to describe online learning as 'lonely' (Diana, Interview 3) and 'boring' (Jennifer, Interview 5; Megan, Interview 2).

Moreover, as international students, these students had invested a significant amount of money and time in their education in Australia; hence, feelings of angst and guilt about not receiving the gains were accentuated:

> I always think that since I've paid so much money and come all the way here to study, if I don't even understand what I'm learning, and when I write, I can only guess what I'm supposed to write, I feel it's really not worth it. I feel guilty about spending the time and the amount of money here. (Vivian, Interview 3)

In short, the students felt their loss was not only in learning itself but also in being unable to establish social relationships with their teachers and classmates in Australia. One described this type of educational experience as studying 'in a vacuum' without intellectual or emotional stimulation (Jennifer, Interview 4). These stressful feelings lasted for the whole semester for those who experienced them.

Discussion

The findings of this study show that the Chinese international students brought with them particular ways of thinking, acting and being that differed from the assumptions of and practices in the constructivist online environment in which they found themselves. A clash between the students' heritage and host educational cultures led them to experience acculturative stress and what they felt were negative educational outcomes. Students rarely expressed difficulties or discontent about their learning without referring to pedagogical issues, which suggests that their negative experiences arose more from the constructivist teaching than the online delivery.

Overall, the results suggest that by virtue of their educational backgrounds these students were ill prepared for the unfamiliar pedagogic practices they encountered in their new environment. The Australian teachers downplayed what was valued in the students' formative education in China (i.e., new content knowledge, explicit teaching procedures and explicit evaluative criteria). Instead, they highlighted students' personal knowledge, flexibility in the sequencing and pacing of student learning, and implicit evaluative criteria as the key principles underlying their pedagogic practices. They considered learners as

already possessing knowledge by virtue of their past and ongoing experiences beyond the educational context. This teaching approach is consistent with constructivist pedagogic strategies described in the literature, which emphasise the learner and learning, rather than teaching. Nevertheless, these pedagogic principles were not considered by the students in this study to be conducive to effective learning. This 'culture clash' led the students to experience the teaching practices as a *lack* of: content knowledge (curriculum); clear structure and procedures for learning this knowledge (pedagogy); and explicit criteria for judging their performances (assessment). As a result, the students were dissatisfied with their learning experiences: intellectually, they doubted the legitimacy of the knowledge they gained; and emotionally, they suffered from acculturative stress, such as disorientation, abandonment and guilt.

While online learning itself may not have been the underlying cause of the acculturation problems confronting these students, it appears to have accentuated them. For example, the students felt more detached than in a face-to-face context because there were few chances for them to 'see' their classmates' reactions and behaviours. This point is substantiated by the students' consistent remarks that they felt they were alone and without peer support in studying their online courses. Furthermore, students could not use cues from the teacher's body language to confirm they were doing things correctly. It is relatively difficult for teachers to intervene in an online context because they do not 'see' learners' immediate reactions. Indeed, studies have shown that teachers implementing constructivist pedagogy in face-to-face classroom settings tend to also offer students considerable guidance when they see students are struggling (see Kirschner et al. 2006). Judging whether students need this additional guidance and when to provide it is much more challenging in an online environment.

These findings challenge the claims made by proponents of constructivist pedagogy that this form of educational practice empowers and motivates *all* learners. While the Chinese students in this study may have found constructivist teaching especially difficult because of an educational background that espouses contrasting educational values and practices, non-Chinese fellow students may have also had the negative learning experiences identified. This possibility is supported by other studies showing that students from a range of backgrounds can be disadvantaged by this form of pedagogy (Bailey and Pransky 2005; Hoadley 2007; Lubienski 2004). At a time when online pedagogy has been especially embracing constructivist approaches, the current study serves as a call for educators to carefully consider their pedagogic choices. For example, mixed pedagogy may be more suited in the context that involves learners who are unfamiliar with these approaches.

In terms of Berry's framework, we did not find the meeting of the two educational cultures resulted in 'cultural changes', students' 'behavioural shifts' or their 'psychological and socio-cultural adaptations'. This is unsurprising given that the acculturating group comprised student sojourners, whose acculturation is of relatively short duration compared with the experiences of other groups that Berry's framework applies to, such as immigrants and refugees. That little change was identified in the students' conceptions of learning and their learning behaviours suggests that they were using the learning strategies they had developed in their heritage culture to cope with the host educational culture, a new learning context that appeared to require a different set of learning strategies. This finding suggests that educators cannot assume that students from other cultures can adapt to new demands within the timeframe of studying for a degree.

In assessing the broader significance of this research it is important to consider the limitations of this study and avenues for further research. We have argued for the existence of a 'culture clash' because of the clear differences between students' heritage and host

cultures as evidenced by their experiences. This does not discount the possibility that other factors beyond the scope of this study may also have played a role. Furthermore, as noted above, our research did not investigate whether non-Chinese students in the same courses were also negatively affected nor did we explore teachers' experiences of the contact between cultures. These are clearly questions requiring further empirical investigation.

Conclusion

The research reported in this paper investigated Chinese international students' experiences of online courses that were underpinned by a constructivist pedagogic approach. Drawing on Berry's acculturation framework, the study departed from the prior research by considering student experiences of an educational environment in terms of what they brought to the context in addition to what they experienced. Through exploring how students' educational dispositions and the constructivist teaching practices articulated with one another, the study concluded that the students' problems in acculturating to their online courses arose at least in part from a clash between their heritage and host educational cultures. The consequences of this culture clash for the students were dissatisfaction with their learning and major psychological stress. In closing, we suggest that these experiences may not be exclusive to Chinese learners and strongly caution against adopting constructivist teaching approaches which lack sufficient support for all students, especially in the face of increasingly globalised education offerings.

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