

## Chapter 2

# Multicultural and Intergenerational Teaching and Learning: Current Research

Little empirical research is available about online college teaching and learning across culture or age. Research is needed to ascertain learning environment pedagogies that positively impact a diversity of students in online contexts. Because collegiate instruction, including online forms, is often culturally based in Germanic- and English-based traditions of American higher education (Chávez & Guido-DiBrito, 1999; Chávez, Ke, & Herrera, 2012; Ibarra, 2001; Rich, 1993; Tisdell, 1995), it is important to conduct research on all types of instruction across the more diverse cultural, age, and other identities of learners (Chávez, 2011; Tisdell, 1995). This review of literature covers areas of study found to some extent in the literature including constructs of culture in higher education, nontraditional student success and intergenerational online instruction, and cross-cultural online education, as well as overviews of methodologies, populations studied, research questions of focus, and major findings.

### Constructs of Culture in Higher Education

Higher education in the United States is traditionally structured around individualistic, linear, mind-focused, time-to-task-oriented cultural constructs far from the collective, circular, relational, mind-body-spirit-heart cultural constructs of most ethnic minority students (Brayboy & Maughan, 2009; Chávez et al., 2012; Ibarra, 2001; Rendón, 2009). Unlike epistemological frameworks such as Chicana feminist notions of teaching and learning, collegiate learning constructs rarely include knowledge or activities similar to those in home communities of most students of color (Delgado Bernal, 2001; Elenes, Delgado Bernal, Gonzáles, Trinidad, & Villenas, 2000). Further, these cultural norms are rarely considered strengths or “cultural wealth” that students bring with them into collegiate learning environments (Villalpando &

Solórzano, 2005). Instead, students of color and their ways of learning and being are often viewed from a deficit rather than a strengths approach (Chávez et al., 2012). Individual faculty practice as both cultural insiders and cultural outsiders to the students they teach, sharing similar cultural constructs with some students and different ones with others (Guido-DiBrito & Chávez, 2003).

Culture permeates teaching and learning in all types of instruction (Chávez, 2007; Fried, 1994; Ibarra, 2001; Johns & Kelley Sipp, 2004; Rendón, 2009). Face-to-face and technology-mediated learning environment designs are infused with cultural values, norms, and assumptions (Branch, 1997; McLoughlin & Oliver, 2000). Learning difficulties are likely to arise when underlying pedagogical values, norms, and epistemologies in one ethnic population are culturally inappropriate or ineffective in another (e.g., Collis, 1999; Ibarra, 2001; Reeves & Reeves, 1997). Ethnic populations of students who are farthest from cultural epistemologies common in current instructional norms also retain and graduate at the lowest rates in college nationally (Almanac of Higher Education, 2007a, 2007b; Ibarra, 2001). Faculty and students are usually unaware of how culture manifests in teaching and learning (Tisdell, 1995; Weinstein & Obeir, 1992). Domestic and international students of color experience very real challenges in negotiating academic norms based in cultures not their own (Guido-DiBrito & Chávez, 2003; Ibarra, 2001; Viernes Turner, 1994).

There is little research on cross-cultural pedagogy for college students in classroom (Chávez, 2011) or web-based (Henderson, 1996; Ke, Chávez, & Herrera, 2009) learning contexts. In an extensive review of research on culture in collegiate teaching and learning, we found limited, though important, studies on cultural dimensions for learning including the relationship between learner racial/cultural demographics and learning outcomes (Gurin, Dey, Hurtado, & Gurin, 2002), cultural self-awareness of the learning facilitator (Tisdell, 1995; Weinstein & Obeir, 1992), intersections of identity and learning (Chávez & Guido-DiBrito, 1999; Guido-DiBrito & Chávez, 2003), learning environment climate (Chávez, 2007; Chesler, Lewis, & Crowfoot, 2005), diverse motivations across cultures (Heine et al., 2001), silence and reflection in teaching and learning (Covarrubias & Windchief, 2009), and cross-cultural pedagogies (Bennett & Bennett, 1994; Ibarra, 2001). With some notable exceptions, few researchers seem to build on their own work, few studies build on the work of other researchers, and studies are rarely linked across the literature (Chávez, 2011).

Larger frameworks on intersections of culture and teaching/learning are rare in the literature with a few notable exceptions. One body of work on cultural constructs, paradigms, and epistemologies deeply expresses the contextual, relational, spiritual, holistic, and pragmatic nature of teaching and learning found across diverse Native American worldviews (Cajete, 1994). Delgado Bernal (2001) frames a Mestiza epistemology of Chicana college students studied through Anzaldúa's (1987) work. This study addresses the criticality of spirituality, collectivity, and connections to cultural communities in relation to learning, success, and retention. Chávez (2007) empirically derived a model of six teaching elements from a study of four collegiate classrooms identified by international and domestic students of color as multiculturally empowering.

## Cross-Cultural Online Education

We conducted a recent literature search of cross-cultural online education within the data pool of computerized bibliographic databases (i.e., ERIC, PsycInfo, Educational Research Complete, Dissertation Abstracts, ACM), major education and technology journals, conference proceedings, and the reference lists of several reviews. During the literature search process, the keywords used included “culture,” “minority,” “online learning,” and “distance education” (and variations of these terms). The data research resulted in the finding of 44 quality articles on cross-cultural online education, which either provided a rich description of the theoretical framework or presented infield research data as an empirical study paper. Of the 44 cross-cultural articles, 22 focused on the online learning experiences and perceptions of students of different cultures, and 26 explored the development of cross-cultural online instruction from an institutional or pedagogical point of view (Appendix Table 2.1).

Of the 22 articles on cross-cultural online learning experiences, many concentrated on learning experiences of Asian students (e.g., Chinese, Japanese, Korean, Indian, & Malaysian) in comparison to that of Anglo students. Fewer studies examined African or Hispanic/Latino students and even less examine experiences of Native American students. Populations differ in student status as well. A majority of populations explored in the literature were graduate students or professionals who worked full time with a few studies of undergraduate students and one conducted at the high school level. Students in reviewed studies were recruited most often from education courses, with only a few from medicine, business, language, music, and religion.

The literature of cross-cultural online learning consistently indicates culturally related diversity. Many scholars found students’ thoughts and actions at odds with regular online learning practices, and forms of communication used online were often incongruent with especially minority student cultures and language. Different reasons were offered for this incongruence. Some studies attribute differences to high-context/low-context cultural norms (Ibarra, 2000; Tu, 2001; Wang, 2007), some attributed it to an inherent conflict between the individualism of online pedagogy and collectivism of many students’ cultural values (Adeoye & Wentling, 2007; Anakwe, Kessler, & Christensen, 1999), and others ascribed barriers to fundamental differences in student beliefs about the nature of knowledge and how one acquires knowledge (Chen, Bennett, & Maton, 2008; Makoe, 2006). Correspondingly, recommendations for the design of culturally responsive pedagogy focus on student needs at the micro level considering variables such as language, learning styles and preferences, sociocultural context, and technological infrastructure. On the other hand, Van den Branden and Lambert (1999) challenge the notion of student culture at the micro level altogether, arguing that the online learning environment also creates its own culture or society. Sang (2007) argued that online environments should be adapted and redeveloped to avoid cultural imperialism and Anglo-Saxon dominance. This is not just culturally responsive online pedagogy but ethically responsive pedagogy and moves beyond issues of culture into issues about what is ethical

in online learning (Anderson & Simpson, 2007). Notably, the review of literature indicated that there is an absence of empirical research on cross-cultural online learning. Theoretical propositions or conceptual papers dominate the literature of cross-cultural online learning.

The 26 studies on cross-cultural online instruction can be grouped into two areas related to online course design and delivery: issues raised by online instruction as it relates to students' culture and language (e.g., Anderson & Simpson, 2007; Lauzon, 1999; McLaren, 2007; Sang, 2007; Van den Branden & Lambert, 1999) and design and implementation of specific modes of online instruction to address student cultural ways of learning and interaction (e.g., Adams & Sean Evans, 2004; Dahl, 2004; Johari, 2005; Kumar & Bhattacharya, 2007; Llambi et al., 2008; McLoughlin, 1999; Rasmussen, Nichols & Ferguson, 2006; Smith & Ayers, 2006).

The primary population in the literature of cross-cultural instruction is still graduate and professional students who major in education. A few articles examine curriculum of undergraduate students by focusing on programs for new students via introductory or bridge programs (Arias, 2000; McLoughlin & Oliver, 2000; Smith & Ayers, 2006). The majority of articles have not addressed course content at all (Amant, 2002; Anderson & Simpson, 2007; Arias, 2000; Johari, 2005; Lauzon, 1999; Lin, 2007; McLaren, 2007; McLoughlin, 1999; Rasmussen et al., 2006; Sang, 2007). Instead, authors explored the pedagogical and interactive needs and adaptations necessary to address students' culture, which could be a specific culture, such as Arab or Maori, or referred to a general "minority" or nontraditional student culture in the online learning environment, regardless of course content.

The articles reviewed discussed general approaches to guide the design of culturally responsive learning environments and shared common features, such as using student-centered learning systems to support and engage students and creating constructivist online environments that are explicit and equitable. Recommendations focused on student needs in terms of language, learning styles and preferences, sociocultural context, and technological infrastructure. For example, Johari (2005) discussed how designers can integrate eight differentials in preparing online instructional materials and apply strategies to match learners to suitable courses. He provides two checklists distilled from research "Six recommendations for low-context (US) instructional designers" and "Eight recommendations designers should make for their high-context students."

Some of this literature goes beyond general principles and recommendations for culturally responsive instructional design and offers more specific examples and suggestions based on actual programs or courses studied. Zepke and Leach (2002), for instance, suggested integration of a narrative line, opportunities for face-to-face interaction, and content and materials that represent (Maori) students' culture. Henderson (1996) presented one of the most comprehensive analyses. Her *Multiple Cultural Pedagogic Model* of interactive multimedia instructional design is based in turn on the 14 dimensions of interactive learning of Reeves (1992). Reeves' 14 dimensions include several highly likely to differ among different cultures, for example, pedagogical philosophy (instructivism vs. constructivist), goal orientation (sharply focused vs. unfocused), role of instructor (teacher proof vs. equalitarian

facilitator), value of errors (errorless learning vs. learning from experience), motivation (extrinsic vs. intrinsic), accommodation of individual differences (nonexistent vs. multifaceted), learner control (nonexistent vs. unrestricted), and cooperative learning (unsupported vs. integral). Henderson's key addition to Reeves' set of dimensions is the idea of incorporating multiple cultural perspectives into an *eclectic paradigm*, so that multiple cultures maintain their identities and can have their respective cultures accommodated. This in turn requires that both ends of each dimension must be taken into account in the course design and context. She also argues that Reeves' choice of endpoint values, at least for the dimension Epistemology, may in turn be based on Western notions or theories of the nature of learning and knowledge and argues that different endpoints can be defined based on Asian or Australian Aboriginal epistemologies. In any case, different profiles based on these dimensions may be optimal for different cultural groups, and they may also vary within the timeline of a learning experience itself (e.g., an instructivist pedagogy at some points and a constructivist at others).

## Modes and Focus of Research

### *Research Methods*

Of the 40 articles collected on cross-cultural online education, the most common methodology utilized was case study (refer to Table 2.1). Overall there were 17 qualitative studies, nine quantitative studies, two mixed methods, and 12 theoretical or propositional discussions. Of the 17 qualitative articles, 15 were case studies, one used a phenomenological approach, and the other was an ethnography study.

Case studies varied in cultural focus, examining cross-cultural students' online education from around the globe. Student populations included Latino (Ibarra, 2000), Native American (Adams & Sean Evans, 2004; Berkshire & Smith, 2000), Maori (Zepke & Leach, 2002), South African (Makoe, 2006), Chinese (Chen et al., 2008; Chen, Mashhadi, Ang, & Harkrider, 1999; Hurd & Xiao, 2006), the Netherlands (Collis, 1999), Cyprus (Zembylas, 2008), the United Kingdom (Crane, 2005; Dillon, Wang, & Tearle, 2007; Hurd & Xiao, 2006; McGivney, 2004), as well as diverse nontraditional students in the United States (Evans et al., 2007; Shenk, Moore, & Davis, 2004) and abroad (Venter, 2003).

While the population in each study differed, almost all case studies focused on student performance and experience in some way. An example was a case study conducted by Venter (2003), in which the researcher examined different coping strategies used by 43 adult students involved in a 2-year master's program delivered globally via distance learning. The student enrollment in the program was broadly grouped from European to Asian Pacific background. The study explored interactions between strategies used to cope with isolation and culture and the connections between student culture and learning style.

Unlike the qualitative articles where case study stood out as the most dominant methodology, in the quantitative research articles, a variety of methodologies were used to investigate cross-cultural online education, including surveys (Anakwe et al., 1999; Buerck, Malmstrom, & Peppers, 2003; Chernish, DeFranco, Lindner, & Dooley, 2005; Yong & Parrella, 2004), the use of pre- and posttests (Chernish et al., 2005; Chyung, 2007), questionnaires (Makoe, Richardson, & Price, 2008), data analysis of student records, and/or examination of online activity (Angiello, 2002; Chyung, 2007; Patton, 2000; Stafford & Lindsey, 2007). Student populations in quantitative studies were not as diverse as those studied using qualitative methods with most focusing on online students in the United States. However, nontraditional, older students were more likely to be studied using a quantitative method. A typical example of a study using quantitative methodologies is Anakwe's et al. (1999). In this study, the researcher employed the use of surveys to examine distance learning orientations of 424 students enrolled at two northeastern universities. Similar to the qualitative example offered above, connections between student culture and learning styles are part of the findings in this study.

Theoretical or propositional papers were the second most common type of publication found on the topic of web-based cross-cultural education. Studies either focused on the role of diverse cultures online in general terms (Anderson & Simpson, 2007; Arias, 2000; Lauzon, 1999; McLoughlin & Oliver, 2000; Rasmussen et al., 2006) or spoke of issues related to a specific population such as Indigenous Australians (McLoughlin, 1999), the Arab world (McLaren, 2007), Europe (Van den Branden & Lambert, 1999), Hispanic/Latino-Americans (Smith & Ayers, 2006), students in Hong Kong (Sang, 2007) or Native American women (Dahl, 2004).

Of the 12 theoretical/propositional articles examined, nine focused on the design of culturally relevant curriculum, two were critiques of learning-related cultural constructs and dimensions, and one focused on implications for program development. A typical theoretical examination of online curriculum related to culture was conducted by McLoughlin and Oliver (2000). In this chapter, the author explored different ways educational designers can ensure inclusivity in the curricular design process. A case is made for equitable educational planning via design that addresses social and cultural dimensions of learning.

The two mixed-method studies are similar to previously discussed studies; each focuses on the online student experience with a particular emphasis on student perceptions. One study explored interactions between adult professional learners in the United States (Rhode, 2009), while the other focused on issues of power between teachers, students, and peers in distance learning courses across the United States, China, and South Korea (Wang, 2007). Both studies found significant differences between cultural groups and students' online learning experiences.

## ***Populations Studied***

Upon deeper examination of populations represented in the previous discussion, some trends appear. Key terms and topics utilized for purposes of this review are

important here. Topics of distance learning and online education were searched in combination with culture and nontraditional students. “Culture” in the context of this literature review was further broken down in subsequent searches to include specific populations of students including Latino/Latina, Hispanic, African American, and Native American. Furthermore, nontraditional students were also a component of this search and appear to make up the largest populations.

In relation to culture, the two largest populations studied were Chinese and Latino/Hispanic students. Many studies explored interactions between a variety of cultures as they progressed through online courses together in the United States or abroad. Studies exploring multiple cultures in the context of an online learning course were the norm with the majority of these diverse populations dwelling in the United States and the UK.

### ***Research Questions***

Of the literature reviewed, types of questions asked by researchers were quite similar. Questions about student interactions, feelings, perceptions, performance, and traits were common. For example, in the quantitative study by Zepke and Leach (2002), researchers investigated the following questions: (1) Would an individual’s culture affect his or her receptivity toward distance learning? (2) Would an individual’s culture affect his or her preference for particular distance learning media? (3) Would an individual’s culture affect his or her preference for distance learning in a particular course type? One example with a similar focus is a case study by Dillon et al. (2007) who questioned how in a defined educational situation learning behaviors would differ across cultures and what the implications of these differences were for online communication.

Inquiry into challenges or problems in relation to student culture and age was also common, as were questions about strategies used by students to overcome such challenges when learning online. For example, the study by Hurd and Xiao (2006) examined the perceptions and goals of UK and Chinese students in distance language courses, specific problems they encountered as they studied, and strategies they used to address them, and the ways students from these two cultures differed with respect to these factors.

Of the articles examined for this literature review, the most common theme of inquiry was the issue of culturally relevant curriculum. Specifically, more studies examined the ways curriculum and pedagogy either met the needs or should change in order to better meet the needs of students based on their culture and background. For example, in a case study, Collis (1999) posed the following research question: How can WWW-based course-support sites and systems be designed to offer optimal flexibility in terms of culture-related differences in its users? Almost all of the theoretical and propositional articles in our review share this type of curricular focus in the central theme of their discussion.



## *Major Findings*

Findings presented in this cross-section of literature can be grouped into two broad categories: (1) relationship between student culture and the effectiveness of distance education as a delivery method and (2) relationships between student culture, learning style, and instructional design. The most common type of findings and/or themes came from studies that addressed connections between students' culture and learning style and the development of online curriculum and pedagogy. For these studies, researchers argued that online learning environment, learning content, and pedagogy must be approached culturally, critically, and ethically in order to accommodate the needs of students. They explored ways in which conceptions of learning are culturally and contextually dependent and consequently how students' cultural background, language, learning styles, and problem-solving strategies impact distance education experiences.

For example, in the study by Chen et al. (1999), researchers argued for online curriculum designed and delivered to create culturally mediated social interaction. Because students' experiences of culture and technology play a key role in learning, the authors state that social and cultural understandings must be made explicit through accessibility, interconnectivity, immediacy, interactivity, and integration in curriculum design. In other articles, learning styles are discussed in relation to student culture. For example, Anakwe et al. (1999) discussed the relationship between culture and the individualist versus collectivist orientation of learners, and Buerck et al. (2003) explored relationships between student culture and the assimilator versus converger learning styles. Yong and Parrella (2004) associated these traits with independent versus dependent learner styles.

The most critical findings argue that practices and approaches used in distance learning courses are often at odds with ways of thinking, acting, and being that students bring with them. Chen et al. (2008) argued that the challenges Chinese learners experience online have roots in basic beliefs about the nature of knowledge and knowledge accumulation. Dillon et al. (2007) saw design and implementation of online communications act as major barriers because of differing cultural and language differences. In the ethnographic study, Knight, Dixon, Norton, and Bentley (2004) investigated the use of technology with Black and Latino/Latina students in a New York City high school. They posited that students may be subjected to the same oppressive pedagogies of traditional classrooms when using technology if practitioners fail to approach such pedagogies and curriculum critically.

The second broad category of findings identified through this literature review is relationships between age- or ethnicity-related culture and the effectiveness of distance learning methods. Previous studies presented varied and seemingly contradictory findings. For example, Chyung (2007) stated that older students are more active than younger students online, and Stafford and Lindsey (2007) argued that nontraditional students are more likely to benefit from a distance learning format. In contrast, McGivney (2004) argued that nontraditional students are less likely to stay in distance learning programs overtime. Buerck et al. (2003) found differences in



performance between traditional and nontraditional students that can be attributed to differences in learning styles. However, Evans et al. (2007) found no difference in performance between traditional and nontraditional students. Finally, Angiello (2002) found that Hispanic students are not as successful as other students when taking online learning courses, while Van den Branden and Lambert (1999) suggested that online culture trumps students' individual culture in the distance education environment.

Overall, current literature points to the need for more comprehensive empirical studies that cross academic disciplines, student cultural populations, a diversity of pedagogical designs, and quantitative and qualitative modes of research.

## **Nontraditional Student Success and Intergenerational Online Education**

Research on collegiate teaching and learning is predominantly based in historical perspectives, beliefs, and curriculum of a traditional student profile – of a person who is northern European Caucasian, 17–24 years old, and living on or near campus (Kasworm & Pike, 1994). Contemporary student populations diverge significantly from these student profiles and experiences. Nontraditional students now comprise approximately 40 % of the postsecondary population and nearly 78 % receive education in web-based distance format (Kuenzi, 2008). Corresponding to nontraditional students' learning profiles, adaptive web-based teaching and learning design interventions should be identified through in situ studies.

Yet a recent review on nontraditional/adult students in online learning settings indicated only 13 scholarly articles that focus on student experience or the pedagogical dimensions for age-related online learning. Of the 13, nine focus on intergenerational learning (Benson & Samarawickrema, 2007; Buerck et al., 2003; Chyung, 2007; de Lange, Waldmann, & Wyatt, 1997; Makoe et al., 2008; McGivney, 2004; Rhode, 2009; Shinkareva & Benson, 2007; Stafford & Lindsey, 2007) and five focus on intergenerational instruction (Crane, 2005; Davis, 2006; McGivney, 2004; McPatton, 2000; Sorensen & Murchú, 2004) with one article falling into both categories (McGivney, 2004). In the following section, population, methodology, research questions, and major findings of these articles will be discussed in detail (Appendix Table 2.2).

## **Nontraditional or Adult Student Population Studied**

In the 13 articles reviewed, the population was described as “nontraditional” or “adult” students; however, almost every article varied in its definition of these terms. Differing criteria were used across studies to explain features of and/or define a

nontraditional or adult student. Most commonly, authors based determinations on student age, gender, and employment status. More recently, definitions have also included parental status and returning to school. This variation in definitions and criteria makes research in this area difficult to compare.

For example, when referring to student age, the following criteria were listed as determinants for “nontraditional” or adult student status: mean age 36 (Zembylas, 2008), ages 31–45 (Shinkareva & Benson, 2007), mean age 40 (Chyung, 2007), ages 25–34 (Stafford & Lindsey, 2007), age 22+ (Buerck et al., 2003), ages 25–40 (Crane, 2005), over 25 (McGivney, 2004), and mean age 32 (de Lange et al., 1997). Based on this grouping, it would appear a nontraditional or adult student is not younger than 22 years of age. Though less often considered, student gender was also used to define the nontraditional or adult student. In 4 of the 13 studies (Crane, 2005; de Lange et al., 1997; Shinkareva & Benson, 2007; Zembylas, 2008), the majority of students under study were female, and gender was considered a factor in determining nontraditional student status.

The criteria for adult or nontraditional student status vary greatly in the articles, with some overlap. Most often a nontraditional student was defined as one who is new to higher education (Crane, 2005; Davis, 2006; de Lange et al., 1997; Makoe et al., 2008; Patton, 2000; Shinkareva & Benson, 2007), new to distance learning (Crane, 2005; Makoe et al., 2008; McPatton, 2000), and/or new to the subject area or program (Makoe et al., 2008; McPatton, 2000; Shinkareva & Benson, 2007). Similarly, student status may be described as it relates to professional or job status, whereas a nontraditional/adult student is one who has been working full time for 3 or more years (Buerck et al., 2003), is working toward a professional development certificate (Rhode, 2009), has a gap since being in school full time (Davis, 2006; McGivney, 2004), is employed full time as a professional (Shinkareva & Benson, 2007; Sorensen & Murchú, 2004; Zembylas, 2008), or has returned to school to improve employability (McPatton, 2000). One study also defined students based on geography including rural and international student status as criteria (Patton, 2000).

Of the previous studies on intergenerational online learning experiences or web-based intergenerational instruction, populations under study were predominantly Western with the majority from the United States (e.g., Buerck et al., 2003; Chyung, 2007; Davis, 2006; McGivney, 2004; Rhode, 2009; Shinkareva & Benson, 2007; Stafford & Lindsey, 2007), with three from the United Kingdom (Crane, 2005; Makoe et al., 2008; McGivney, 2004), one each from Cyprus (Zembylas, 2008) and Australia (de Lange et al., 1997), and one study compared Ireland and Denmark (Sorensen & Murchú, 2004).

## ***Research Questions***

In articles on intergenerational online learning, authors investigated the behaviors, preferences, interactions, dispositions, and performance of students in the distance education environment. These articles examined students’ conceptions of learning

(e.g., Makoe et al., 2008), how they talk about emotions online (e.g., Zembylas, 2008), or rates of retention compared to younger students (e.g., McGivney, 2004). In Chyung's (2007) quantitative study, the author investigated how age and gender affect online behavior, self-efficacy, and academic performance in the online learning environment. In Rhode's (2009) mixed-method study, the author investigated forms of interaction adult learners engaged in and valued most in online courses and how adults perceived the impact of peer interaction on their self-paced online experience.

In the articles about web-based intergenerational instruction, authors examined learning environment and pedagogy as they were developed and/or used with nontraditional/adult students in distance education. They also investigated the impact of instructional practice and behavior (Patton, 2000) as well as the effectiveness of a specific online program, course, or seminar (Crane, 2005; Davis, 2006; McGivney, 2004; Sorensen & Murchú, 2004). For example, Crane (2005) examined and described how the implementation of an online program was successful in retaining students and widening educational access to nontraditional students. The online program success factors reported include the use of tutors, guidance, staff development, and providing the curriculum in a range of formats for students.

## ***Research Methods***

Unlike the dominant use of qualitative methodology (i.e., case study) found in the literature of cross-cultural online learning, the literature of intergenerational learning is predominantly quantitative in methodology. Of the nine articles reviewed, six are quantitative and one uses mixed methods (Rhode, 2009). Of the quantitative studies, four are survey studies (Buerck et al., 2003; de Lange et al., 1997; Makoe et al., 2008; Shinkareva & Benson, 2007), and two are data/content analysis (Chyung, 2007; Stafford & Lindsey, 2007). The remaining two articles were case studies (McGivney, 2004; Zembylas, 2008).

A typical survey study was conducted by Buerck et al.'s (2003), who investigated the relationship between nontraditional students' preferred learning environment (i.e., face-to-face or online) and their learning styles. The authors surveyed 29 nontraditional students enrolled in a computer science class on their self-reported learning styles and learning environment preferences.

The literature of web-based intergenerational instruction is predominantly theoretical, similar to that of web-based cross-cultural instruction. Of the five articles found, three are theoretical (Crane, 2005; Davis, 2006; Sorensen & Murchú, 2004), one is content/data analysis (Patton, 2000), and one is case study (McGivney, 2004). A typical theoretical paper by Davis (2006) discussed the design of an introductory student seminar for adult students new to the College of Liberal Studies. Davis investigated how to design a course that strengthened students' general writing ability while integrating disciplines in a way that was engaging to new students. He structured the course into four units and incorporated real-world activities to introduce key concepts in the humanities, natural, and social sciences.

## ***Major Findings***

Findings of prior studies on intergenerational learning support the notion that learning is culturally and contextually dependent, particularly for adult students in online learning environments. For example, Makoe et al. (2008) stated that conceptions of learning derived from the experience, context, and culture of the adult learner. Zembylas (2008) found that emotional responses differed online based on social and gender roles and responsibilities of the participant. When examining online participation for nontraditional students, Rhode (2009) found that not all interactions were considered equally effective or valued and that informal interactions were just as important as formal interactions for the nontraditional student. Older students were found to post more often than younger students (Chyung, 2007) and were more likely to have a converger learning style (Buerck et al., 2003). Oftentimes, the successful online adult learners were reported to have a higher self-directed learning ability and IT skills, leading to improved effort, self-efficacy, and motivation (Shinkareva & Benson, 2007).

Though limited, prior research on intergenerational instruction has contributed a list of generic heuristics or specific suggestions on how to design online learning environments to meet the needs of nontraditional/adult learners. Specifically, researchers recommend flexibility with deadlines and other learning activity requirements so that adult learners are more likely to complete assignments and be successful in the course (Patton, 2000). McGivney (2004) suggested that adult learners also need more time in general to complete their online classes than their younger “traditional” counterparts and they are more likely to complete the course and/or program if given more time. Other recommendations for instructional design include dividing courses into smaller units (Davis, 2006), using real-world activities that are engaging (Davis, 2006; Sorensen & Murchú, 2004), and constructing an online environment that facilitates community (Sorensen & Murchú, 2004).

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Appendix

Table 2.1 A synthesis of reviewed articles on cross-cultural online education

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Adams and Sean Evans (2004)	Case study	Native American graduate students taking online courses from the reservation	Education	Uni-cultural	Ethnicity: Navajo	Adaptation: Providing library service for online courses	In-person instruction on library search being most effective and culturally respectful form  Observational and collaborative learning activities  Culturally sensitive materials (e.g., videos depicting successful stories of Native American)
Adeoye and Wentling (2007)	Survey and user observation with correlation analyses	30 attendees of an international workshop	Training improvement	Multicultural	National culture: Power distance, Individualism/collectivism, femininity/masculinity, uncertainty avoidance	Inclusion/comparison: Usability of e-learning system	High PDI correlated with higher learning satisfaction and more errant mouse clicks, uncertainty avoidance correlated with learnability time
Anakwe et al. (1999)	Survey and correlation analyses	424 students at two NE universities: mean age 25; 79 % undergrads, 43 % male, 8 % African American, 14 % Asian, 61 % Caucasian, 7 % Hispanic, 1 % Native American	Management courses	Multicultural	Ethnicity culture: individualism/collectivism	Inclusion: Perceptions and preferences of a distance learning environment	Individualists prefer interactive medium of communication while collectivists prefer a face-to-face interaction for a long-term relationship  Individualists would consider DL for major course types while collectivists consider DL for non-relationship course type

(continued)

Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Anderson and Simpson (2007)	Theoretical discussion	N/A	Online courses and distance education, in general	Multicultural	Generic	Inclusion: Design strategies on multicultural learning environment	Viewing culture not only as dispositions brought to the online class but also the pedagogical culture produced out of online interactions
Angiello (2002)	Secondary data analysis (academic records), survey, <i>t</i> -test of GPAs	113,860 student records from online courses at a New Jersey community college; surveys with 49 distance education students	N/A	Uni-cultural	Ethnicity: Hispanic	Comparison: GPA and online class enrollment	Hispanics were more disadvantaged online when compared to Whites
Bentley, Tinney, and Chia (2005)	Theoretical discussion	International students and curriculum designers participating in cross-cultural online instruction	N/A	Multicultural	Generic	Inclusion: Culture-related factors that influences learners' perceptions of online learning	Eight factors: language, educational culture, technical infrastructure, primary audience, learning styles, reasoning patterns, cultural context, and social context
Berkshire and Smith (2000)	Case study	Rural Alaska Native adult students (age 28+) in online program at Alaska Pacific University	Business Administration, human services and teacher education	Uni-cultural	Ethnicity: Alaska Native American	Adaptation: Online course design for a special learner group	Cultural appropriate design features: Asynchronous discussion with weekly online chat Inductive and application-based knowledge building Minimal technology requirement

Bloomberg (2007)	Case study	22 graduate students (aged 25–55) and 10 faculty in a Jewish distance learning program	Jewish education and Judaic studies	Uni-cultural	Ethnicity: Jewish	Adaptation: Perceptions of learning community within a videoconference- based learning program	Not all students had expectations of being part of a learning community but were able to identify community community Acknowledged the key roles of instructor and technology Programs are successful
Chen et al. (1999)	Case study	3 Singapore based learning systems in 3 different contexts: local- institutional, trans- institutional, and global	2 systems used for student teachers, 1 collaborative science project with secondary students	Uni-cultural	Nationality: Singaporean	Adaptation: Culturally adaptive learning program design	Programs are successful
Chen et al. (2008)	Case study (interview, questionnaire, and document analysis)	2 Chinese female, English teachers taking online master courses	Education	Uni-cultural	Nationality: from heritage culture (Chinese) to host culture (USA)	Acculturation: Acculturation process in online learning environments	Acculturation challenges: reduced input from the instructor, absence of student-teacher relationship, behavioral shifts
Collis (1999)	Theoretical discussion	N/A	Generic	Multicultural	Comprehensive	Inclusion: Multicultural online instructional design	A list of culture-related dimensions of an online learning environment

(continued)



Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Dillon et al. (2007)	Situation analysis (interpretive research)	5 British and 23 international students in the UK	Doctoral education course: nature of educational enquiry	Multicultural	National culture: high/low context, individualism/collectivism, affirmative/deferential language	Inclusion: Factors lead to cultural disconnection in the online learning environment	Cultural disconnection (different learning styles, forms of communication, and personal expectations) is an interaction between outer culture characteristics (national culture), inner culture characteristics (individual personality), and the educational environment Advocating learners co-design a culturally adaptive educational environment
Gunawardena et al. (2001)	Survey and focus group interview	50 online students from a US university (aged 40–49) and 50 online students from a Mexico university (aged 23–53)	N/A	Multicultural	National culture: USA and Mexico (power distance, collectivism/individualism, language), individual culture (gender and technological competency), and academic culture (time frame of virtual groups)	Inclusion: Culture on students' perceptions of online group development processes	Culture factors influenced online group process and development
Hedberg and Brown (2002)	Artifact analysis	15 postgraduate educational design students from Hong Kong	Cognition and interface design	Uni-cultural	National culture: Chinese	Adaptation: Cultural interpretation of the visual information	Cultural differences in meaning and representation in the interface design

Henning (2003)	Narrative case study	6 first time adult e-learners in Master's of Education program at a South African university	Qualitative research and writing composition	Uni-cultural	National culture: South Africa	Adaptation: Distributed cognition in a global online learning environment	The cognition is contained or situated in non-global, culture-specific discourse of local learners
Hogan (2009)	Evaluation study (survey and focus group interview)	A distance learning program delivered to 12 Pacific island countries	N/A	Uni-cultural	National culture: Pacific island countries	Adaptation: Effectiveness of the online learning program for Pacific students	Student cusses and satisfaction were lower for online students Culture and skill level (typing and computer skills) caused some students to prefer correspondence courses than online delivery
Hurd and Xiao (2006)	Case study	204 Open University (UK) students ages 35–50; 170 SRTVU (China) students in their 1930s	Language learning	Multicultural	National culture: English and Chinese	Inclusion: Culture on perceptions of online learning	Learning strategies used by students reflected their culture: Higher levels of self-awareness among Chinese students, related to a tradition of reflective practice in Chinese culture  Lower levels of Chinese students of key aspects of autonomy, linked to a culture of dependence on the teacher as the sole authority  Spontaneous action of Chinese students in comparison to advanced planning of British students

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Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Hudson, Hudson, and Steel (2006)	Ethnography	10 students in an international online master's program of the Netherlands and the UK	Digital media applications	Multicultural	National culture: Dutch and English	Comparison: Culture on collaboration in an international online learning community	The awareness of cultural differences; preferred formats of interaction and communication, subtleties of language
Ibarra (2000)	Case study	7 Latino/Latina students in graduate level distance learning programs at Walden University	N/A	Uni-cultural	Ethnicity: Latino: low context/high context	Adaptation: Culture on perceptions of online learning	Higher education environment must be designed to have a good balance of high- and low-context culture
Knight et al. (2004)	Ethnography	Cross-aged group of students in grades 9–12; college bound Black and Latino students in NYC	Music education	Multicultural	Ethnicity: Black and Latino Individual culture (age)	Adaptation: Videoconferencing for minority students in online learning	Active learning was shaped by the interaction between videoconferencing, multiple literacies, and traditional pedagogies
Kumar and Bhattacharya (2007)	Case description	e-learning programs in Africa	N/A	Multicultural	National culture: Africa	Inclusion: Successful cases of multicultural e-learning	Program is successful
Launon (1999)	Theoretical discussion	Technologically mediated education	N/A	Multicultural	Individual culture: social economic status	Inclusion: The potential of technology to challenge and transgress cultural borders for minority learner groups	Communication technology can enable a mediated education in the format of community of practice to transgress cultural borders

Lea (2001)	Case study (interviewing and score comparison)	147 students, with 32 identified as “other” cultural group students in an online MA program of UK’s Open University	N/A	Multicultural	National culture: native speaker versus nonnative speaker	Inclusion/comparison: Cultural and linguistic differences in global online learning environments	Cultural otherness: “Other” students seemed to gain lower average assessment scores Linguistic difference in time taken to respond appropriately, effectiveness in argument, and accurate use of language Academic convention
Lim (2004)	Survey research and comparison analysis	236 Education students attending Korean University and a university in the southwestern USA	N/A	Multicultural	National culture: Korea versus USA; Individual culture (gender)	Comparison: National culture and individual culture on perceived online learning motivation	American students scored significantly higher for the four motivation types (course relevancy, course interest, reinforcement, and self-efficacy) Korean students scored significantly higher for learner control
Lin (2007)	Theoretical discussion	Rural Aboriginal children in Taiwan	N/A	Uni-cultural	Ethnicity: Aboriginal	Adaptation: Culture-related e-learning program development strategies	Tribal-elder-centered participatory design
Llambi et al. (2008)	Mixed method	1,200 physicians in Uruguay other dementias adapted using EviDoctor program	Alzheimer and other dementias adapted using EviDoctor program	Multicultural	National culture: Canadian and Uruguay	Adaptation: Adapt an online course from the Canadian context to Uruguay context	Key concepts learned: Flexibility in determining the content Language, culture of e-learning, and resources to sustain long-term collaboration

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Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Makoe (2006)	Interview	5 online learners at the University of South Africa (Black South African, aged 19–34)	N/A	Uni-cultural	Ethnicity: Black South African	Adaptation: Culture/ social inequality on perceptions of online learning	Perceptions of learning was influenced by the social and cultural environment in which one grew up, his level of education, and construal of self in relation to the community
McLaren (2007)	Theoretical discussion	Arab higher education institutions	N/A	Uni-cultural	National culture: Arabic world, religion, gender, and linguistic	Adaptation: Cultural interference/ considerations for e-learning in Arabic world	Cultural interferences for e-learning in Arabic world: Cross-religion, cross-gender socialization/interaction
McLoughlin (1999)	Theoretical discussion	Development of online unit of study for Indigenous learners in Australia	N/A	Multicultural	National culture: Indigenous learner in Australia	Adaptation: E-learning design principles for special learner group	Cross-cultural pedagogical ladder—from monocultural to cross-cultural
McLoughlin and Oliver (2000)	Theoretical discussion	Development of online unit of study for Indigenous learners in Australia	Pathways to Learning (pre-university bridging course)	Multicultural	National culture: Indigenous learner in Australia	Adaptation: e-Learning design principles for special learner group	Advocating flexibility in adaptive course design and community-based collaborative learning
Rasmussen et al. (2006)	Theoretical discussion	Instructional strategies for online multicultural courses	N/A	Multicultural	Generic	Inclusion: Multiculturalism in online education	Orientation strategy, content strategy, interaction strategy, and conclusion strategy

Sanchez, Stuckey, and Morris (1998)	Phenomenology	American Indian tribal communities within USA	N/A	Uni-cultural	Ethnicity: Native American	Adaptation: e-Learning design principles for special learner group	Using new technologies can preserve, maintain, and revitalize traditional languages and cultures
Sang (2007)	Theoretical discussion	e-learning programs used in educational institutions in Hong Kong	N/A	Uni-cultural	National/area culture: Hong Kong	Adaptation: Cross-border delivery of e-learning to Hong Kong	Instead of developing a culturally neutral course, online course for Hong Kong should (1) make adaptations to the original culture, (2) jointly redevelop the course with the overseas provider, and (3) create a different version of the original course by translation to the local language
Selinger (2004)	Evaluation report	11-country Cisco Networking Academy program	Computer networks	Multicultural	National culture	Inclusion: Globalization of e-learning	Instructors' role was pivotal in making the curriculum culturally relevant for students  Countries mainly differed in how students were treated, how instructors perceived students, and how instructors perceived their roles

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Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Shenk, Moore, and Davis (2004)	Case study	24 students; 6 undergrad, 18 graduate; 2 from India, 1 Vietnamese American, 4 African American, and the remaining White; ages 19–53	Communicating with older persons with Alzheimer’s disease	Multicultural	Comprehensive: national culture, individual culture (disciplinary, age, and life experience)	Inclusion: The effectiveness of an online course with multicultural students	The diversity of student backgrounds benefits the learning process
Smith and Ayers (2006)	Theoretical synthesis	Community college learners, esp. Hispanic/Latino	N/A	Uni-cultural	Ethnicity: Latino	Adaptation: Culture-related e-learning program development strategies	Collaborative learning and learning community as the most appropriate learning format to address the diversity
Stockhausen and Kawashima (2002)	Ethnography (focus group interview)	27 Japanese nurses (aged 31–35) taking course via the Japanese Nursing Institute and Griffith University, AU	Reflective practice for nurses	Uni-cultural	National culture: Japanese	Adaptation: Cross-border delivery of e-learning to foreign learner group	Japanese nurses needed to reconcile their previous educational and cultural experiences with new ideas: Cultural reflection, making meaning and accepting challenge; “not perturbed reflection, “not as it seems” (translation issue) and balancing the conflicts



Tu (2001)	Ethnography (interview and document analysis)	6 Chinese graduate students in the College of Education at a university in the southwestern USA	3 different courses using first class conferencing system	Uni-cultural	National culture: Chinese	Acculturation: Culture on perceptions of online learning (e.g., social presence)	The issue of privacy and the three dimensions of social presence (social context, online communication, and interactivity) should be considered when integrating CMC into multicultural classrooms
Van den Branden and Lambert (1999)	Theoretical discussion	Open distance learning culture in European countries	N/A	Multicultural	National culture: European countries	Inclusion: Transnational online learning in EU	Cultural identity and language management are two key issues for transnational learning model development in EU
Wang (2007)	Mixed methods (survey and qualitative content analysis)	University students from USA, China, and South Korea	N/A	Multicultural	National culture: USA, China, and South Korea (power distance)	Comparison: Perceptions of online learning environments	Korean students ranked highest on perceptions of being equal with instructors, while US learners ranked the lowest  No difference in perceptions about rules of conduct in online courses Impact of power distance influence learners comfort level in approaching instructors and peers for help

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Table 2.1 (continued)

Study	Method	Sample and site	Subject content	Uni- or multicultural	Cultural dimensions	Culture-related education dimension <sup>a</sup>	Findings or propositions
Williams et al. (2001)	Action research	Five instructors from five online classes in USA, England, and Australia	Adult education	Multicultural	National culture: USA, England, and Australia	Inclusion: Strategies to facilitating cross-cultural online discussion groups	Main themes of cross-cultural facilitation: Framing and asking open-ended questions Online group participation, process check, understanding group dynamics, expectation of students, facilitator expectations, and facilitator anxiety
Wu and Teoh (2008)	Quantitative content analysis of the online interaction transcripts	1,451 students enrolled for the same course across 28 learning centers in Shanghai (with an average age of 28.4), and 361 students enrolled in the same course across four learning centers in Malaysia (with an average age of 32.8)	Principles of management	Multicultural	National culture: power distance, individualism, masculinity	Comparison: Types of interactions (i.e., cognitive level and interactee), depth of discussions	Engagement levels of two country's students in different types of interactions reflect the differences between the two countries in the degree of national cultural dimensions Older adults were able to contribute to the discussions in a more elaborated way

Yildiz and Bichelmeyer (2003)	Case study (survey, email, and online interaction transcript analysis)	Two online graduate courses at an American university	Education	Multicultural	Nationality: nonnative English speaker	Adaptation: e-learning for international students (ESL students)	Online course provided ESL students with more opportunities to participate in the discussions than in face-to-face classrooms Culture impact students' comfort with learner-oriented discussions as opposed to teacher-delivered course lectures
Zepke and Leach (2002)	Case study	Curriculum project for Maori teachers in Bachelor of Education degree program	Adult education	Uni-cultural	Nationality: Maori	Adaptation: Culture-related e-learning program development strategies	Adult learning theory

*\*Culture-related education dimensions:*

- Adaptation: adapt course to target culture/learner group
- Acculturation: adapt oneself (learner) to host culture/environment
- Inclusion: multicultural
- Comparison: cross-cultural

Table 2.2 A Synthesis of review articles on intergenerational online education

Study	Methodology	Sample/site	Subject content	Learning or instructional dimensions	Findings or propositions
Buerck et al. (2003)	Survey	29 nontraditional students	Computer Science	Learning style of adult students	Older students were more likely to have a converger learning style
Chyung (2007)	A two-way factorial analysis	81 master's degree students, average age 40: 37 female, 44 male	Education	Age and gender differences in online discussion, self-efficacy improvement, and academic performance	Older students posted significantly more messages but younger students improved self-efficacy significantly more
Crane (2005)	Theoretical	Nontraditional adult students (mostly female, ages 25–40) in England	Multidisciplinary	Features of the web-based distance education program	Generic features and examples on the “best practice” of the e-learning program
Davis (2006)	Theoretical	Design of intro student seminar for University of Oklahoma students new to the College of Liberal Studies	Introduction to academic writing	Online course design	Certain course features described (e.g., structure, authentic learning activities)
de Lange et al. (1997)	Survey	107 Australian business students	Accounting and finance	Equity in education: characteristic of online learners and its relationship with performance	Accessibility of online learning to adult learner; males outperformed females; no ethnicity-related or age-related achievement difference
Makoe et al. (2008)	Questionnaire	372 nontraditional students at the Open University, UK	Multidisciplinary, preparatory courses	Conceptions of learning of adult learners	Conceptions of learning of adult learners are culturally and contextually dependent

McGivney (2004)	Case study	Adult students (over 25) attending Open University in the UK	Unstated	Retention and non-completion patterns of adult students	A list of personal, family, cultural, and instructional factors for non-completion patterns for adult learners
Patton (2000)	Quantitative analysis of student records, grades, dropout rates, etc.	Records of 8 Australian lecturers working with 400 nontraditional students from Southeast Asia	Business	Course design features	Flexibility with assignment deadlines as a critical course feature for nontraditional students
Rhode (2009)	Mixed methods	10 adult students enrolled in professional development certificate program at a private college in NE USA	Educational technology	Computer-mediated communication tools and their effect on perceptions of learning interaction	Activity of blogging valued as superior to instructor-directed asynchronous discussion
Shinkareva and Benson (2007)	Correlation analysis	198 CE professionals taking online course at large Midwestern University, ages 31–45, majority female	Business, teacher education, and library science	Learning ability and competency	Self-regulated learning ability positively correlated with instructional technology competence, self-efficacy, and effort regulation
Sorensen and Murchú (2004)	Theoretical	Graduate students in Denmark and Ireland	Education	Online course design	Using community of inquiry as the online instructional design framework
Stafford and Lindsey (2007)	Quantitative analysis of internet and email usage	63 students: 21 female, 42 male; 51 ages 18–24 and 12 ages 25–34	Informational technology	Differential student motivations for traditional and online education	Older, nontraditional students reported higher self-perceived technical competency and higher satisfaction with online courses

(continued)

Table 2.2 (continued)

Study	Methodology	Sample/site	Subject content	Learning or instructional dimensions	Findings or propositions
Zembylas (2008)	Case study with discourse analysis	22 in-service teachers at the Open University in Cyprus; 17 of 22 female; average age 36	Master's course on multicultural education and social justice pedagogies	Emotions of online adult learner	Qualitative evidence on adult learners' emotional presence during learning interaction, with gender differentiation

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