Disciplinarity: Functional Linguistic and Sociological Perspectives

Edited by
Frances Christie and Karl Maton

continuum

Chapter 7

Absenting Discipline: Constructivist Approaches in Online Learning

Rainbow Tsai-Hung Chen, Karl Maton and Sue Bennett

Introduction

Online flexible learning and internationalization have been two major stimuli to recent changes in higher education in Western countries. At the same time, constructivist approaches to teaching have become increasingly popular, and have had considerable impact on online teaching programmes. 'Constructivism' is often loosely defined by its advocates and related to a wide range of pedagogic approaches, but these can be described as sharing a model of teaching and learning in which the teacher downplays direct instruction in favour of facilitating and advising learners about their learning in independent ways, ostensibly 'constructing' their own knowledge (Duffy and Cunningham 1996; Grabinger and Dunlap 1995; Lave and Wenger 1991). They are typically contrasted with more explicit forms of teaching involving disciplinary forms of knowledge. Such constructivist approaches are held by many proponents of new technologies to be highly compatible with online learning (Herrington et al. 2005; Huang 2002; Tam 2000). For instance, it is argued that the convergence of this pedagogy and online learning provides a rich context for learning, which, in turn, leads to active and reflective learning, and learner empowerment. However, there is little empirical evidence for these claims. In fact, relatively little is known about the actual (rather than proclaimed) effects of this form of online education on students. Based on results of a qualitative case study, this chapter argues that constructivist teaching practices in the online context may often have the opposite effects on learners to those intended. Specifically, the study suggests that withholding explicit knowledge and teaching – what could be called absenting disciplinarity – may disadvantage students whose prior educational experiences are based on more explicit principles. In these cases, students can experience a vacuum of legitimacy: they feel there is nothing on which to base potential achievements in such learning environments.

Specifically, this chapter explores the effects of constructivist teaching in the online context on Chinese international students in Australian higher education, the largest international student cohort in Australia (Australian Education International 2009). It presents findings from a case study of postgraduate Chinese students' online experiences in a Faculty of Education at an Australian university. Previous research investigating Chinese learners' online experiences has tended to interpret challenges confronting these learners in light of their cultural attributes or language barriers (Morse 2003; Smith et al. 2005; Tu 2001; Zhao and McDougall 2008). This is, in essence, a deficit view of learners, who are said not to possess the attitudes or qualities required for success in the online learning environment. This deficit model ignores the possibility that the teaching practice may be a factor as well in causing students' difficulties. Conversely, other studies on constructivist educational practices have mainly looked at the pedagogical approaches involved. The aim of these studies has been to describe and promote innovative learning designs. Although many of them have indicated students' satisfaction with the innovative features of the learning environment, these studies revealed little about the nature of students' experiences (e.g. Gunawardena et al. 2006; McAlpine 2000). They have not, for example, investigated the nature of earlier programmes of study students may have completed, or the practices and habits of work and reasoning they may have gained from such programmes.

In short, these two lines of research tend to concentrate on *either* the learner *or* the teaching rather than on relations between the two. It is important to consider both factors and their relations, as the outcomes of educational experiences are the result of what Pierre Bourdieu (1996: 256) called 'the meeting of two histories': the dispositions (ways of acting, thinking and being) brought by the learner to the educational context, and the nature of the educational context itself. In other words, what has created learners' satisfaction or dissatisfaction may not be simply the expectations students bring to the learning context or the learning context itself, but rather relations between the two and how such relations are explicated and negotiated.

The study discussed in this chapter, therefore, asks: 'How does constructivist teaching practice affect Chinese students' learning in an online context?' To answer this question, the research examined: the educational dispositions these students brought with them to the online environment; the kinds of practices and contexts they were now in after starting study in Australia; and the outcomes resulting from the meeting of these two factors. Before outlining the study discussed here, it is important to note that although focused on Chinese international students, many of the study's findings are applicable to other learners. This has been demonstrated, for

example, by studies drawing on Bernstein's framework, that highlight the ways students whose prior social and educational experiences are not already predisposed towards constructivist-inspired pedagogies, may experience disadvantage (e.g. Hoadley 2007; Lubienski 2004; Morais and Neves 2001; Rose 2004).

Specialization Codes of Legitimation

This research examined both the dispositions towards learning that students brought from their previous education (their preferences, beliefs, attitudes and established practices) and the online teaching practices they encountered in their new learning environments in Australia. The principles underlying each of these, and relations between them, were analysed using a dimension of Legitimation Code Theory (henceforth 'LCT'), an approach that develops the work of, *inter alia*, Basil Bernstein (Maton 2000, 2007, 2010, in press; Moore and Maton 2001). LCT describes education as comprising social fields of struggle where actors' beliefs and practices represent competing claims to legitimacy, that is, what should be considered the dominant measurement of achievement within that field. The underlying principles of these 'languages of legitimation' are analysed in terms of 'legitimation codes'. The current study drew upon one facet of the theory: LCT(Specialization). This refers to the basis of distinctiveness, authority and status, or 'what makes actors, discourses and practices special or legitimate' (Maton 2007: 98). Underpinning LCT(Specialization) is the notion that educational practices and contexts represent messages as to both *what* is valid to know and *how*, and also *who* is an ideal actor (learner or teacher). That is, every practice or knowledge claim is by someone (the subject) and is about, or oriented towards, something (the object). So, knowledge claims and practices involve both relations to an object ('epistemic relations' or ER) and relations to a subject ('social relations' or SR). Each of these relations may be more strongly (+) or weakly (−) emphasized as the basis of practices. Together these two give the 'specialization code' (ER+/−, SR+/−) for the practices or beliefs that are the object of study. The four principal specialization codes of legitimation are:

- *knowledge code* (ER+, SR−), where possession of specialized knowledge, procedures or skills is emphasized as the basis of achievement and the dispositions of actors are considered less significant;
- *knower code* (ER−, SR+), where the dispositions of actors are emphasized and specialist knowledge or skills are downplayed. These dispositions may be considered innate or natural (e.g. notions of 'genius'), cultivated (e.g. an

artistic sensibility developed through immersion in great works), or socially based (e.g. a specific gender);

- *elite code* (ER+, SR+), where achievement is based on having both specialist knowledge and being the right kind of knower; and,
- *relativist code* (ER–, SR–), where neither specialist knowledge nor particular dispositions are important.

Developing a Language of Description

The study used data collected from focus groups, interviews and course documents. There were three main foci of data collection and analysis, exploring: (i) the educational dispositions Chinese students brought with them from their previous experiences; (ii) the nature of the online units they were studying; and (iii) their experiences while studying those units.

(i) Three focus groups with 16 Chinese students were convened to explore such students' educational dispositions. The students were selected from different faculties at the university to help gain a broad understanding of the differing kinds of pedagogical contexts Chinese international students might have experienced in China. The primary focus, however, was not to characterize these educational contexts but rather to explore these students' ways of characterizing their experiences of such contexts. Participants were asked, for example, to describe what it was like to study in China, their teachers' expectations of them and their own expectations of their teachers and their courses of study. They were also asked about the factors that had helped them to succeed in their studies.

(ii) The study then focused on students undertaking postgraduate online units in the Faculty of Education. To characterize the practices and contexts these students were now studying in, eight teachers of these units were interviewed and their unit outlines examined. In this study, an online unit refers to a study unit that is fully or predominantly delivered online with very little face-to-face contact.

(iii) To investigate the outcomes when students' educational dispositions and the teaching practices came into contact, seven in-depth case studies of Chinese students studying different postgraduate online units in the Faculty of Education were conducted. The students were drawn from various specializations in the faculty, such as Information and Communication Technologies in Learning; Educational Leadership; and Teaching English to Speakers of Other Languages (TESOL). They were interviewed an average of four times throughout a semester in their native language (Mandarin) about their experiences with their respective online units.

Table 7.1 Manifestations of the epistemic and social relations in this study (Chen, 2010)

Theoretical concept	Degree of emphasis on:	
Epistemic relations (ER)	Curriculum	Content knowledge of a study unit
	Pedagogy	The teaching of content knowledge
	Assessment	Explicit evaluative criteria
Social relations (SR)	Curriculum	Learner's personal knowledge and experience
	Pedagogy	The personal dimension of the learning process
	Assessment	Learner's self-evaluation

To use LCT as an analytical tool for this specific study, a 'language of description' (Bernstein 2000) was developed. A language of description, in brief, is a 'translation device' that 'constructs what is to count as an empirical referent, how such referents relate to each other to produce a specific text, and translates these referential relations into theoretical objects or potential theoretical objects' (Bernstein 2000: 133). The use of a language of description makes it possible to generalize and abstract away from the particularities of the case studied without losing its specificities. As outlined in Table 7.1, epistemic relations are realized in this study as the degree of emphasis on: content knowledge in curriculum; the teaching of content knowledge in pedagogy; and explicit criteria in assessment. The manifestations of social relations are: the degree of emphasis on the learner's personal knowledge and experience (curriculum); the personal dimension of the learning process (pedagogy); and the learner's self-evaluation (assessment).

Table 7.2 shows the language of description generated. The table was used to code all the data collected. It comprises two sections: the ER section on the left and the SR section on the right. Each ER/SR column is structured so that, when read from left to right, it is a translator of theory into data, and when read from right to left, it is a translator of data into theory. Moving from right to left in each section of the table, the reader can see how data was coded. For example, the participant comment in the ER section that 'The information in the textbook . . . was what a study unit was all about' (right column, top of the first row) suggests an emphasis on content knowledge as the basis of legitimacy (middle column, top of the first row), so this was coded as exhibiting a stronger epistemic relation (ER+) with respect to curriculum.

Table 7.2 An external language of description for epistemic and social relations (Chen, 2010)

			EPISTEMIC RELATIONS (ER)				SOCIAL RELATIONS (SR)	
	Concept manifested – Emphasis on:		Indicators	Example quotes from empirical data	Concept manifested – Emphasis on:		Indicators	Example quotes from empirical data
Curriculum	content knowledge	ER+	Content knowledge is emphasized as determining form of legitimate educational knowledge.	The information in the textbook – decided by the teacher – was what a study unit was all about.	personal knowledge and experience	SR+	Personal experience and opinions are viewed as legitimate educational knowledge.	[Students] actually come with a whole range of background and experience . . . what they need is a framework to download that.
		ER-	Content knowledge is downplayed as less important in defining legitimate educational knowledge.	We . . . show them . . . digital repositories that they need to go to in order to access those readings that are relevant to their context.		SR-	Personal experience and opinions are downplayed and distinguished from legitimate educational knowledge.	Online discussion is chaotic, and is like you conduct a survey and everyone tells you their opinions. That's all. It's different from a class.
Pedagogy	the teaching of content knowledge	ER+	Procedures for learning content knowledge are explicit to learners and emphasized as determining form of pedagogy.	[The teacher] extracts the best things from what he or she knows and gives this to you in class, and then offers you instructions on the tasks you need to complete.	personal dimension of the learning process	SR+	Individual learners' preferences are explicitly emphasized as determining form of pedagogy.	So negotiate to learn in a way that suits them . . . it's constructing your own learning in a way that is helpful for you.
		ER-	Procedures for learning content knowledge are implicit to learners and downplayed as not significantly shaping form of pedagogy.	The teacher only points out the things you need to read . . . . But as to how to think, how to read and understand, it's your own business.		SR-	Individual learners' preferences are downplayed as not significantly shaping form of pedagogy.	Even if your question is brilliant, the teacher still might not answer you because he or she wants to teach something else first.
Assessment	explicit criteria	ER+	Explicit evaluative criteria are emphasized in judging student performances.	When a Chinese child paints the moon blue, the teacher will correct the child, saying that the moon shouldn't be blue.	self-evaluation	SR+	Evaluation of legitimacy of student performances resides in beliefs of individual learners.	What's valid for you and what's valid for me are two different things, aren't they?
		ER-	Explicit evaluative criteria are less significant in judging student performances.	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.		SR-	Student performances are judged against shared criteria external to the learner.	I am a 'test-taker'. If the teacher doesn't give me a standard, I don't know what to do.

Note: +/− indicates 'stronger'/'weaker'

Characterizations of Students' Formative Educational Contexts

The students had experienced a highly insulated curriculum in their previous educational settings in China. As Chris (all student names are pseudonyms) described:

> When I studied in China, my feeling was that the information in the textbook – decided by the teacher – was what the study unit was all about . . . You gain a wide range of knowledge. Every study unit will touch a little on different issues in that area, and maybe the teacher will highlight a couple of things that are more important. The textbook usually covers everything. [Interview 4]

The students felt the learning of content knowledge was emphasized in this curriculum. Anything beyond the boundary of a study unit, such as other forms of educational knowledge and one's everyday practice, was not considered germane to the learning of the particular subject content in such a context. Emphasis was thus placed on strongly bounded content knowledge, a relatively strong epistemic relation (ER+). In addition, the curriculum appeared to downplay connections between the constituent parts of this content knowledge. For example, while all the students stressed the importance of accumulating a great amount of new information, none spoke of how they learned to connect previously learned knowledge to new knowledge, or whether they were asked to do so. Thus the relatively strong epistemic relation was to *atomized* knowledge. In contrast, the students rarely considered their professional lives and experiences beyond educational contexts as relevant to those contexts, suggesting personal experience was considered less significant. In other words, the social relation to the knower was downplayed (SR–).

In terms of pedagogy, the students viewed the teacher in the Chinese educational context as embodying expert content knowledge and having the ability to teach this knowledge to students through clear procedures. The teacher had explicit control over the selection and ordering of content, the rate at which the learner was to learn this content and student conduct in the learning environment. These instructional practices are realizations of explicit criteria of knowledge, sequencing and pacing rules, and hierarchical rules, which epitomize what Bernstein (1977) termed 'visible pedagogy'. This strong teacher control shows an emphasis on procedures for learning content knowledge, that is ER+. In contrast, learners were said to be expected to assume self-effacing roles, such as following group pacing and only asking questions when they were sure the questions contributed to the learning of the whole class; for example:

> Don't disturb the class. Even if your question is brilliant, the teacher still might not answer you because he/she wants to teach something else first.

Only ask questions if the teacher wants you to. If the teacher wants to carry on with the lesson, listen. [Rachael, Focus group 3]

This pedagogy downplays learners as *individual* knowers: a relatively weak social relation to the knower with respect to personal control of learning (SR−).

Finally, in terms of assessment, students said the measures of achievement in Chinese education were made transparent to learners. In brief, the bases of success were effort, concentration and willingness to withhold one's subjective views. A significant part of the assessment comprised exams that required correct, textbook-based answers. To achieve the best marks, one needed to study hard and forego personal opinions that conflicted with the standardized answers. The following comment was common in the student focus groups:

When I was in China, I never thought the teacher was right all the time, but I couldn't argue with them. Neither could I argue against things written in the textbook. If I had done so, they would have told me to follow what the textbook said anyway. And if I had written my answers on exams according to what I thought, not the book, they wouldn't have been standard, right answers. That meant I wouldn't have got the marks. I couldn't do anything about it. [Chris, Interview 1]

The emphases on learners displaying the content knowledge gained and on explicit evaluative criteria, again show that knowledge was strongly bounded and strongly controlled by the teacher – a relatively strong epistemic relation (ER+). Meanwhile, students' suppression of their personal views revealed learner performances represent a weaker social relation (SR−).

In summary, the students' experiences of curriculum, pedagogy and assessment in China all manifested a stronger epistemic relation to knowledge and a weaker social relation to the knower – *a knowledge code* (ER+, SR−). This code was manifested:

- in curriculum as an emphasis on content knowledge and downplaying of personal knowledge;
- in pedagogy as an emphasis on the procedures for delivering the teacher's expert knowledge about the subject content and downplaying of the personal dimension of the learning process; and
- in assessment through explicit criteria for evaluating learners' states of knowledge and downplaying of evaluative criteria internal to the learner.

For these students, the basis of specialization thereby resides in an extensive base of content knowledge and the right procedures for obtaining the knowledge. However, it is a particular kind of knowledge code, one that emphasizes *atomized* content knowledge.

Characterizations of Teaching Practices in the Online Units

Analysis of the teacher interviews shows a blurring of the boundaries between the subject content in the online units they taught and both other academic knowledge and everyday knowledge. Some teachers referred to this characteristic of their teaching as the 'authenticity' of learning. For example, Teacher E explained:

> The assignments try to be authentic. Now what I mean by that is we try to situate the assignment in the context in which these people work and live. So if they are a TAFE[1] teacher teaching cabinet making, then they have to think about how their students are learning that task. If they're a university teacher teaching science, then they have to think about their students learning science . . . and they have to think about their own learning as well.

The teachers emphasized that the curriculum embraced and aimed to accommodate the diverse disciplinary backgrounds of their students. To accomplish this, one teaching strategy was to encourage learners to treat the reading materials as resources rather than compulsory content of a study unit. This meant that there was relatively little core content knowledge students were required to learn in these online units; they were expected to be selective and make their own decisions about the relevance of the readings to their respective interests and practices beyond the educational context. The weaker boundaries between what is considered to be legitimate knowledge in the educational context and what each learner deems to be legitimate knowledge represent a weaker epistemic relation that downplays specialized content knowledge (ER–).

The reason why content knowledge was viewed as less important in the online units was that the teachers saw every learner as already possessing a wealth of legitimate knowledge by virtue of their experiences beyond the educational context. One teacher noted, 'What we don't often do with our postgraduate students is recognize 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' (Teacher F). Since the boundary separating what is legitimate and what is not resides around each knower, the social relation can be said to be relatively strong (SR+). Another illustration of this stronger social relation is that the teachers stressed that the content knowledge is subject to learners' *personal* interpretations. They also stated that the aim of a postgraduate programme was to assist learners in creating their own knowledge rather than teaching them new knowledge.

Turning to pedagogy, the constructivist teaching procedures enacted in the online units are characterized by weak sequencing, pacing and hierarchical rules. Teacher B, for example, stated:

> There was very much a temptation to say, 'Okay week one, read these and we'll have a discussion. Week two, read these papers and we'll have a quiz.

Week three, read these papers and then your assignment is due.' . . . They'd [other teachers] have a template of 13 weeks or 14 weeks or whatever . . . And the kinds of learning environments that I create . . . that's a total anathema, because if you do that you're moving back into an instructivist kind of mode. So you're saying this is what I want you to do this week, and this is what I want you to do the next week. So it becomes sequential and it's directed by the teacher rather than from the student.

Constructivist teaching, as Teacher B described it, exemplifies 'invisible pedagogy' (Bernstein 1977). It is characterized by the teacher's weaker control over teaching content knowledge – in other words, the epistemic relation is downplayed (ER–).

In discussing their pedagogical relationships with students, the teachers defined themselves as facilitators, most of them stressing that they did not claim expert knowledge of the subject content and thus did not intend to act as a 'guru' or 'sage on stage'. Instead, some identified their relationships with students as a 'partnership', in which they assumed the role of a 'co-learner' and 'critical friend'. Consequently, the teachers viewed their principal responsibility as creating and maintaining an environment conducive to learner engagement. In this environment, direct instruction was of little significance. Again, the epistemic relation with respect to the teaching of content knowledge was downplayed (ER–).

To maintain an environment that encourages learner engagement, the teachers provided support to guide students to accomplish their tasks, including responding to individual questions and organizing online discussion activities. The teachers also emphasized it was the learner's responsibility to utilize the support. As one teacher summed up: 'I think you need to guide in some way, provide some form of pathway [but] if students don't want to use your pathway let them go their own path, but at least you've provided them with some assistance' (Teacher G). For example, the teachers generally believed that peer interaction is valuable and enhances learners' online presence, thereby helping to create a learning community. However, students' participation in online discussions was often non-mandatory in these online units. This recurrent emphasis on learner choice and self-determined, individualized pathways can be characterized as exhibiting a relatively strong social relation to the knower (SR+).

In terms of assessment, both teacher interviews and unit outlines indicate that the predominant forms of assessment were through what teaching staff termed 'authentic tasks', so-called because it is claimed they reflect real-life complexity and are therefore relevant to the learner (Savery and Duffy 1996), as well as various projects and personal reflections. All three methods, it was claimed, required learners to form associations between the content knowledge and their own real-life contexts. As there are potentially a wide variety of such contexts, this assessment approach downplays criteria that could be used to

directly compare learners' performances. Put another way, the assessment recognized multiple legitimate performances. As one teacher explained: '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). Explicit evaluative criteria, therefore, were considered to be less important in judging student performances, so the epistemic relation characterizing the assessment was downplayed (ER–).

Instead, the teachers valued students' abilities to construct individualized knowledge and to reflect on their own learning as the bases for achievement in the online units. A typical statement based on this view is:

> 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, emphasis added]

In other words, the social characteristics of the learner form the basis of legitimate insight in this educational context. According to the teachers, an ideal learner in this context has particular attitudes and personal traits. These attitudes relate to enthusiasm about *being there* and willingness to explore, take risks and seek help, as well as to participate and share. As for personal traits, an ideal learner is independent, self-directed, confident and reflective. Primacy is thus given to dispositions of the knower – a relatively strong social relation (SR+). It is a particular kind of stronger social relation, one that refers to the knower's attitude of wanting to engage in the learning context, rather than an innate or cultivated disposition, or other socially-based categories such as social class, gender or ethnicity.

Overall, the constructivist instructional strategies the researched teachers preferred can be characterized as a weaker epistemic relation and a stronger social relation – a *knower code* (ER–, SR+). This code was realized:

1. in curriculum as downplaying of content knowledge and emphasizing personal knowledge based on learners' professional and everyday experiences;
2. in pedagogy as downplaying the teacher delivering the subject content and structuring student learning, and emphasizing the need for self-regulated learners to create and co-construct knowledge; and
3. in assessment as avoiding explicit evaluative criteria and emphasizing knowers evaluating themselves based on their own criteria.

The knower code that specializes these online units is a particular kind, which emphasizes the knower being simultaneously a *personalized*, *individualized* and *socializing* knower. He or she is a personalized knower in the sense of the knowledge, and an individualized and socializing knower in relation to the activities he or she does. To be specific, knowledge is constructed by each knower on the basis of his or her *personal* context and experiences through highly *individualized*

tasks. Along with this emphasis on the knower's individuality, the teachers articulated the educational value of knowers *socializing* and sharing perspectives in a learning community. However, since there was a lack of strong control through instructional procedures to foster knowers' interactions in the community (participation was non-mandatory), it can be said that a greater emphasis is placed on the learner being an individualized than being a socializing knower.

Students' Experiences of Constructivist-inspired Pedagogies in the Online Context

Analysis of the seven case studies of Chinese students studying the online units indicates that the weaker epistemic relation characterizing the curriculum was experienced negatively by the students. For example, the students considered solitary reading was not adequate to help them learn because they were unsure whether their own understanding and interpretations of the content were correct or 'on the right track'. For example, one summarized the effect of solitary reading for her as follows:

> There are still so many things that I'm not sure about . . . It's not like you ask me something, I can tell you exactly what it is. If you ask me something now, I can only tell you what it is according to . . . my understanding. This is the best I can do, and I don't think this means I've learned well. [Vivian, Interview 6]

The students also dismissed peer discussions online as 'pointless' and 'chaotic' as their teachers often did not provide conclusive comments at the end of a discussion or verify whether the information contributed by their peers was legitimate. One said:

> Even if I got a reply from my classmate, it's unlikely that the teacher would post a message afterwards to confirm whether what my classmate said was correct or not. So in this situation . . . I still don't know whether the answer is correct. I can only rely on my judgment to see if the reply makes sense, or to compare all the replies I get, which is still not definite. [Vivian, Interview 2]

As a result, many said they only read the postings that had attracted feedback from their teachers.

In short, the students did not see what they obtained through solitary reading and peer discussions – two major learning activities in their online units – as legitimate educational knowledge. They experienced content knowledge as being unbounded and uncontrolled in the online units. Simply put, they experienced a lack of knowledge (ER–) in the learning environment. The students also expressed feelings of insecurity, anxiety and dejection over this vacuum of knowledge.

In addition to experiencing an absence of content knowledge, the students struggled to cope with the curricular emphasis on merging everyday and educational knowledge. Some did not think their personal experiences or contexts were of importance to their education in Australia. Clearly, these students could not recognize the legitimacy of the weaker epistemic relation – that is, they did not possess the recognition rules for this form of curriculum. Other students showed they possessed these rules, but they did not have the realization rules. For example, when attempting to draw on their everyday knowledge, this latter category of students experienced difficulties and feelings of inferiority because they thought their experiences beyond the educational context were inadequate.

Under these circumstances, the students reported two strategies for coping with the requirement of using everyday knowledge in their assignments: (1) ignoring the requirement and carrying on preparing their assignments as if they were traditional argumentative essays; and (2) trying to fulfil the require-ment by manufacturing superficial links between the content knowledge and their experiences. Both strategies suggest that the students did not legitimize their personal experiences. They thus experienced the curriculum as involving a relatively weak social relation (SR–).

With respect to the teaching approach employed in their online units, the students did not view invisible pedagogy as a legitimate form of pedagogy. They said they were provided with reading materials and deadlines for the assessment tasks, but then left alone to learn without much guidance by their teachers. 'This type of learning is self-study,' one student summarized, 'you read the readings provided for you. Then you think on your own, and then write essays' (Megan, Interview 2). This was often experienced negatively by the students, who saw weak sequencing and pacing rules as teaching without a systematic plan. The following response is typical of many:

> I feel that teachers do not teach in online classes. They raise a lot of questions for us to discuss. What do they teach us? They teach us nothing. They ask us to think, but what if I can't think of anything? I can sit there thinking all day, not sleeping at all, but I still can't think of anything. So I don't think they are teaching me. [Vivian, Interview 3]

This perceived absence of the teacher was experienced by all seven students as a lack of structure, procedures and explicit guidelines for learning content knowledge. Put another way, the weaker epistemic relation characterizing the pedagogy (ER–) was felt to be a lack, a deficiency rather than offering freedom or empowerment.

Moreover, none of the students experienced being involved in a learning community in the online environment. They repeatedly stated that they went through the online units individually. For example, one said he felt as if he was the only student in his class and so doubted whether he was learning at all

(Chris, Interview 6). That the students did not become part of the learning community exemplifies an experience of a relatively weak social relation (SR–). Inextricably linked to this issue is that while the students said they longed for a sense of belonging to their classes, they all reported lacking sufficient incentive to participate in online discussions with their peers. The main reason was they lacked confidence in the authority of peer perspectives. As previously noted, the students did not consider the information exchanged in peer discussions to be valid educational knowledge. In other words, they did not see their peers as legitimate knowers (SR–).

Feeling that they were studying in an environment empty of legitimate knowledge (such as explicit and strongly bounded content knowledge) and legitimate knowers (teachers as authorities on the subject), the students articulated emotions of loneliness, isolation and abandonment, and in a number of cases, desperation and depression. The following quote is by a student whose experience was among the worst. This student constantly complained about feeling 'isolated' and 'like a hermit' throughout the semester:

> I feel very lonely. Every morning, as soon as I wake up, I log on to the class Web site, while all my roommates go to the uni. I stay at home, reading the messages the whole morning, doing the reading the whole afternoon, and writing the whole evening. In the afternoon, they come back from the uni. I feel like a hermit at home. I have no contact with people, and no one knows what I'm doing . . . no one sees me. [Vivian, Interview 3]

Finally, as with their experiences of the curriculum and pedagogy, the students' experiences of the assessment approach in their online units were also negative. They expressed considerable concern about a lack of specificity in the evaluative criteria, and most of them felt the descriptions of the assessment tasks and requirements were 'ambiguous'. One student, for example, found it difficult to work when the guidelines were not explicit. She argued, '[students] are like producers. We produce goods as required. You [teachers] need to give us the standards' (Jennifer, Interview 5). Consistently, the students also voiced frustration at not being able to obtain clear instructions from their teachers when they approached them for help. In effect, the students experienced the weaker epistemic relation characterizing the assessment (ER–) as hampering their capability to perform well on their assignments.

In the students' descriptions, most of the characteristics of a successful learner in their online units related to academic abilities, such as the abilities to read extensively, conduct a literature review and write in the academic genre. Unanimously, they stated that the key to attaining a good mark was to demonstrate in their assignments the knowledge they gained by addressing all the issues raised in the teacher's explanation of the assignment topic. One said with certainty: 'When the teacher marks your assignments, they mark your response to each of

the questions they want you to answer' (Diana, Interview 3). On the other hand, individual thinking, in relation to their interpretations of an assessment task and their evaluation of their own performances, was of little significance. Personal opinions of the content knowledge were also seen as less important, and often suppressed by the students if these opinions were at odds with those they discovered in the literature. In fact, some said the content of their assignments was usually not their opinions but ideas they 'combined and synthesized' from the readings (Rita, Interview 3). Clearly, the students' understanding of the basis of success in the online units and their corresponding coping strategies are indicative of an experience of a weaker social relation (SR–).

To summarize, the constructivist teaching practice enacted in the online units did not have an enabling or empowering effect on these students' learning. On the contrary, the students in this study felt marginalized by this pedagogical approach. First, they did not see the curriculum as having sufficient content, the pedagogy as involving systematic teaching procedures or the evaluation as having clear criteria. In short, they experienced an absence of anything knowledge-related: a relatively weak epistemic relation (ER–). Secondly, although the online units required learners to use and create personal knowledge, the students did not view this as legitimate educational knowledge and thus did not do so. In addition, they did not participate in the learning communities or recognize their peers as legitimate knowers, both of which they were expected to do in the online units. The students, therefore, experienced a lack of empowerment or legitimacy as knowers: a relatively weak social relation (SR–). In other words, they experienced the knower-code (ER–, SR+) learning environment as something else: they recognized the lack of knowledge (though not positively) but could not recognize or realize the need to substitute this with their own experiences, and, in turn, felt illegitimate as knowers. In short, they did not experience the code underpinning their online units as a knower code but rather as a *relativist code* (ER–, SR–), an absence of legitimacy.

This relativist-code experience, compared by one student to a 'vacuum', is empty of legitimate knowledge or legitimate knowers. Unable to base their success in the online units on either the knowledge gained or their social positions and experiences, the students felt in limbo, not knowing what to do or what direction to take. The impact of this form of pedagogy included feelings that they were learning very little and a string of concomitant negative emotions lasting through the students' entire experiences of their online units.

Analysis: A 'Code Clash' and Invisible Knower Code

The study drew two conclusions based on these findings. First, there was a 'code clash' (Lamont and Maton 2008) between the educational dispositions the

students brought to the online learning context and the teaching practices in this context. Secondly, these students were unable to detect the code regulating the online environment because the knower code underpinning this environment is *intrinsically* invisible.

Code Clash

According to Lamont and Maton (2008), there can be a clash between the legitimation code characterizing the way a student thinks and acts and the legitimation code characterizing the student's educational context. Every educational practice or context is dominated by a specific code which embodies the unwritten 'rules of the game'. However, not everyone is able to recognize or realize these rules. For those who cannot, this 'code clash' may make it difficult for them to achieve success, resulting in a sense of alienation and boredom and rejection of the educational context.

The students in this study perceived the constructivist pedagogic practice in their online units as one that did not teach them content, principles, procedures or methods. In other words, they felt an absence of anything disciplinary, or non-disciplinarity. They also thought this teaching approach did not help them establish and maintain relationships with the teachers and their peers. It appeared that not being taught explicitly the appropriate ways of acting and communicating in this learning context, the students responded to the context by utilizing what they had already known. That is, they responded to an environment specialized by a knower code with the strategies they had previously developed in their formative, knowledge-code educational context.

For example, in terms of curriculum, these students interpreted personal experience and knowledge as formerly gained knowledge, which they equated to 'old' knowledge. They argued that recycling old knowledge was not a good use of their time when studying in Australia, and so they continued to write their assignments by focusing on supplying content knowledge and demonstrating their understanding of the content by referencing the literature. In pedagogy, rather than demonstrating active engagement in their learning by taking control of their own learning processes and being involved in the learning communities, the students did exactly the opposite to what was expected of them: they detached themselves from the learning context and, in turn, became less visible. The code clash in pedagogy marginalized these students, which is an opposite effect to the aim of learner empowerment intended by constructivist teaching techniques. In relation to assessment, the teachers stated they expected students to negotiate with them when assessment requirements did not suit their situations. The students, however, construed negotiating with their teachers as an indication of their own incapacity to meet requirements.

The Intrinsically Invisible Knower Code

The knower code underpinning the constructivist teaching strategies in the online units rendered two important things invisible to the students in this study: (1) the knowledge to be taught and learned; and (2) the knower code itself. In relation to the invisible knowledge, the students did not know what they were trying to learn in the learning environment that used this form of pedagogy. For instance, they did not know what they were supposed to accomplish by bringing personal experience or by maintaining an online presence. Neither did they know how the flexibility of this form of education contributed to their learning, or what their teachers were teaching them. Although many of the students might have heard from their teachers the rationale for adopting this constructivist teaching approach, or read about it in the unit outlines, it appeared that they could not comprehend exactly what they were expected to do. To put it another way, they were unable to recognize the required performance in this context.

The findings of the research suggest that this inability by the students to recognize the required performance in the online context was because the knower code underpinning the teaching practice did not make the knowledge to be taught and learned explicit to the students. This is illustrated clearly by the students' experience of an absence of knowledge in their online units, as well as by the teachers' use of implicit evaluative criteria and their shared belief in multiple legitimate performances. Indeed, the teachers said they avoided using direct instruction in the online units, which is characteristic of constructivist-inspired pedagogies. Rather than teaching knowledge and skills to learners by virtue of explicit instruction, constructivist approaches are held by their proponents to help learners develop knowledge and skills tacitly by placing them in what are described as rich environments that provide authentic and complex learning tasks (Duffy and Cunningham 1996; Grabinger and Dunlap 1995; Herrington et al. 2005). It is expected that in order to complete these tasks, learners will actively explore the environments in ways they consider most appropriate for themselves. However, empirical data from this study shows that in giving learners this degree of 'freedom' to explore, both the teacher as a teacher and the knowledge the students are intended to learn (or 'construct') can be rendered invisible to students.

Furthermore, the knower code itself, which governed the teaching practices in the online units, was also invisible to the students. Constructivist teaching does not set explicit rules of how learners should engage in their learning. In simple terms, learners are not expected to approach their tasks in particular ways. However, the data suggests the teachers did consider certain forms of learner engagement to be more appropriate than others, but did not make this explicit to the students. The study argues this was because the knower code represented by constructivist pedagogy is *intrinsically*

invisible – to teach its 'rules of the game' explicitly would be to contradict the principles of the pedagogy.

In particular, the study found that a key unwritten 'rule of the game' in constructivist educational practice is the notion of *learner presence*, which means that learners demonstrate their engagement with their past and current experiences, as well as within and beyond the educational context. Associated with this notion is an emphasis on a *personalized, individualized* and *socializing* knower as the basis of distinctiveness and authority in this learning context. However, constructivist teaching requires that this key rule of the game remain implicit in order to allow learners to explore the learning context in the ways they find appropriate. For example, the fundamental principle of invisible pedagogy, which describes the constructivist teaching practice in this study, is that instructional procedures do not follow pre-determined stages regulated by time, but by learners' individual development. This principle, in fact, contains a hidden rule: the learner is expected to externalize his or her learning to the teacher so that the teacher can give personalized interpretation, evaluation and diagnosis. As Bernstein (1977: 121) writes, 'the greater range of [the learner's] activities, the more of him [*sic*] is made available to the teacher's screening'. According to this tacit rule, to receive maximum 'teaching' from the teacher, it was imperative for the students in this study to participate in as many activities in the online learning context as possible. In other words, the students were expected to create and maintain their visibility in the online environment even though this was not compulsory. Nevertheless, in adhering to the notion of learner choice, the teaching practice did not announce the maintenance of online visibility as a rule of the game.

Since the knower code underpinning constructivist-inspired pedagogies cannot show itself, it takes a learner pre-equipped with the 'right' dispositions to be able to appreciate and benefit from this instructional approach. To be specific, this approach requires a learner who has the 'right' attitude and personality or has already been socialized into the form of behaviours compatible with this form of teaching (Maton 2004).

Conclusion

Many proponents of constructivist-inspired pedagogies claim these pedagogies, coupled with online learning, are especially suited to adult learners because adult learning is triggered and facilitated by their life experiences (Eastmond 1998; Huang 2002; Sieber 2005). The teaching staff described in this chapter expressed similar beliefs about adult learners, asserting that their postgraduate students throve in learning contexts in which constructivist instructional procedures were enacted. The empirical evidence gathered, however, challenges this generalized assumption. Contrary to claims made by constructivist theorists and researchers (Johnson and Johnson 1996; Milhauser 2006; Savery

and Duffy 1996; Wilsonand 1997), the students discussed in this chapter: did not feel they were involved in generating knowledge through personal interpretations and negotiating meanings with their peers; did not develop ownership of their learning; and did not eventually become 'reflective practitioners' ready to apply changes to their own environments in order to test their new beliefs. Instead, they felt marginalized and in a state of chaos, uncertainty and limbo.

As noted at the outset of this chapter, the research findings discussed here are not confined to Chinese students in Australia. The studies mentioned earlier suggest that students in South Africa, the United States, Portugal and Australia have experienced similar difficulties with constructivist-inspired pedagogies. Hence, we would argue, the experience of a code clash identified in the research is not exclusive to Chinese learners. We would conjecture that this experience may extend to all social groups whose educational dispositions are characterized by knowledge codes.

Finally, it should be emphasized that we are not arguing that the knower code itself, or constructivist teaching itself, is the problem. Rather, we argue that teaching practice based purely on a knower code requires pre-equipped learners for it to work. It requires the right kind of knower, one whose dispositions enable the display of being a personalized, individualized and socializing knower, for these capacities are not explicitly identified or taught. The findings of previous studies also suggest that this pedagogy suits learners with significant prior knowledge or experience of the subject content, so that the lack of explicit knowledge or direct instruction is not experienced as a vacuum, whatever code dispositions they bring (e.g. Gabriel 2004; Milhauser 2006). Without the 'right' knowers, constructivist teaching practice in the online context *may* lead to a relativist-code learning experience, an experience of non-disciplinarity with consequences of disempowerment, alienation and marginalization, the very opposite to its aims and intentions. Above all, this study shows that generalized claims about the ways students (or particular groups of students) learn or the effects of a form of pedagogy must always be treated with scepticism. As we discussed at the outset, educational practices involve the meeting of two histories or logics: the dispositions brought by students from their prior experiences and the nature of the educational context. Understanding how different forms of knowledge and pedagogy shape educational experiences and outcomes thus requires a relational approach capable of theorizing the logics or underlying principles of both, and how they relate, in order to more fully understand what form of teaching and learning is required for which students and in what contexts.

Note

1. The acronym 'TAFE' means a 'Technical and Further Education' institution; this is a tertiary institution offering a range of courses in trades such as hospitality, hairdressing, carpentry and so on.

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