LEARNER ANALYSIS FRAMEWORK FOR GLOBALIZED E-LEARNING

by

Mamta Saxena

CHARLOTTE REDDEN, Ph.D., Faculty Mentor and Chair
RODERICK SIMS, Ph.D., Committee Member
KATHERINE EMMONS, Ph.D., Committee Member

Barbara Butts Williams, PhD., Dean, School of Education

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Abstract

The digital shift to technology-mediated modes of instructional delivery and the increased global connectivity has led to the rise in globalized e-learning programs. Educational institutions face multiple challenges as they seek to design effective, engaging and culturally competent instruction for an increasingly diverse learner population. The purpose of this study was to explore strategies for expanding learner analysis within the instructional design process to better address cultural influences on learning. Using a case study approach, the study leveraged the experience of practicing instructional designers to build a framework for culturally competent learner analysis.

The study discussed the related challenges and recommended strategies based on the findings that would help improve the effectiveness of cross-cultural learner analysis. The foremost concern as identified by the study was the lack of knowledge and training on part of all the participants that is contingent upon precisely defined cross-cultural competencies for all the participants. The other challenges called for the establishment of a database for cultural dimensions or profiles of learners around the globe and a knowledge sharing space for cross-cultural design and analysis across the globe. Lastly, the study identified the critical need for a pretested model for cross-cultural analysis that could guide designers in competently conducting cultural inquiry of learners to inform the design of globalized e-learning.

Based on the findings, a framework for conducting cross-cultural learner analysis was proposed to guide the cultural analysis of diverse learners. The study identified the most critical factors in improving cross-cultural learner analysis as the judicious use of existing research on cross-cultural theories and joint deliberation on part of all the
participants from the management to the learners. Several strategies for guiding and improving the cultural inquiry process were summarized as follows: clearly define the role of cultural analysis in e-learning design, redefine the process approach, the focus, the role of the participants, and reassess the training and resource requirements. Barriers and solutions for the aforementioned requirements are also discussed that provide the basis for the proposed framework.
Dedication

I am dedicating this dissertation to my family. My husband, Raju Saxena, is responsible for encouraging me to undertake this endeavor and for offering me perspectives when I needed them. My parents, Suman and Ashok Mishra, supported me throughout the process. Also, my children, Prashant and Pallavi, waited patiently for me to complete this endeavor successfully so I can spend more time with them.
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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Given the premise of the complexity and the challenges inherent in the teaching-learning of a global population, awareness and understanding of cultural issues is critical for the designers if the goal is to offer quality education to all learners. Failure to recognize cultural differences and the significance of cultural analysis for global workforce can jeopardize the success of globalization initiatives (Edmundson, 2009). One of the aspects of the design and delivery of global education that calls for further research is how to effectively design for a global student body (Mason, 2003). Learner analysis is one way of identifying cultural distinctions among learners and informing the design of culturally competent instruction. Although Gunawardena, Wilson and Nolla (2003) pointed out that literature related to e-learning in the context of culture is minimally informed via research-based studies, there is substantial research on both culture and e-learning to inform instructional design of culturally competent e-learning. However, the existing research has not been adequately translated and applied to inform the theory and practice of cross-cultural learner analysis in the global context.

Moreover, learner analysis in the instructional design process is often missed due to time, budget, resource, and organizational issues (Rogers, Graham & Mayes, 2006) or conducted inadequately as (a) the variable of culture has not been defined clearly or treated significantly in the learner analysis process, and (b) the conventional learner analysis processes have not been informed by culturally responsive design principles,
theories and models. Consequently, learner analysis informed by superficial learner characteristics fails to define the accurate learning needs of global learners and hence problematic for being limited to making tokenistic and stereotypical addition to the learning experience. Although there is significant literature on cultural dimensions of learning and how people from different cultures vary in learning styles and preferences as explored by anthropologists, how specifically cultural information on target audience can amplify current learner analysis strategies for the design of culturally responsive instruction needs further exploration. Likewise, there are some cross-cultural models and theories that have offered insights for learner analysis for globalized e-learning (Edmundson, 2007; Henderson, 2007). Nevertheless, such culturally responsive strategies and theories have yet to be translated or adapted for defining effective cross-cultural learner analysis framework or strategy that can help designers precisely factor in the cultural dimensions of learning: a gap that needs to be filled by research.

The effort to provide culturally relevant instructional design requires an expansion of the existing approach to learner analysis that calls for instructional designers to identify, understand, and appreciate the influence of sociocultural norms and values in teaching, and how such differences impact learning. This study instituted a basis for an expanded conceptualization of learner analysis by establishing a framework for cultural inquiry among e-learners. The integration of this framework into the instructional design process holds the potential to improve the effectiveness of cross-cultural e-learning initiatives by better addressing learner diversity.
Background of the Study

From an educational perspective, culture plays a crucial role in pedagogical values, learning styles and cognitive processing (Smith & Ayers, 2006). When teaching and learning take place within a single cultural context, the unity of experience and cultural background is generally unobtrusive. When instruction begins to reach individuals of multiple cultural backgrounds, however, there is a risk of creating barriers based on the inability to address or mediate differences in educational values and cultural beliefs embedded in the content and multimedia. These differences can include perceptions about the roles and responsibilities of instructors and learners, prevailing styles of teaching and learning, and nuances of language and semantics (Chen, Mashadi, Ang & Harkrider, 1999; Henderson, 1996; McLoughlin, 1999a; Rogers, Graham, & Mayes, 2007; Smith & Ayers, 2006).

While such challenges would be present in any classroom that combines individuals from varying cultural backgrounds, the additional challenges presented by e-learning and teaching present an extra layer of challenge. Chen et al. (1999) claimed that even if one overcomes the design related issues of e-learning such as connectivity, accessibility, immediacy, interactivity and integration, the value of learning mainly depends on learner’s experiences of cultures and technology. Instructional designers must factor in these differences when designing instruction for a diverse learner population to reduce the impact of cultural barriers on effective learning. In addition, it is also important for instructional designers to be cognizant of their own predispositions based on world views, and this influence must also be considered.
Based on some of the expert viewpoints in the field of instructional design (Bentley, Tinney & Chia, 2005; Henderson, 1996; Henderson, 2007; McLoughlin, 1999a; Rogers, Graham & Mayes, 2007), a culturally competent design can be defined as one that strives to effectively mediate culture in order to fulfill the needs and expectations of the majority of learners. Such a design must be built upon an eclectic pedagogic paradigm and shared epistemological systems to create an e-learning environment that is (a) sensitive to the cultural differences of learners and factors in the cultural differentials of language, technology, cognitive processing, cultural context and motivational factors; (b) makes the educational values of the participants (both learners and designers) explicit upfront’ and (c) offers flexibility in regard to the pedagogies, resources and delivery strategies and provides additional support based on learner needs.

Such a design aims to create a user-centered learning environment and is based on well-defined learner needs and expectations. One may argue against the possibility of a true culturally competent design considering the myriad of cultures and sub-cultures that exist, the protean nature of those cultures and the inherent challenges of technology-mediated instruction. Nevertheless, diligent market research, growing e-learning technologies, and shared accountability on part of the designers, learners and the research community can assist in sorting, validating and creating a repository of intercultural dimensions to create a framework for culturally competent design that can reach the majority of learners. The first step to achieving this goal is designing a framework for cultural competence within the context of e-learning, and this necessarily begins with expanding the current approach to learner analysis (Rogers et al., 2007).
Statement of the Problem

Rogers et al. (2007) underlined the need for a more comprehensive approach to learner analysis and evaluation relative to the traditional approaches for “identifying gaps and building bridges” (p. 211). The goal for learner analysis is to create a user-centered design that integrates learner feedback gathered during the front-end analysis. The gaps to which Rogers et al. (2007) refer are the differences in general, cultural, social, teaching, and learning expectations; language and symbols; technological infrastructure and unfamiliarity. Conversely, Sims and Stork (2007) asserted that instead of designing for the learners, designers must focus on helping learners incorporate their respective cultural experience into the teaching and learning context. Nonetheless, to efficiently enable such integration designers must actively seek information about cross-cultural gaps so they are well-informed of the varied cultural dimensions in learning that delineate learner needs.

The problem this study sought to address was the variability in existing frameworks that could sufficiently inform a robust model of learner analysis that incorporates cultural disposition. The concept of building bridges, as outlined by Rogers et al. (2007), is to identify the differences in different cultures and to add flexibility and additional support for learners in the design process by way of an improved learner analysis process. Well-defined cross-cultural analysis frameworks can help delineate the teaching-learning differentials in varied cultural perspectives to accommodate the needs of diverse learner population.

Cross-cultural learner analysis for e-learning requires a more comprehensive and iterative approach to learner analysis to adequately address the myriad of cultural
differentials that are likely to influence the teaching-learning process among diverse learner populations. Wang and Reeves (2007) strongly recommend conducting a more scrupulous needs assessment of the audience based on the intercultural dimensions of learning for designing culturally sensitive e-learning environments (p. 13). This study engaged in the pursuit of this goal, and sought to solve the persistent shortcomings of current models of learner analysis.

**Purpose**

The purpose of this study was to explore strategies for expanding learner analysis within the instructional design process to better address cultural influences on learning. The study sought to investigate the variability in existing frameworks of cultural analysis within the instructional design practice. The ultimate goal was to propose a framework for improving the effectiveness of culturally competent learner analysis.

**Rationale**

Learner analysis has been identified as a critical aspect of instructional design, characterized as an iterative process that informs vital instructional design decisions from front-end analysis to evaluation (Edmundson, 2007; Morrison, Ross & Kemp, 2004; Rogers et al., 2007). At this point in time, there is a limited body of research addressing the role of cultural background within the process of learner analysis. Effective design for global e-learning is in need of further research (Gunawardena et al., 2003; Mason, 2003). The natural path to achieving this goal is through a re-examination of existing models and strategies of learner analysis via the lived experience of instructional designers.
Traditional instructional design processes including learner analysis have not adequately treated the cultural variable and are inadequate in informing the design of cross-cultural instruction (Henderson, 1996; McLoughlin, 1999a, Rogers et al., 2007).

While cultural awareness within the context of teaching and learning has been addressed in the literature (Hall, 1981; Hofstead, 1984; Trompenaar & Hampden, 1998), there has been less attention paid to cultural awareness within the context of instructional design for e-learning. Notable exceptions to this are universal design for culturally-diverse online learning model proposed by Eberie and Childress (2007) and the cultural adaptation process model by Edmundson (2007). Even these existing models, however, have not yet considered the impact of expanded cultural questioning during learner analysis. It is this perspective that is the driver of this study and provides the foundation for its contribution to the literature.

Guiding Research Questions

As a qualitative study based on a case study approach, the research questions posed within this study were highly contextual and were addressed in multiple ways through the discourse, sometimes without word-for-word reiteration of the question. With this caveat in mind, the following guiding questions were proposed:

1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?

2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?
3. How do instructional designers characterize the role of learner analysis in creating culturally appropriate e-learning content?

4. How do designers define the elements of cultural analysis critical for culturally competent design?

These questions were explored through in-depth interviews with eight practicing instructional design professionals and the results were compared with strategies proposed by existing models and theories of culturally competent instructional design.

**Significance of the Study**

Given the complexity and challenges inherent in the teaching-learning of a global population, it is incumbent upon instructional designers to maintain awareness and understanding of cultural issues. Ames (1990) argued that motivation transpires within the teaching-learning context and to develop a positive motivational orientation in learners teachers must know how to creatively and constructively deal with learner diversity. Hence, to create effective and engaging instruction, one has to be knowledgeable of the contextual and cultural milieu that defines learners’ interests, values and self-perception constructs.

This study holds the potential to refine the learner analysis process by incorporating key cultural factors. A well-crafted cross-cultural learner analysis relies on identifying the intercultural dimensions of learners and their alignment with course characteristics. Most importantly, data compiled from cross-cultural profiles of learners can help create a repository of intercultural dimensions in e-learning. By identifying key cultural factors that influence learner preferences and experiences, instructional designers
can be more effective in designing e-learning content, and learner outcomes can be improved.

Assumptions and Limitations

Participants’ availability and readiness to participate were major limitation in the study that impacted the results. As a case study, there is only a limited ability to generalize due to the qualitative nature of the study, small number of participants, and the use of purposeful sampling. With only eight interview participants, it is unlikely that this study presents a full cross-section of the international community of instructional designers. The scope and durability of the research may be limited due to the unstable, evolving nature of culture and the related variables.

Lastly, the potential influence of researcher bias must be acknowledged as the researcher serves as both a participant in the iterative process as well as the collector of data. Although these limitations must be recognized and acknowledged, they fall within the acceptable limits given the exploratory, qualitative nature of the study. Case study is not designed to generalize immediately, but to serve as a foundation for future research.

Nature of the Study

This was a qualitative study using the collective case study approach and the participants were corporate designers from different multinational companies designing e-learning for international audiences. Using the guiding research questions, the designers were asked to share their perceptions and opinions of culturally competent instructional design in the context of learner analysis as it is currently practiced and how it might be
improved. Data was collected primarily through in-depth interviews that were conducted via telephone.

The study used a mixed sampling technique for flexibility and to meet the multiple interests and need of the study. Data analysis consisted of the extrapolation of relevant themes within each case prior to conducting thematic analysis across cases. From these thematic observations, the interpretation of their meanings, opportunities for future inquiry and presentation of “lessons learned” were offered (Creswell, 1998, p. 63).

Wang and Reeves (2007) identified the dearth of qualitative studies with thick description and reflective narratives to clearly represent the cultural context of e-learning and research. The following proposition guided the case study: (a) traditional models and strategies of learner analysis need to be redefined to facilitate culturally competent instructional design in e-learning, and (b) existing cultural analysis frameworks and culturally responsive theories and models can help define a strong framework for cross-cultural learner analysis.

Organization of the Remainder of the Study

This study is organized into the following five chapters: Chapter 1 is the introduction to the study, background of the problem, statement of the problem, significance of the study, purpose, rationale, theoretical framework, research questions, assumptions and limitations, nature of the study, and the organization of the remainder of the study. Chapter 2 discusses the relevant literature. Chapter 3 describes the study methodology, including methodology and design, population and sampling, instruments to be used, data collection procedures and the data analysis plans. Chapter 4 includes the
data analysis in relation to the research questions. Chapter 5 presents the results, discussion of findings, conclusions, and recommendations for further study.
CHAPTER 2. LITERATURE REVIEW

There is a substantial body of literature linking the role of culture to learning styles and preferences, including research into the ways that recognizing and addressing the cultural background of learners can inform the design of culturally responsive instruction. What is lacking at this time is research that explicitly investigates how to define the relevant components of cross-cultural learner analysis, and how exactly the existing cultural analysis frameworks and culturally responsive models can assist in defining a framework for the same. The literature review will corroborate the aforementioned gap in research. Also, the review aims at exploring the value and limits of existing cultural analysis frameworks and culturally responsive models in regard to cross-cultural learner analysis.

This chapter will begin with the general discussion on how culture has been defined in different disciplines and what it means in the global e-learning context, followed by a review of the research that links culture with cognition to present the theoretical background for cultural differences among learners. Next, culture will be discussed in the context of learning and instructional design, exposing issues in the teaching-learning paradigm related to cultural pluralism and inclusivity. This will be followed by discussion on cultural dimensions extensively used in cultural analysis, their shortcomings and applications, and the shift to intercultural dimensions. The final discussion will focus on the cross-cultural design theories and models and explore how
they can offer frameworks for defining elements of cross-cultural learner analysis to fill the research gap.

Culture and the Global Learner

In the context of education and learning culture can be characterized as not the artifacts, tools, or other tangible cultural components but the interpretations of their meanings by the members of the group (Banks & Banks, 2007). Different disciplines and researchers define culture based on respective system of beliefs, values, and significance. However, the general belief is that

the vectors of genetic endowment and the impact of the natural environment are insufficient to explain behavior and that the manmade components of the environment, such as language, architecture, customary rituals, and social organization, form a third vector, the ‘cultural’ vector. (“Perception and culture,” 2004)

In other words, human behavior cannot be explicated in its entirety based on genetics and environment alone; cultural variables play a significant role in shaping individual thoughts and actions.

Definitions of Culture

Anthropologist Edward Tylor (1871) was the first one to define culture as a “complex whole which includes knowledge, belief, art, morals, law, customs, and any other capabilities and habits acquired by man as a member of society” (p. 1). He further highlighted the coexistence of uniformity and variability in the civilizations to underline the evolutionary nature of culture. Kroeber and Kluckhohn (1954) offered 164 definitions of culture across different disciplines classified under seven categories: descriptive, historical, normative, psychological, structural, genetic, and incomplete definitions. They...
acknowledged the challenge faced in ascribing the categories to group the definitions based on a predefined framework for a concept like culture. Arguing for a more constricted definition of culture for most usage across disciplines Kroeber and Parson (1958) referred to culture as “transmitted and created content and patterns of values, ideas, and other symbolic-meaningful systems as factors in the shaping of human behavior and artifacts produced through behavior” (p. 583).

However, despite the wide variations in interpreting the meaning of culture Hall (1981) affirmed that anthropologists do concede over some elements of culture and agree that it is “not innate, but learned; the various facets of culture are interrelated…it is shared and in effect defines the boundaries of different groups” (p. 16). Hofstede’s (1991) extensive research on cultures and organizations within a nation-based framework has been foundational in cross-cultural analysis to date. He viewed culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another” (p. 8). He argued that culture is learned from one’s social environment and that it is separate from universal construct inherited from the human nature and from the individual personality that is both inherited and learned.

Scheel and Branch (1993), however, captured the essence of variability in the environment that shapes culture by describing culture as a manifestation of ways in which a given group adapts to its changing environment. They asserted that people belong to more than one culture and represent a subset of any identifiable culture group as opposed to the whole. Learners and teachers “demonstrate subsets of these [manifestations] in specific cultural contexts” (Henderson, 2007, p. 131). Likewise, Gay (2000) underlined the multidimensional and dynamic nature of culture to emphasize the
evolving nature of the people and the societies as they respond to new situations and authority in their respective environments. Nevertheless, the concept of culture becomes more complicated when the social environments lose boundaries in cyberspace.

*Culture in Cyberspace*

First, culture in cyberspace cannot be defined solely on the basis of predefined dimensions related to the national or social identity. Learners create a *third* or hybrid identity facilitated by “intercultural flows” online (Ess & Sudweeks, 2005, ¶ 7) as a reaction and adjustment toward the demands and support presented by the instructional context in the e-learning environment. Second, culture in the global e-learning context is not a fixed shared system as a whole, but a set of discrete variables. While cultural psychologists endorse a relativistic view of culture as a whole inseparable into parts, cross-cultural psychologists’ perception of culture is a set of distinct variables (Berry, Poortinga, Segall, & Dasen, 2002). Third, cultural traits are transferable and in a constant state of flux as the learners tackle the demands of the e-learning environment. The essentialist models view culture as the shared systems of beliefs, values and behavior in contrast to the socioconstructivist view that regards culture as the shared systems of problem-solving. Similarly, Palaioloou (2007) described culture in the global context as inclusive of “thoughts, speech, behaviors, and artifacts that could be learned and transmitted from one society to another” (p. 77).

The concept of cultural construct being transmittable is especially valid and arguable given the possibility of people operating at more than one cultural level due to the increased use of the computer mediated communications and transnational mobility (Campbell, 2000; Chase, Macfayden, Reeder, & Roche, 2002; Morse, 2003). Hence, it
will be apt to conclude from the above definitions that the cultural construct of an individual is made up of many layers at varied levels and forms as an individual lives in multiple cultures and sub-cultures at the global, national, or individual level simultaneously, not to mention the constant state of flux. Most importantly, individual’s cultural identity in the cyberspace may take a unique form based on the demands and support offered by the computer mediated communication in a given cyber context. These definitions reveal the complexity of culture in the e-learning context and suggest the need to account for both the cultural dispositions of learners and their ability to adapt when designing cross-culturally. To understand the influence of cultural differences in learning and instructional design in particular it is essential to first explain the relationship between culture and cognition.

Culture and Cognition

The theory of behaviorism—a school of educational psychology that evolved during an era marked by the dominance of physical sciences in psychology and education—viewed cognition as essentially the same across cultures despite the varied cultural norms and beliefs. However, such a theory failed to explain the fundamentally different practices of different cultures with basically similar cognitive patterns. The culturally specific cognition of people was introduced by the concept of world view in the 1970s and 1980s that asserted that both the internal (cognitive) and external (environmental) factors dictate world views (Kearney, 1984, p. 36). This proposition although acknowledged the role of sociocultural environment in cognition, it failed to address the exact relationship between culture and cognition. The advent of sociocultural
understanding of cognition that came with the socioconstructivist perspective and contextualism helped fill that gap: a reaction against the apparent bias toward the individualistic orientation and inattention to the impact of context and culture.

*Socio Constructivist Views on Cognition*

Sociocultural views on cognition focused on the social issues in learning and were based on theories such as Bandura’s (1986) social learning theory, situated cognition (Brown, Collins, & Diguid, 1989) and interactional theories of learning (Bruner, 1997; Vygotsky, 1978) grounded in the interpretivist tradition (Driscoll, 2005). Unlike the behaviorist theories of learning, the sociocultural approach argued for the interdependence and interconnectedness of the cognitive and sociocultural actions. The constructs of learning are hence defined as a product of reciprocal interaction between the individual and the context and a function of culturally planned and socially arbitrated behavior (Rueda, 1994; Sivan, 1986).

Social learning theory (later renamed as social cognitive theory) emerged as a reaction to behaviorism and cognitivism and drew from the constructivist notion of how people learn. The theory argued against the unidirectional emphasis on both the environmental (situational) and personal (dispositional) determinism in behaviorism and cognitivism respectively and advocated a “triadic reciprocality model” that views psychological functioning as reciprocal interactions among the behavioral, cognitive, personal, and environmental factors (Bandura, 1986, p. 344).

The socioconstructivist theory posited cognitive development and higher mental functions such as reasoning, making inferences, and interpreting meanings as essentially a social-cultural product since knowledge is collectively constructed by the cognitive
activity of internalization—“the internal reconstruction of an external operation,”—via the cultural tools and signs and assistive learning (Vygotsky, 1978, p. 56). Vygotsky held the notion that cognitive processes materialize from the practical activity that is culturally embedded and historically developed. Tenets held by theories such as situated cognition (Brown et al., 1989) and distributed cognition (Hutchins, 1995) also endorsed the context-specific nature of cognition and the significance of the cultural-context in cognition. Such theories argued that cognitive functions depend on schemata which in turn are supplied by the cultural context. The underlying notion in theory of situated learning is that learning is connected to the dynamic world via social environments and a product of social process of thought, perception, and interactions. Undoubtedly, learning theories have increasingly underlined the role of culture in cognition and learning; nonetheless, more discussion is needed to clarify the social context of cognition.

Sociocultural Variations and Cognitive Functions

Learning theories such as cognitive information processing theory and the schema theory of mental models (Driscoll, 2005) proposed that the processing and storing of information is universal to all human cognition. However, the pathways and schemata used by the brain to perceive and process information are built upon previous experiences which in turn are laid down by the environment together with the sociocultural context. Hence, the perception of knowledge and experiences afforded by different sociocultural environments will promote different systems of organizing learning and thought that would result in the varied mental processes or cognitive functioning (Anderson, 2000).

Identifying cognition as an integral psychocultural variable in the teaching and learning process, Tharp (1989) pointed to sharp differences between the specific cognitive
abilities demonstrated by learners from different cultures such as the verbal/analytic and the visual/holistic cognitive processing. Verbal/analytic thinking involves making meaning by analyzing the parts of written or verbal information while in visual/holistic thought “pieces derive their meaning from the pattern of the whole” (p. 353). For example, verbal/analytic cognitive style may focus on the verbal or written information to construct the meaning by identifying and selecting elements of the text. Visual/holistic style, on the other hand, would prefer observational learning by doing. These differences can be accorded to the variations in the sociocultural environment at home and community that promote either/ or kinds of thinking.

Multiple studies in cross-cultural behavior uncover significant distinctions in the way people from different cultures behave, think, value and engage in learning environments. Gauvain (2001) examined the social foundation of developmental cognition to affirm that the majority of cognitive functions developed in children are related to the sociocultural structure inclusive of the three subsystems (a) cultural activity goals and values, (b) tools provided to meet the goals and (c) high-level cultural structures such as the scripts, routines and rituals that help implement the goals and values. Learners learn about thinking via these core activities connected to the social experiences within the community. Hence, learners engage in the cognitive socialization process in which learner’s mind is shaped and organized in accordance with the needs and goals of the respective community (p. 34). Gauvain identified higher mental functions such as problem-solving, memory and planning also to be socially co-constructed processes asserting the underlying notion that different cultures vary in thought patterns including not only perception but also reasoning.
Nisbett, Peng, Choi and Norenzayan (2001) presented an influential cognitive perspective on culture and behavior offering persuasive evidence for Guavain’s (2001) assertion by tracing the origin of differences in how people think and feel to the diverse cultural traditions and social practices. They argued that social differences among different cultures influence world views, “naïve metaphysical systems” (beliefs about nature of the world) and “tacit epistemologies” (beliefs about what is critical to know and how knowledge can be obtained; p. 291). The authors found that East Asians and Westerners differ in their perception of world as holistic versus a collection of objects, their notion of logic and categorization, preference for collectivism versus individualism, valuation of relationship and similarities versus rules and categories and variations in many other cognitive functions. Impact of similar sociocultural variations related to web designers’ cultural cognitive styles on user responses online was explored by Faiola and Matei (2005). They found that users perform information-seeking tasks faster when using the web content created by designers from similar culture. The results validate that awareness of disparities in cognitive styles among learners is essential for creating cross-cultural instruction.

Gliss and Wiley (2007) investigated the influence of culture on the metacognitive strategies used in problem-solving among the students of Brazil, India and the United States. They found speed as a critical factor in problem solving and decision making in India, synthesis in Brazil, and critical thinking in the United States. The differences reveal the “embedded nature and functionality of problem-solving strategies in specific cultural environments” (p. 1). Hence, there is sufficient research evidence that supports the argument that cognitive profiles differ significantly from one culture to another in both
the learners and designers that can lead to cultural issues in learning when the instruction is designed in a different cultural context. How cognitive differences lead to the cultural issues in learning will be discussed in the following section.

Learning and Cultural Issues

The increasing reliance on technology-mediated modes of delivery and increased global connectivity (Friedman, 2005; Spinello & Tavani, 2004; Wilson, 2001) has led to the rise in international e-learning education programs. Consequently, cultural issues of diverse learners in instructional design and technology gained increased interest in the e-learning research community. Bates (1999) noted that when “educational programs cross national borders, a number of social and cultural issues arise” (p.122) due to the mismatch between the cultural context of learner and the learning context in which instruction is created and presented. According to Henderson (1996), McLoughlin (1999a), and Smith and Ayers (2006), dissimilar cultural experiences emanate from the differences in cultural perspectives, world views, cognitive and psychological philosophy, learning styles and preferences, which in turn impact the learning effectiveness.

Cultural Gaps and Learning Barriers

A significant body of research explored barriers to learning due to cultural gaps in the design and delivery of instructional content. Bates and José Gpe (1997) argued that high quality successful programs are possible only if the offered curricula “transcend local cultural and language barriers” (p. 49). Some of the cultural barriers in reaching the global audience documented by some leading studies in cultural issues are as follows:
differences in educational values and cultural beliefs embedded in the content and the multimedia, different roles of the instructor and the learner, different teaching and learning styles, and issues related to language and semantics (Chen et al., 1999; Henderson, 1996; McLoughlin, 1999a; McLoughlin & Oliver, 2000; Rogers et al., 2007; Smith & Ayers, 2006).

The cultural context of learners in the instructional design process must be factored in to reduce the impact of barriers for effective learning. Conversely, according to Henderson (1996), since the “cultural context is relegated to a variable of insignificance in the learning theory which informs the instructional design,” the focus of instruction has been the reproduction or construction of knowledge—not the learner or his/her specific needs (p. 90). Expanding upon Henderson’s claim, McLoughin (1999a) explored inclusivity in Web-based learning and pointed to the lack of cultural contextualization in the design process. McLoughlin emphasized that along with the pedagogic guidelines, awareness and respect for inclusivity and cultural diversity among educators is integral for cultural pluralism.

Cultural Gaps and Motivation

Cultural variables have also been shown to influence learner motivation. These issues in turn impact cognition, emotion, and motivation in dissimilar forms as claimed by Markus and Kitayama (1991) who underlined the difference in “construal of self as independent” and “self as interdependent” (p. 230) between American and Asian culture. Although the social context is integral in both construal, while the independent construal prefers focus on self, promoting own goals, unique tasks, self-evaluation, and ability to express oneself, the interdependent construal favors fitting in and belonging to the social
context and chooses collaborative, cooperative tasks. Such dissimilar views delineate different learning styles and preferences that need to be taken into account when designing instruction for diverse cultural audiences. Designers must be cognizant of the influence of respective sociocultural norms and values when creating instruction for the learners with diverse cultural backgrounds and understand how such differences impact learner motivation.

Highlighting the research gap in studies of motivation, Graham (1994) explored the motivational construct in African Americans and argued for a motivational psychology that must factor in the differences in self-perceptions due to an array of cognitive and affective determinants of behavior and the multifaceted relation between race and class. Silverman and Casazza (2000) described similar concepts of construal differences in values relative to motivation between the collectivist and individualistic societies. The motivational factors identified for the collectivists and individualistic societies were similar to the tenets of interdependent and independent construal of self respectively as identified by Markus and Kityama (1991). For example, the focus on self in the independent construal, a characteristic of individualistic society, will lead to the preference for individual work in the instructional settings that offer opportunities for individual achievement as opposed to collaborative, group work. These continuing discussions offer more evidence for the argument that it is important for designers and teachers to be aware of the complex interactions of different variables that define and influence the motivational constructs in diverse cultural contexts and amend expectations and practices appropriately.
Culture and Instructional Design

In exploring the history of technology mediated learning and the traditions of instructional design, many studies divulged the natural embodiment of a pro-Western bias in e-learning along with many related issues. Hall (1981) aptly drew the paradox of culture in stating that “studying the models that men create to explain nature tells you more about the men than about the part of nature being studied” (p. 15). Henderson (1996) examined the social and cultural construct of interactive multimedia design to reveal nepotism toward mainstream culture and exposed natural biases influenced by the world views, class, gender, culture, values, ideologies, instructional design theories and paradigms. McLoughlin and Oliver (2000) further investigated Henderson’s assertion to establish that the western cultural hegemony in present instructional theories cannot fully contextualize learning experiences of the learners from diverse cultures, as the models are themselves products of particular cultures.

Cultural Imperialism in the Web

The United States accounts for the highest numbers of internet users in the world (Internet World Stats, 2007) and as noted by Bates and José Gpe (1997), English is the predominant language for the international delivery of distance education. Dragon and Handa (2000) drew attention to the cultural imperialism in the Web in regard to the English language and hypertext that reflects the cognitive constructs that are predominantly English. Likewise, Spinello (2006) affirmed that the technological pedigree of e-learning is also not without cultural favoritism as the architectural design and the majority of research and growth in the Internet is rooted in the western culture.
Johnson (2002) declared the presumption of the assumed value-neutral nature of technology wrong by examining the role of social context in shaping technologies, demonstrating that the global information infrastructure has been shaped by the social values. Different cultures view the technological advances such as the Internet differently based on their values, beliefs and societal norms. For example, Shaoguang (2006) highlighted the preferred privacy and autonomy in cyberspace (especially in the West) as a “demon” corroding youngsters’ ideology and morals in China (p. 65). Smith and Ayers (2006) found that “technologically mediated learning experiences may accommodate the singularities of a dominant Western culture at the expense of cultural responsiveness to the cultural backgrounds of all participants” (p. 401). This speaks to a flawed design model that is not fully meeting the needs of a global learning community.

Inadequate Instructional Design Paradigm

As the Western orientation of e-learning became apparent, additional research confirmed the insufficiency of standard instructional design paradigms in presenting a culturally appropriate framework for the diverse audiences. Henderson (1996) underlined the omission of the cognitive, epistemological, and philosophical construct of cultural contexts in existing multicultural paradigms and argued for an “eclectic-mixed methods-pragmatic paradigm” (p. 89). In arguing for a multiple cultural model, Henderson (1996) exposed the inadequacy of the approaches adopted by some of the existing paradigms related to culture and learning.

While the inclusive paradigm incorporates minority groups’ social, cultural and historical viewpoints, it is deemed cosmetic as it fails to confront the dominant culture. The inverted paradigm makes an effort to design instruction from the marginalized
culture’s perspective, but in doing so it fails to fulfill the cognitive needs of the learners while keeping them from the mainstream culture. On the other hand, the unidimensional approach characterized by many educational institutions acknowledges the dominant cultures only and ignores the cultural diversity on the premise that educational experiences are similar for all including the minority learners (p. 91).

Utilizing the theoretical construct from Henderson’s multiple cultural model, McLoughlin (1999a) presented a methodological framework with the additional dimensions for cultural sensitivity and equity in distance learning. Likewise, McLoughlin and Oliver (2000) observed that the cultural context in the design models has been treated only to an extent that addressed the cultural issues of the learners superficially or in a constricted manner as current “instructional design models include cognitive, social and pedagogical issues, but may not acknowledge the need for cultural contextuality” (p. 62).

Although there are models that include the cultural dimension of learners such as Henderson’s (1996) and others, there are researchers who contend that there is little evidence of the influence of the educational research and development in other cultures that addresses the cultural issues related to the global learner. Djikstra, Seel, Schott, and Tennyson (1997) noted that although instructional design has its roots in the United States, and while the applications and theoretical growth cross national borders, there is no standard global reference inclusive of the diverse learning and instructional theories and the applications to form a strong international foundation for the instructional design practice. Likewise, Gotterbarn (2004) asserted that there is a paucity of culturally relevant theories and information in the current practice.
Furthermore, Tait and Mills (2003) asserted that the international perspectives related to the quality assurance, infrastructure, commercialization, the learner as consumer, and the impact of cultural differences on internationalized curricula are often ignored. Hence, the past and current approaches for addressing the issues have been inadequate in that the educational outcomes of learners was ignored and the superficial changes made to the curriculum were devoid of the substantial market research on the unique needs of the global audience. Unquestionably, there is a need for considerable investment in global market research to develop an understanding of cultural contexts of global learners that inform the instructional design practices of international distance education (Alexander, 2002; Bates, 1999).

*Barriers to Cross-Cultural Competence*

Barriers to cross-cultural competence for creating culturally inclusive instruction have been another subject of research related to culture and instructional design. Rogers et al. (2007) conducted an exploration study of cultural competence in the lived experience of 12 professionals and affirmed that instructional designers have limited awareness and understanding of their individual bias, the meaning of cultural diversity in learner’s context and how it translates into learner characteristics and implications for instructional design. The restricted perception can be attributed to many factors such as the numerous contradictory ways in which culture is being positioned in the instructional context such as multiculturalism, cultural diversity, cultural pluralism, intercultural training. The confusion related to terminology leads to dismissal of the issue altogether: “avoidance and, hence deracialization” (p. 90) as claimed by Henderson (1996). Another reason for the inadequate knowledge about the diverse cultural audience is the isolated
role of designers in the design process. Rogers et al. (2007) cautioned, “If the role of instructional designers continues to be so limited and isolated from learners, then distance education will succeed in being distant from the needs and expectations of the learners” (p. 209). Such an information gap related to the learners’ needs and preferences could easily magnify in a cross-cultural context.

Research generally concedes that instructional designers must act as change agents and be attuned to the cultural differences of learners; nevertheless, there are some who question if the responsibility is entirely that of the designers (Bentley et al., 2005; Sims & Stork; 2007). Conversely, Hofstede (1986) asserted that the “burden of adaptation in cross-cultural learning situations should be primarily on the teachers” (p. 301). Therefore, designers and facilitators are responsible for creating culturally responsive instruction for the most part as opposed to the learners. The complexity of the demands imposed by the multifaceted issue of cultural pluralism has raised many new questions related to the feasibility, cost-effectiveness and appropriateness of the possibility.

McLoughlin and Oliver (2000) questioned: “Is cultural pluralism possible in instructional design?” (¶ 12) While examining how teachers can help learners master content in the complex web-based learning environment despite learners’ varying learning styles, preferences and cultural experiences, Sims and Stork (2007) speculated if the goal is attainable. Rogers et al. (2007) questioned whether “every instructional experience and design process needs restructuring for customization in different contexts” (p. 209). Unquestionably, the intricacy of the subject in the global context has raised many issues related to cultural inclusivity and pluralism in e-learning. There is
much to be explored and established within this realm. If the instructional design community agrees that cultural pluralism is both possible and necessary for effective e-learning in our increasingly global society, an approach to cross-cultural analysis will be a requisite first step.

Cultural Pluralism and Instructional Design Gaps

To identify the precise role of the learners and the designers in making cultural pluralism and inclusivity in cross-cultural instruction a possibility, it is essential to elucidate the denotation of the terms cultural pluralism and inclusivity. Pluralism is a state within any given organization where power is shared among diverse groups (“Pluralism,” 2006). Cultural pluralism is delineated as the recognition of the benefits of cultural diversity and promotion of the cultural richness by the society (“Cultural Pluralism,” 2006). Inclusivity in web-based learning includes both content and planning for teaching, learning and assessment processes that aims at “facilitating the best educational outcomes for all students, regardless of characteristics such as ethnicity, language and cultural background” (McLoughin, 1999a, ¶ 1). The goal of inclusive instruction can be translated as to match the varied cultural values and the expectations of the target audience with the learning environment and activities.

Cultural pluralism in an instructional context can be delineated as recognizing the varied cultural and epistemological factors that impact learning and creating a rich mix of instructional design and delivery options to offer all learners access to equal opportunities for effective learning. A true state of pluralism will be achieved when all participants will share equal responsibility and say in the instructional design process including the
learners regardless of respective cultural standings. In other words, there will be no minority or majority among the designers or learners, only a wide range of instructional design and delivery options to choose from to match the instruction with the learners’ needs.

Some of the challenges in the path of cultural pluralism are the lack of awareness and understanding of the why and how of inclusive instruction for both the designers and the learners and dearth of cross-cultural models and strategies clinically proven in the international context. Most importantly, there are no clear frameworks for cross-cultural learner analysis to inform the designers about the philosophical and pedagogical underpinnings, and the cultural and epistemological factors that impact learning in diverse cultural contexts.

Bias and Knowledge Gap

Undoubtedly, as validated by research, there is a lack of understanding of the depth and scope of the exact meanings of inclusive instruction on part of the instructional design practice (Henderson, 1996). The learner-centered paradigm in education calls for the change in the perception of professionals in the field in regard to what they do and what they need to know. Instructional designers need to know the learners to help them in the process of learning. To understand the needs of diverse learners, instructional designers need to be aware of the impact of cultural differences, acknowledge the differences and take action by creating a well-planned social and cultural learning environment with culturally sensitive design and delivery systems. The first step in creating culturally inclusive instruction is to address some of the key barriers to cultural competence of designers such as the inherent bias and the knowledge gap.
Educational values defined by the cultural norms, social expectations, learning philosophy and preferences influence all the participants in an educational community: both the creators and the users of knowledge. The prospect of taking the natural bias completely out of the picture is irrational. Nonetheless, the predisposition is a barrier to culturally inclusive learning regardless of its origination. The argument of the inherent bias in the practice contends that instructional design and designers “are influenced by particular world views; their class, gender, culture, values, and ideologies; selected learning theories; and particular instructional design paradigms” (Henderson, 1996, p. 85). However, the users of the instruction—the learners—also bring with them particular values and viewpoints.

Dewey (1897) affirmed that “education proceeds by the participation of the individual in the social consciousness of the race” (¶ 1). Hence, it may be unrealistic to create instruction devoid of the influence of respective cultural norms and values. The proposition is not to take out the respective cultural perspectives, but to make room for the different cultural values in the design and delivery of the learning experience along with keeping both the designer and the learner informed of the differences. Designers need to be attuned to the cultural differences of the learners; nonetheless, learners need the cultural awareness as much as the designers. Hence, just like designers need to take the social responsibility of including the instructional strategies and methods informed by learning theories in multiple cultures, learners need to adjust to the concept of independent, self-motivated learning in the e-learning distance programs to move out of their cultural zone (Bentley et al., 2005).
Bentley et al. (2005) proposed the need for new intercultural standards related to the different educational values of learners and designers and recommended creating a “course nutrition label” to convey the educational values of the instructional content to the learners. The label would include the educational value differentials of learning theory and communication such as the language, philosophical underpinnings, technical requirements, primary audience, learning style design, reasoning pattern, communication medium, kind of assignments and activities type (p. 118). Although it will not be feasible to cater to the needs of each and every learner in a given course, the idea is to find the appropriate mix of strategies to address the evident diversity among the audience. Hence, the responsibility of addressing individual bias will then be shared equally via acculturation of both the creators and the users by not any particular viewpoint, but the global cyber culture.

One of the major causes for the knowledge gap can be attributed to the personal bias of all the participants from the designers to the learners. Despite the forces of globalization many people are unwilling to acknowledge and accept the cultural differences and strongly influenced by stereotypical generalization of cultures. According to Thomas and Inkson (2009), the disinclination is due to the “Be Like Me. Do it my way. Follow my rules” attitude that expects others to adapt (Thomas & Inkson, 2009). The authors propose a solution: becoming culturally intelligent.

One other reason for the knowledge gap related to the diverse learner needs among the designers is the constricted definition of the designers’ respective roles in the process from design to delivery. Rogers et al. (2007) examined the organizational structures and role of the instructional designers in an exploratory study to point out the
disconnect between the designer and learner, and the gaps related to policies and resources. The authors also noted that historically, instructional design and technology has overemphasized content. For example, designers have minimal role in the audience analysis, implementation and evaluation phases of the design process, and are therefore unaware of the actual experiences and perception of learners. Bentley et al. (2007) underlined the need for the designers to understand the audience and respective values in internet-based learning. To know the audience it is critical to have some predefined criteria for cross-cultural analysis so that vital learner information can be sought during the learner analysis process.

On the other hand, the learner’s role, though pivotal in informing the design via the audience analysis process, is yet to be recognized as integral in informing the cultural context in the design process. Henderson (1996) affirmed the cultural context as “the very stuff, the scaffolding, of instructional design if users are to be positioned as active participants who are given and take responsibility in the learning-teaching paradigm” (p. 85). If learners are considered active participants, they should be sharing some if not equal responsibility in the teaching-learning context.

Sims and Stork (2005) argued that cultural pluralism can be achieved but “with a different instructional design philosophy, one in which the creation of relevance is taken up by the learner rather than by the teacher/designer” (¶ 3). Hence, there is a need to identify a new intercultural standard by redefining the roles of the designers and the learners as primary informers of the cultural context and the respective educational values involved in the teaching-learning process. For this, learners must play a vital role in informing their needs, styles and preferences.
Instructional Design Models and Cross-Cultural Gaps

While it is possible to address the bias and knowledge gap on part of the instructional design practice and the designers, the existing cultural models lack the profundity to be applied in the international context. Although there are some cultural models and frameworks such as Henderson’s (1996) multiple cultural model and McLoughin’s (1999a) cross-cultural teaching ladder, the models have not been clinically tested or evaluated internationally (Rogers et al., 2007). Hence, there is a need for research to inform the instructional design practice of such culturally portable design models and strategies in the global context and educate designers on how to use them appropriately in a given setting.

Moore and Anderson (2000) reviewed the literature on culture and online education and pointed to the scarcity of published research on the cultural dimension of online learning and teaching. Moreover, to understand the culturally linked incongruities in the teaching-learning paradigm, researchers need to examine the epistemology and pedagogy of social, constructive learning (McLoughin & Oliver, 2000). Such an investigation will reveal the varied cognitive functioning based on the sociocultural differences of learners.

Similarly, Smith and Ayers (2006) implied the need for two kinds of investigations in cross-cultural instructional design: (a) cognitive structures development associated with the world views and patterns of communication, and (b) typological research related to the personality features and the patterns of behavior in individual cultural groups (pp. 413-414). Wang and Reeves (2007) also pointed to the shortcomings of empirical cross-cultural studies and underlined the need for a more qualitative
approach to obtain “thick descriptions” of cultural accounts to establish a strong connection between the theory (cultural dimensions) and the practice (design principles; p. 13). Henderson (2007) dissected the perception and the use of multicultural and internationalization models and argued that although the propositions of the aforementioned approaches are critical but problematic as they are “cosmetic, tokenistic, and or stereotypical” (p. 132). She pointed to the major issue with such models as the “avoidance of the cognitive, pedagogic, and epistemological aspects of the various educational contexts” (p. 135). Although there are some extensively used cross-cultural dimensions defined across disciplines, Gunawardena et al. (2003) urged researchers to go beyond simplistic stereotyping to precisely identify the cultural dimensions of learners.

Cultural Dimensions and Learner Analysis

Many recent studies offer substantial research literature that investigated the history of cross-cultural dimensions as used in the instructional design practice for cultural analysis of learners. The discussion on cultural dimensions of learners is essential for supporting the theoretical proposition of the study that traditional models and strategies of cultural analysis for learners need to be redefined to facilitate culturally competent instructional design in e-learning. The dialogue is also important to expose some of the seminal cultural analysis frameworks in instructional design while also revealing their value and limits for cross-cultural learner analysis in e-learning.

Before delving into scrutinizing some well-renounced cultural dimensions it is essential to first describe them in the context of education. The next section will explain the dimensions briefly followed by a review of their limitations and use in instructional
design of e-learning. Some of the widely used frameworks for cultural analysis in training and education have been provided by Hall (1981) and Hofstede (1984). Although the cultural dimensions identified by both the authors relate to business communications, the dimensions are discussed extensively in the context of education as well.

*Hall’s Cross-Cultural Dimensions*

While not excluding the philosophical systems, religion, social organizations, language, moral values, art and material culture Hall (1981) believed it was more important to explore the *nonverbal, unstated realm* of culture “to look at the way things are actually put together than at theories” (p. 16). He posited that all aspects of human life are impacted by culture including personality, expression, thought, problem solving and more that are fundamentally different for different cultures. He envisioned such differences in binary oppositions and presented a broad view of cross-cultural patterns based on his own observations and other authors and researchers across multiple disciplines. The first cross-cultural variable was related to the use of time and space as “organizing frames of activities” by different cultures. The difference in perception of spatial and temporal relationship defined “monochromic time” (M-time) and “polychromic time” (P-time) cultures (p. 17).

The M-time cultures, according to Hall (1981), accentuate schedule, segmentation and promptness of activities; they are individualistic and independent; and they follow linear thought patterns. Conversely, P-time cultures prefer relationships and completion of communication over scheduled activities due to the overlapping perception of time and space. Such cultures have a holistic perception of self as part of a larger system that relies on group cooperation versus individualism. The crucial difference between the two
cultures that plays a vital role in learning relates to the linearity of thought process versus interrelated, holistic perspective. These differences in turn impact the communication styles of the two cultures: the second cross-cultural variable. Since M-time cultures segment the activities and do not focus on the whole environment, the communication is low-context that is direct, formal and impersonal. P-time cultures, conversely, engage in high-context communication that is complex, indirect and informal. He cautioned against “culturally based paradigms” as they hinder understanding due to the culturally transmitted “built-in blinders, hidden and unstated assumptions” (p. 220). Hence, learning across cultures cannot be assessed based on the educational paradigm from a single, dominant culture.

Hofstede’s Cross-Cultural Dimensions

Hofstede’s seminal work on cross-cultural dimensions was based on the underpinning of the national cultures in quantitative studies first published in the book *Culture’s Consequences: International Differences in Work-Related Values* (1984). The data was gathered via a questionnaire administered to IBM employees working in 50 different countries performing similar job functions. Although he cautioned that the cultural trends may not represent the characteristics of all individuals within that culture and offered exceptions to the dimensions, much of the research in culture to this date use his paradigm of national cultural dimensions. Hofstede identified five indices to categorize the similarities and differences across cultures that he defined as “broad tendencies to prefer certain states of affairs over others” (p. 8). Like Hall (1981), Hofstede’s indices represent cultural differences as opposite ends of continua. The five dimensions are described below.
Power distance index (PDI). This index relates to relationships of dependency between the members of culture and defined as “the extent to which the less powerful members of institutions and organizations expect and accept that power is distributed unequally” (Hofsted, 1971, p. 27). Corresponding implications of this index in the educational organization is that nations with low PDI emphasize the role of teachers as facilitators where the students are treated as equals. Such cultures promote student-centered education where quality of learning depends on two-way communications. On the contrary, high PDI nations perceive teachers as the subject-matter experts, the ultimate authority that cannot be questioned. Students are dependent on teachers and treat them with utmost respect and the quality of learning depends on the teachers’ expertise.

Uncertainty Avoidance Index (UAI). UAI describes how members of a culture respond to uncertainty and defined as “the extent to which the members of a culture feel threatened by uncertain or unknown situations” (Hofstede, 2001, p. 161). Hofstede cautioned not to confuse this with risk avoidance. In low UAI cultures students anticipate open-ended learning and learn that truth may be relative. The teachers are willing to accept that they do not know it all and value debate and discussion. Students have high self-efficacy and attribute success to own ability. In high UAI cultures students are used to structured learning where the teachers have all the answers. Truth is absolute for students and dialect speech is not valued. Students have low self-efficacy and attribute success to effort, context and luck (p. 169).

Individualism Index (IDV). This index describes relationship among members of a culture. In individualistic societies relationships between the individuals are not as close as that in collectivist societies and everyone is basically on their own. Such societies are
marked by nuclear families and weak family or group ties where individuals are self-reliant and value privacy and freedom of expression. By contrast, members of collectivist societies derive their identity from the family and group ties are characterized by extended families. Such societies prefer group harmony and cooperation to achieve group goals for the collective benefits. Educational environment in high IDV societies encourage individual attention, freedom of speech, and respect for students. The purpose of education is to help individuals become self-regulated and independent learners.

Students are expected to be treated as equals and they prefer to work as individuals and value self-respect. Hence, guilt is used to control behavior in individualistic societies as opposed to shame in collectivist societies. Conversely, collective societies nurture an educational environment where the students do not have freedom of expression and purpose of education is to help individuals become productive members of the society to achieve social status and growth within their groups. Students may expect differential treatment from the teachers and do not question the teacher, the final authority.

*Masculinity Index (MAS).* MAS is related to the division of the emotional roles between men and women. In his earlier work, Hofstede (1984) defined “masculine work goals” as the ones valuing earnings, recognition, growth and challenge, while “feminine work goals” gave importance to management, cooperation, environment, and employment security. In his later work he characterized high MAS society’s members as ego oriented who prefer money, things, strength and speed. Low MAS cultures are relationship oriented and value the quality of life with minimal emotional and social role differentiation between the genders in contrast to high MAS where the differences are
maximal. For example, in high MAS countries students are competitive and give importance to high performance and public praise, taking failures seriously. Low MAS country students, on the other hand, have lower expectations in terms of performance where the teachers’ social skills are more important than their academic status.

*Long-Term Orientation Index (LTO)*. This index is related to the choice of focus for effort: future versus present. This cross-cultural dimension was formulated by Hofstede after his original study in an effort to reduce the evident pro-western bias in the survey questions and the study results based on “Confucian dynamism” (Hofstead, 1984). Eastern countries with high LTOs believe in synthetic thinking, structured problem-solving, and deferred gratification in contrast to Western countries with low LTOs that prefer analytic thinking, fuzzy problem-solving, and immediate gratification.

Like Hofstede (1984), Trompenaars and Hampden-Turner (1998) also researched cross-cultural dimensions at national level using corporate managers from 100 different countries as participants. Both Trompenaars and Hampden-Turner’s study and Hofstede’s study were quantitative studies based on the notion of national cultures unlike Hall’s study that was a literature review of his own and others’ observation of culture. Trompenaars identified eight dimensions under three categories of how people relate to one another, people’s attitude toward time, and people’s attitude toward the environment.

The dimensions were described as the two extreme behaviors on a continuum similar to Hofstede’s dimensions but dissimilar in that Trompenaar’s did not examine the dimensions in the context of education. Although dimensions that associate culture with nations are not without value, “cultural analyses resting on such relatively simple dichotomies may be too simple for dealing with real-world complexities of culture” (Ess
& Sudweeks, 2005, ¶ 3), especially in the context of e-learning. Recent research calls for rethinking cross-cultural dimensions beyond the nations and ethnicities to focus on the new identity learners create due to the unique demands of the information culture and globalized learning.

From Cross-Cultural to Intercultural Dimensions

Many researchers proposed alternative frameworks for cross-cultural dimensions urging the need for intercultural understanding and standards. Ess and Sudweeks (2005) put together a thematic section to present an extensive literature review of the importance and shortcomings of Hall’s and Hofstede’s framework for cultural analysis across disciplines. Although the review is based off research related to the computer-mediated communications as in internet usage or website design, the findings are of great value to the globalized e-learning paradigm as well.

The Critique

The central critique of Hofstede’s (1984) and Hall’s (1981) essentialist approach is that the effort to reduce the complexity of culture to few polarized indices runs the risk of “oversimplification” or “stereotyping” (¶ 15). The review revealed the following issues: (a) limited generalizability of Hofstede’s work as the results are based on the interviews with IBM employees in 1960s and 1970s, (b) the concept of linking culture with national identity alone disregards other critical aspects of culture such as “internal ethnic and linguistic diversity” within the nation states, (c) analysis based on the national identity cannot be applied to “third identities that represent complex and shifting hybridizations of earlier cultural patterns” due to the immigration and globalization
processes (¶ 6). Nonetheless, the review also acknowledged that Hall’s and Hofstede’s work is still significant for analyzing and predicting intercultural communication online with varying level of success.

While examining culture in online interactions, Hewling (2005) urged to go beyond the essentialist approach and to pay attention to the intercultural communication where interactions cross a single culture divide as learners work with the multiple cultural frames of references (¶ 1). The biggest drawback of exploring culture with a nationality based lens, according to Hewling, is that it dismisses the “complexity of cultural influences and determinants brought into play by the key players… the individual participants” (¶ 7). For example, cultural misunderstanding or issues in online class may emerge as a result of the complex interaction of personal frames of references of participants regardless of their nationality.

Raybourn, Kings and Davies (2003) posited that a “third” culture transpires from the interactions among the participants involving multiple frames of cultural references that dictate the nature and quality of the shared context of understanding emerging from the interactions. Although Hewling (2005) agreed with Raybourn, Kings and Davies notion of culture as a process of “ongoing negotiation,” she argued that because the third culture exists for only those who may participate in the interactions, the third culture can also be deemed essentialist in that it speaks of culture bounded by particular individuals, space and time. Hence, Hewling proposed a new way of exploring culture in the online environment by viewing it as a dynamic ongoing process of sense-making so researchers can factor in the frames of references and understanding at play in reality as opposed to the ones assumed based on nationality.
Declaring Hall’s (1981) and Hofstede’s (1984) assumptions about culture as essentially behaviorist, Failo and Matei (2005) argued that “behavioral diversity is the product of cultural traits that are deeply embedded in cognitive processes” (¶ 11) and urged to build a framework for cross-cultural analysis based on cognition. Based on Nisbett’s cultural psychology (2003) that assumes that the cultural traditions and the social practices lead to differences in perception and reasoning and Vygotsky’s notion of cognitive processes originating from authentic activity that is “culturally constrained and historically developed,” Failo and Matei proposed the cultural cognition theory (2005, ¶ 13). This theory argued that web design is influenced by the cognitive processes and styles that are themselves the product of culture. They argued the need for a new theoretical underpinning for cross-cultural web design and usability research that would factor in the links between culture and cognition.

Cultural Dimensions and Cyber Identity of Learners

While Hofstede’s (1984) model is of great value in the portrayal of the world in easily recognizable simple categories, Trompenaars (1997) and Hall (1981) are also among the most reputable models for studying the cultural issues in interface design (Palaiologou, 2007). Although cultural analysis models proposed by Hall and Hofstede hold strong when it comes to prediction and description, recent research points to the need for alternative framework if culture is to be regarded as fluid and dynamic especially in the globalized e-learning environment. As individuals live in multiple cultures simultaneously, the cultural construct of an individual is made up of more than one cultural frame of reference. Hence, although national cultural dimensions may shape the learner’s preference for a given pedagogical paradigm or form the origins of
motivation, learner may exhibit altered cultural profile based on the demands and support offered in the cyber cultural context.

Likewise, although individual learning styles and preferences are influenced by cultural dimensions at the national, societal, ethnic, class or family level, the factors that come into play in the teaching-learning context may be a product of the amalgamation of the varied cultural constructs at different levels that also evolve overtime. The cultural identity of an e-learner can then be ascribed as twofold: one that the learner brings to the class that may be characterized based on learner’s cultural predilection identified by national cultural dimensions, and one that the learner forms in the classroom based on individuality and ability to change as a result of the demands, support and interactions in the cyber space. Therefore, learner interactions with the course content, facilitator, and other learners together create an environment that facilitates the creation of a new identity in reaction to the learning experience.

In other words, although cultural dimensions based on the national cultures and other models will help identify some critical characteristics of a cross-cultural learner analysis framework, focus on the intercultural communications and the interactions in the online course room is also essential to recognize the evolving or adapted aspects for a complete picture of cross-cultural learning needs. Hence, to precisely delineate the evolving learning needs of e-learners around the globe it is critical to invest time and effort in first understanding and then helping e-learners create that third new cyber identity as culturally pluralistic and inclusive: the “homo interculturalis” as defined by Palaiologou (2007, p. 75). The following discussion on some well-known culturally competent models and theories will support the theoretical proposition of the study that
existing culturally responsive models and theories can help define a strong framework for cross-cultural learner analysis. Furthermore, the discussion will offer insights into alternatives for factoring in the evolving third identity of e-learners.

Culturally Competent Models and Learner Analysis

Multiple Cultures Model (MCM)

A multiple cultures model (MCM) proposed by Henderson (1996) was adapted from Reeves (1994) and based on an eclectic paradigm that is informed by Vygotskian learning theory. This model goes beyond “softmulticulturalism” design (1996) and focuses on the cultural cognitive styles or cultural ways of thinking and doing. The model presented 14 dimensions of learning with binary oppositions like Hall, Hofstead, and Trompenaars (see Table 1a and 1b). The dimensions are inclusive of different epistemologies, pedagogical philosophies, psychological and motivational factors embraced by different cultures in different cultural contexts.

Henderson (2007) proposed cultural contextualization of instructional design for e-learning via the multiple cultures model that could be adapted for different contexts. McLoughlin (1999b) used the MCM model to design e-learning for indigenous Australians, a marginalized population. The notion is to create a global academic culture that could allow the instructors to “empower, extend and enrich the learner’s culturally specific knowledge and ways of thinking and doing by achieving a praxis between these and the demands of particular academic, industry, and government global cultures” (2007, p. 131). The varied cultural contexts are represented via standpoint epistemologies in the model that are inclusive of the global academic or training culture, the majority and
minority e-learners, and the different cultural logic represented by gender, class, religion, age, kinship, politics and workplace cultures, and pedagogies. In other words, the model proposes *epistemological pluralism* as it recognizes different ways of constructing knowledge and learners are encouraged to question and learn from the differences in the path of constructing their own knowledge (Harel & Papet, 1991).

Table 1. Multiple Cultures Model Dimensions

<table>
<thead>
<tr>
<th>Dimensions (Continuum)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epistemology (Objectivism-Constructivism)</td>
<td>Knowledge as something that exists outside students to be passively ingested versus it being socially and individually constructed on the basis of experience.</td>
</tr>
<tr>
<td>Pedagogical Philosophy (Instructivist-Constructivist)</td>
<td>Goals and objectives drawn from a domain of knowledge or content and delivered via direct instruction versus individual construction of knowledge based on individual styles and preferences.</td>
</tr>
<tr>
<td>Underlying Psychology (Behavioral-Cognitive)</td>
<td>Instruction consists of the shaping of desirable behaviors through the arrangement of stimuli, responses, feedback, reinforcement, and other contingencies versus instruction consisting of variety of instructional strategies based on the type of knowledge and learners’ mental models or internal thought processes.</td>
</tr>
<tr>
<td>Goal Orientation (Sharply focused-Unfocused)</td>
<td>Teaching strategies focus on clearly defined goals versus self-discovery.</td>
</tr>
<tr>
<td>Experiential Value (Abstract-Concrete)</td>
<td>Abstract learning context versus authentic, real-world learning context.</td>
</tr>
</tbody>
</table>
Table 1. Multiple Cultures Model Dimensions (continued)

<table>
<thead>
<tr>
<th>Dimensions (Continuum)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Role (Didactic-Facilitative)</td>
<td>Primary disseminator of knowledge versus secondary while learners construct their own meanings.</td>
</tr>
<tr>
<td>Value of Errors (Errorless-Learning from experience)</td>
<td>Learning until learning becomes errorless versus experiential learning that necessitates learning from mistakes.</td>
</tr>
<tr>
<td>Origin of Motivation (Extrinsic-Intrinsic)</td>
<td>Motivational factors extrinsic to learners such as rewards versus internal desire to learn for self-regulated learning.</td>
</tr>
<tr>
<td>Accommodation of Individual Differences (Non-existent-Multifaceted)</td>
<td>Knowledge structured same way for all learners versus presented in variety of ways to accommodate individual differences.</td>
</tr>
<tr>
<td>Learner Control (Non-existent-Unrestricted)</td>
<td>Learners follow a predefined learning path versus self-discovery.</td>
</tr>
<tr>
<td>User Activity (Mathemagenic-Generative)</td>
<td>Mathemagenic approach allowing learners to access same content in different ways versus generative approach permitting learners to engage in creating and elaborating the knowledge.</td>
</tr>
<tr>
<td>Cooperative Learning (Unsupported-Integral)</td>
<td>Independent versus cooperative, collaborative groups activities.</td>
</tr>
<tr>
<td>Cultural Sensitivity (Non existent-Integral)</td>
<td>Cultural differences ignored versus considered vital and accommodated via adaptations.</td>
</tr>
</tbody>
</table>


Hence, the model not only caters to the differences, but also facilitates awareness and understanding of the different worldviews. For example, the e-resources offered by such a model would include articles, presentations and activities from varied epistemologies of management and employees, different political stances, different
religions, first generation immigrants and their peers back in homeland, various gender and class within and between nations (Henderson, 2007, p. 137). A similar concept of epistemological pluralism was proposed by Palaiolgou (2007) via pedagogical strategies and models with an intercultural classification of learning goals, content and methods inclusive of: “(a) culture specific and cultural-general knowledge, (b) positive attitude toward ethno-culturally different students, (c) skills, language and social, to encourage intercultural communication and cooperation.” The underlying notion is to create a non-culture centric online environment that would promote global citizenship (pp. 84-85). The cultural dimensions identified in MCM can be used to define critical learning variables when analyzing learner needs and preferences during learner analysis.

*Cultural Adaptation Process (CAP) Model*

Edmundson (2007) used a simplified form of MCM model to detect the national-level cross-cultural dimensions identified by experts such as Hall, Hofstede and Trompenaars. The model was basically used to design the questionnaire that aimed to assess learners’ perceptions and preferences in e-learning. Marinetti and Dunn (2002) offered guidelines for adapting courses for the differing levels of complexity ranging from Level 1 to 4 based on the nature of content and the targeted cognitive skills of learners. These guidelines informed the framework for categorizing complexity based on the content, methods and media for the cultural adaptation process (CAP) model that resulted from Edmundson’s (2007) study. The model had two major goals: identifying e-learning course characteristics and matching them with the learner characteristics in regard to the cultural dimensions. As a result of the two analyses the model informed the
designer of the varying levels of cultural adaptations or redesign needed based on course complexity from translation or localization to modularization and origination.

While changes in translation are related to simple modifications such as fixing the content in regard to spelling, idioms or dialects, localization includes changes to match the local culture such as avoiding taboos or gender issues or using images familiar to the target culture. However, complex courses may require modularization along with translation and localization that calls for the use of easily adaptable or reusable learning objects with the assumption that other parts of the course can still be used for targeted learners. Conversely, origination would require reinventing the entire course from scratch for courses with marked cultural differences from the target culture (Edmundson, 2007, p. 269-270). Palaiologou (2007) proposed similar notion of reusable learning objects as the cultural learning objects based on the intercultural approach to instructional goals, strategies and methods.

These learning objects could form the repository of learning objects in e-learning education where same information can be made available to culturally diverse learners in culturally acceptable ways. The digital mode of these objects will allow the learners to both access and contribute to the learning base. This flexibly adaptive instructional design attribute acknowledges the need for cultural awareness and sensitivity on part of all participants including learners and facilitators: not just the designers. The CAP model took the MCM model a step further and offered a more concrete way of aligning the cultural dimensions of learners with course characteristics to meet the primary needs of targeted learners. Concepts related to both course and learner characteristics in the CAP model can inform the essential elements of cross-cultural learner analysis frameworks.
Multiple Intelligences (MI) Design Model

One other model that naturally lends itself to the continual focus on culture and context and offers varied cross-cognitive dimensions is the multiple intelligences (MI) design model by Tracey and Richey (2007). The model is based off the multiple intelligences theory that advocates a “pluralistic view of mind” with diverse and discreet aspects of cognition and asserts that people differ in cognitive strengths and styles (Gardner, 2006, p. 48). The theory asserts that learners have different preferences, abilities, and styles as evident in their varying cognitive strengths in different kinds of intelligences. Hence, the goal of education is to help develop those strengths.

Since the learners exhibit varying strengths and interests, the instructor’s role is a complicated one to match the pedagogical approaches with individual styles and preferences. One of the most important doctrines of MI theory is the recognition of individual differences relating to the learning styles and preferences that are influenced by one’s sociocultural context. In proposing future themes for global education, Gardner (2006) outlined some integral skills and understanding that can serve as course objectives to develop skills and knowledge in a multicultural classroom: understanding of global system, aptitude to think critically and analytically within disciplines, ability to tackle problems pertaining to ill-defined domains, skills to interact appropriately with people from different cultures, knowledge and respect of one’s own culture, creating “hybrid” identities that can operate across cultures, and nurturing tolerance (p. 223-224). The factoring in of the hybrid identity of global learners is similar to the notion of third identities proposed by Ess (2005) that urged designers to not lose focus of the evolving
nature of culture in globalized e-learning environment and proposed novel dimensions to be considered for e-learner profiles.

Such models and frameworks go beyond the traditional cross-cultural dimensions and call for factoring in the interplay of cross-cultural contexts with the information cultures when defining learner profiles in e-learning. The MI design model by Tracey and Richey (2007) offers a matrix of learner characteristics matched with each kind of intelligence and a comprehensive list of matching strategies and activities for developing instructional materials and writing behavioral objectives. The learner characteristic matrix in the MI model can assist in delineating the critical learning variables essential to be included when analyzing the learning needs of a multicultural audience.

*Universal Design for Culturally Diverse Online Learning*

Eberie and Childress (2007) presented a framework for designing online learning using principles of universal design. They recognized that reaching global audiences requires concrete knowledge of differences among the learners around the globe. The fundamental goal of their universal design is to create instruction and the learning environment by considering the needs of all learners upfront and designing learning materials and strategies accordingly. In other words, the accommodations for differences are made in advance as opposed to making adjustments after the teaching begins. The underlying conception is offering a good mix and match of strategies, materials, methods, media and assessment practices to accommodate as many people as possible by maximizing the learning opportunities for every learner. They also present a structure for identifying learner characteristics and their application in the online environment that can inform cross-cultural learner analysis frameworks.
Summary

Culturally competent courseware with cross-cultural design features can facilitate varied learning experiences and ensure access by culturally diverse learners (Henderson, 1996; McLoughlin, 1999a). However, at this time there is no existing framework for translating cross-cultural design features into cross-cultural learner analysis components. This literature review explored the existing research on instructional design paradigms and their treatment of the variable of culture. In addition, theories of cross-cultural analysis are also explored, including discussion of the value and limitations of existing theories in establishing a framework for expanding the learner analysis process to include consideration of cultural factors.

The review revealed that traditional models and strategies of learner analysis need to be redefined to facilitate culturally competent instructional design in e-learning. However, the review also shows that existing cultural analysis frameworks and culturally responsive theories and models can help define a strong framework for cross-cultural learner analysis. Hence, it is pertinent to find out what designers are doing in practice in terms of cultural inquiry of learners to understand how designers define the what, why, when and how of learner analysis: a very important step in the instructional design process. The aim is to investigate if the practice is aligned with the existing cross-cultural design principles, theories and models or if the practitioners are relying upon some other unidentified theories. This review provides the foundation for the current research study, which is described in detail in the following chapter.
CHAPTER 3. METHODOLOGY

This chapter presents the research method for this study starting with the rationale for the selection of a qualitative approach in the form of multiple case study. Next, this chapter provides description of the research design including sample, data collection and data analysis procedures. Description of how the study established trustworthiness follows. Finally, limitations of the study including researcher’s assumptions and biases are presented.

Qualitative Research Paradigm

The majority of definitions of culture originating from fields such as anthropology, ethnography, and political science refer to culture as descriptive or comparative as opposed to predictive or quantitative (Palaiologou, 2007). Viewing culture as a subjective experience most often expressed through descriptive language, a qualitative approach was deemed most appropriate for this study. The purpose of this exploratory study was an interpretive pursuit rather than an experimental endeavor, which further supports a qualitative approach (Geertz, 1973). Wang and Reeves (2007) suggested that the cultural context of online education can be represented clearly via what they call thick descriptions and reflective narratives, and it is this approach that is endorsed in this study through the use of case study.

The rationale for choosing a qualitative approach in this study fits the criteria identified for conducting a qualitative inquiry by Creswell (1998): (a) the study explores
the “how” of effective cross-cultural leaner analysis, (b) the topic needs to be explored as
the variables of cultural dimensions in a global context are difficult to identify and there
are limited theories available in real-practice for defining cross-cultural profile of e-
learners, (c) a detail view is required to understand designers’ perspectives on cross-
cultural learner analysis process, the related issues and barriers, and (d) the researcher
aims to be an active learner in the process as opposed to be an expert (pp. 17-18). Thus, a
qualitative approach – and specifically a case study approach – is an appropriate research
design well-matched with the problem under study.

Case Study Approach

The case study is a suitable method of inquiry to answer exploratory how
questions and to establish relationships between the cultural dimensions and learner
analysis. A multiple case study approach explored designers’ views on cultural inquiry of
e-learners and their perceptions about how specifically the data can be gathered and used
for making design and delivery decisions for cross-cultural instruction. An in-depth
analysis of multiple cases revealed the current practices among instructional designers in
the pursuit of culturally competent design, their perception on current learner analysis
strategies, and learner information that is most valuable in incorporating cultural factors
into design.

Patterns within the responses led to the identification of prevailing themes that
provided insight into current practices of cultural analysis, needs identified by
instructional designers to more effectively incorporate culturally relevant components in
the analysis process, and noted factors of influence with regard to culturally competent
design. This approach based on the use of multiple case studies offered opportunity for gathering insights from within each case and across-cases for replication and contrasting findings and is considered *more compelling* and *robust* relative to single case study (Yin, 2003). Hence, one of the unique strengths of using multiple cases was enhanced external validity or generalizability of findings as data was collected and analyzed from several cases (Merriam, 2001; Miles & Huberman, 1994; Stake, 2003).

**Guiding Research Questions**

As a qualitative study based on a case study approach, the research questions posed within this study were highly contextual and addressed in multiple ways through the discourse, sometimes without word-for-word reiteration of the questions. With this caveat in mind, the following guiding questions were proposed:

1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?

2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?

3. How do instructional designers characterize the role of learner analysis in creating culturally appropriate e-learning content?

4. How do designers define the elements of cultural analysis critical for culturally competent design?
Research Design

Although a distinct form of empirical inquiry, the case study has been viewed by methodologists with acute circumspection. One of the critical reasons for the debated trustworthiness and validity is the perceived lack of rigor in the process (Rosenberg & Yates, 2007). To maintain rigor and reliability, the study established a clear theoretical and conceptual framework including a model to establish the trustworthiness of data (Rosenberg & Yates, 2007; Stake, 2000; Yin, 2003). Figure 1 is a schematic outlining the procedural steps in the study.


Figure 1. Case study schematic.
Theoretical Framework

The goal of the study was to look at how designers were gathering and using cultural information on the target audience to inform the design and delivery of culturally responsive instruction currently, and to explore strategies for expanding learner analysis within the instructional design process to better address cultural influences on learning. The theoretical framework that informed the design of this study was based on the following examination: (a) culture, cognition, and instructional design, (b) exploration of cultural dimensions extensively used in cross-cultural analysis and their shortcomings, and applications, and (c) evaluation of cross-cultural design theories and models. The theoretical proposition that transpired from the literature review guided the study: (a) traditional models and strategies of cultural analysis for learners need to be redefined to facilitate culturally competent instructional design in e-learning, and (b) existing cultural analysis frameworks and culturally responsive design theories and models can help define a strong framework for cross-cultural learner analysis.

Conceptual Framework

Corcoran, Walker, and Wals (2004) defined case study as an approach that aims to improve practice by exploring the practitioners’ actions and the theories underlying the practice. A collective instrumental case study was selected to provide depth and opportunity for cross case exploration of designers’ foundational theories and practices related to cultural analysis to improve learner analysis. The unit of analysis was cross-cultural learner analysis with the focus on cultural dimensions as subunit of analysis.

Cross-case reporting identified points of similarly and contrasts to define themes for the interrelationship among the key variables: cultural dimensions and learner
profiles, cultural analysis frameworks and cross-cultural theories and models, and the value and gaps in the existing research to improve the practice of cross-cultural learner analysis. One other feature of this study that needs mentioning is a flexible or emergent design (Creswell, 2003; Yin, 2003): a typical characteristic of qualitative research. New discoveries during the iterative process lead to alteration of initial design such as the modification or addition of interview questions to accommodate new concerns and objectives while still maintaining the rigor in the study. The conceptual framework for this study can be best presented graphically. Figure 2 provides a visual representation of relationships among the key variables.

![Figure 2. Conceptual framework for proposed study.](image)

Sample

The study used a mixed sampling technique for flexibility and to meet the multiple interests and need of the study. Specifically, criterion sampling was used to identify potential participants, and a mixture of deviant and convenience sampling guided
the selection of the final participants. The initial list of target respondents was created based on the researcher’s professional network.

To identify the sample population, criterion sampling was used to select cases that meet the predefined criterion of significance for gathering in-depth information about the case (Miles & Huberman, 1994; Patton, 2001; Rice & Ezzy, 1999). Initial contact email stating the case criteria and purpose of research was sent to the designers working for multinational companies within and outside U.S. (see Appendix A). The criterion for identifying participants in this study was as follows:

Minimal requirements:

1. Participants must be corporate trainers and/or instructional designers that create cross-culturally for multicultural or multinational learners,
2. Participants’ respective organizations must follow a learner analysis process in the needs assessment phase of designing training at a small or big scale, and
3. Training design experience may relate to web-based and/or blended (face-to-face and online) training.

Preferred profile:

1. Somebody with a formal theoretical background in instructional design (best would be a master degree or PhD in instructional design or a related discipline),
2. Have a solid needs assessment experience in training and development, and
3. Have at least worked for 5 years in the field of training and development.

To develop a deep understanding of the cases, the study focused on a small sample size of eight participants to be able to draw insightful trends (Creswell, 1998;
Miller & Salkind, 2002; Patton, 2002; Yin, 2003). For selecting the final participants from the identified sample the study used a combination of different sampling strategies identified by Miles and Huberman (1994). To enhance the richness of data preference was given to the following cases from the sample (a) designers creating instruction for wide variety of cultures such as Asian, Australia, Europe, Middle-Eastern, South American and Africa (extreme or deviant sampling), (b) designers with most experience designing for cross-cultural audience (extreme or deviant sampling), and (c) designers willing to invest more time to the study (convenience sampling). The goal was to find broadest possible sample to have maximum diversity among the participants to capture the wide-ranging lived experiences of designers. Referring back to the flexible design of the case study, the researcher also used opportunistic or emergent sampling and included one participant with rich information not initially selected in the study.

Data Collection

Data were collected via in-depth telephone interviews. Yin (2003) outlined three principles of data collection: (a) using multiple sources of evidence, (b) creating a case study database, and (c) maintaining a chain of evidence. The interviews provided all the data as the designers were unable to share relevant sample materials related to cross-cultural learner analysis from their respective organization due to privacy reasons and organizational constraints.

To maintain a chain of evidence, data collection followed protocols for collecting and organizing data in a manner that facilitated cross-referencing of evidence from methodological procedures to conclusive evidence. The following sections provide a
detailed description of the data collection procedures including the instrument, interview protocol, and ethical considerations.

Instrument

The main instrument was the interview questionnaire to collect all data via semi-structured phone interviews. While interviews are effective methods for collecting in-depth information and making insightful causal inferences, some of the inherent limitations include the self-report bias of the interviewees and the possibility of the researcher’s bias in interpreting the data (Yin, 2003, p. 86). Selective or biased recall of past events had the potential to influence the data provided by the interviewees as the questions focused on participants’ perception based on past experiences. Also, the researcher’s philosophy as a researcher, as well as personal assumptions had the potential to affect the analysis of data in this interpretive and context-dependent study. The limitations due to the researcher’s bias are addressed by sharing information on personal assumptions as discussed in the Trustworthiness section of this chapter.

Validity in qualitative research relies on the accurate reflections of participants’ perspective and appropriate interpretations of the data by the researcher which in turn depends on the integrity of the researcher (Gay, 1996). One way of adding validity to the interpretations made in the study was by keeping track of personal reactions and insights via the continual note-taking process. Strict professional codes were followed and personal assumptions were shared prior to the interviews to address the subjectivity in this qualitative study. To establish the validity of the interpretations personal discipline and member checking were some of the methods used to control the researcher’s bias as discussed in the section related to the trustworthiness model. The researcher relied upon
the guiding research questions and the interview questions as a guide to the discussions, while recognizing that the iterative process of the case study method requires flexibility and responsiveness to the participant.

*Interview Duration*

Introductory emails or phone calls introduced the study’s purpose and boundaries along with researcher’s personal information (ethnic background, educational, and professional accomplishments) to establish researcher’s credibility. Once the participants expressed interest in the study they were emailed study’s synopsis and mailed a copy of the Informed Consent Form approved by Capella Institutional Review Board. Demographic information on the participants (gender, age, country, industry, distinct cultures worked with) and permission to audio tape the interviews was gathered at this time also. A contact summary form (adapted from Miles & Huberman, 1994) was used at the end of each interview to summarize the key findings and thoughts and for documenting the need for additional contact for data clarity, follow-up information, and member-checking.

*Interview Protocol*

Data from the literature review provided a framework for defining the interview questions based on the following factors (a) culture, cognition, and instructional design, (b) exploration of cultural dimensions extensively used in cross-cultural analysis and their shortcomings, and applications, and (c) evaluation of cross-cultural design theories and models. General themes in the literature that led to the study’s theoretical proposition were as follows: cultural dimensions extensively used in cross-cultural analysis, their shortcomings and applications and the shift to intercultural dimensions, cross-cultural
design theories, and models of cultural analysis (see Appendix D). At a functional level during the actual interview process, the line of inquiry followed the various levels recommended by Yin (2003) to assist in both data collection and analysis: level 1 included the questions for the specific interviewees (verbal line of inquiry), level 2 posed questions to be answered by the researcher related to the individual case (researcher’s mental line of inquiry), level 3 asked cross-case questions about the patterns, level 4 helped go beyond the study and related it to the literature findings or the study’s theoretical proposition while level 5 explored the questions about recommendations for cross-cultural learner analysis practice (p. 74).

The interview questions were field tested to gather feedback and insights from peers and faculty members. Both face-to-face and phone interview methods were used during the field test. The field test participants provided feedback via a feedback form created by the researcher that helped refine the original interview questionnaire. The study used standardized open-ended interview approaches described by Patton (1990). Open-ended questions were worded and arranged carefully to be asked of all participants using the same words in the same order.

Study synopsis was shared in advance to introduce and inform the participants of the study’s topical concepts. The interview protocol included instruction for the interviewer, key questions and probes to follow key questions (see Appendix C). Field notes related to subjective observations and thoughts were also taken during and after each interview to assist in the thematic analysis process.

Ethical Considerations
Addressing ethical issues in qualitative research is imperative and it is the researcher’s responsibility to respect the rights and values of the participants (Creswell, 2003; Locke, Spirduso & Silverman, 2000; Merriam, 2001). The following steps were taken to protect the participants’ privacy and rights: (a) research goals were clearly stated both orally and in writing; (b) participants received detailed explanation of data collection and devices, and how data will be used in the research; (c) the researcher obtained permission to audio tape the interview beforehand; (d) Informed Consent Form approved by Capella Institutional Review Board was obtained from each participant prior to conducting interviews (see Appendix B); (e) participants had the right to choose anonymity regarding names and organizational affiliation; and (f) researcher shared drafts with the participants to review the verbatim transcriptions and the interpretations as it is essential for the researcher to disclose to participants how they have been “presented, quoted, and interpreted” (Stake, 2000, p. 448) in the report.

Data Analysis

Data were analyzed using systematic coding of the case study descriptions and within case and cross-case analyses to discover relationship and patterns. The study used cross-case synthesis to enhance the generalizability and to get an in-depth understanding of the phenomenon under study: learner analysis (Miles & Huberman, 1994; Yin, 2003).

Data Transcription

Patton (1990) underlined the significance of “analytical insights” overlapping between data collection and analysis as it improves quality of both data collected and analyzed in the study (p. 378). The researcher identified such opportunities by filling out
the contact summary form with the coded themes for each participant soon after the interview. The goal was to mark the salient points in the interview based on the field notes and to apply the predefined thematic codes for later analysis. Next, the interviewee’s audio recorded responses and field notes were converted into text files and incorporated into Atlas.ti data management software. The tool is well-suited for the qualitative analysis of large bodies of textual data by supporting coding, annotating, and comparing segments of information to validate and create theory (Atlas.ti, 2009).

Coding and Cross-Case Exploration

A provisional list of descriptive codes for anticipated themes and aspects was created prior to analysis based on the theoretical and conceptual framework, the interview questions, and the key variables in the study. This initial list of codes focused the first level of analysis on summarizing segments of data based on Bogdan and Biklen’s (1992) scheme of categories such as definitions, perspectives, process and strategies. The researcher reviewed the data closely recognizing Patton’s (1990) caveat that “qualitative analyst’s effort in uncovering patterns, themes, and categories is a creative process that requires making carefully considered judgments about what is really significant and meaningful in the data” (p. 406). The first level summaries were grouped into a smaller number of emerging themes and constructs by defining code families for related research questions and conceptual variables via within-case analysis.

Following the initial coding and establishing code families, the researcher again reviewed transcripts to identify points of comparison and contrast to the theoretical and conceptual framework and to anticipated themes. Again in deference to Patton (1990) the researcher was always open to redefining or discarding codes to accommodate a more
accurate and inclusive set of constructs. Quotations from all the cases were filtered for each of the identified constructs in preparation for cross-case exploration. Partially ordered display table for each of the constructs were created to summarize data.

Cross-Case Explanation and Prediction

Geertz (1973) contended that the rigor of qualitative analysis is represented by the solid descriptive data, that is, the thick descriptions. To formulate an in-depth understanding of the central phenomenon of learner analysis, the framework for exploring and describing the cases used a mix of story and concept. While using narratives and quoting participants in the process-oriented story-like format helped preserve the configuration of representative cases, focus on the key constructs offered structure for descriptive analysis.

Cross-case explanation and prediction was conducted using a combination of conceptually clustered content analytic summary tables, fragment causal networks, and narratives for each of the constructs identified during coding. Data from the conceptually clustered matrices for each construct were reviewed in-depth. The extrapolation of the interrelated factors or variables in the content analytic summary tables led to the discovery of mental maps for each of the constructs. These maps helped put together discrete pieces of data into a meaningful pattern across cases, which were presented via the fragment causal networks. The inferential analysis at this level was supported by narratives to draw conclusion from each of the fragment causal networks. The objective of this process was to present a clear overview of the relevant findings from the thematic analysis.

Cross-Case Comparison and Meta-Analysis
The predictive function of causal networking was used to further analyze the fragment causal networks and to make predictions based on the identified streams of factors important for cross-cultural analysis. These factors were then listed and converted into variables that facilitated the last step in the analysis process: cross-case causal networking. The causal variables from all of the fragment causal networks were combined together to create the meta-causal network that helped define the outcome variables for improving the effectiveness of cross-cultural learner analysis (Miles & Huberman, 1994, p. 228).

Final interpretations of findings and lessons learned were drawn from the outcome variables of the meta-causal network, and the result was an outline of general prescriptions for effective cross-cultural learner analysis in online instruction (see Figure 3). Clear understanding of the current practice of learner analysis and relevant values and gaps in regard to existing cultural analysis frameworks and culturally competent models helped categorize variables that can inform and support cross-cultural learner analysis frameworks.

![Figure 3. Causal network for cross-cultural learner analysis.](image-url)
Trustworthiness

The quality of research designs in qualitative studies is judged by testing the criteria for trustworthiness. Guba (1981) strongly recommended that qualitative researchers to work with a model to assess trustworthiness of data when using case study approach. Stating the status of case study method in research Gerring (2004) argued that although case studies have been foundational for empirical knowledge and though case studies continue to produce useful knowledge in different disciplines, the method is “held in low regard or simply ignored” (p. 341). The goal for establishing trustworthiness in qualitative inquiry is to present strong arguments for the findings’ accuracy and credibility to reflect the reality of experience. One of the most reputable standards of trustworthiness in qualitative inquiry was established by Lincoln and Guba (1981) that guided the study to maintain rigor. Following is the description of standards and methods used in the study.

Credibility

Credibility of findings in qualitative inquiry relates to justifying that the findings reflect the reality of experience of the participants via appropriate interpretation and incorporation of participant’s feedback to present plausible research results. Lincoln and Guba (1981) offer different ways of establishing credibility and the study used the following methods:

1. Thick description: This will allow readers to apply the context and findings to other settings,

2. Peer-debriefing. Researcher took help from experts in cross-cultural studies to clarify and correct insights,
3. Negative case analysis. Researcher looked for cases presenting disconfirming theories to critically analyze original proposition and make corrections accordingly,

4. Member checks. Participants were contacted to share researcher’s understanding and interpretations by sharing draft of data analysis to make adjustment accordingly, and

5. Audit trail. Filed notes, memos, and write-ups included detail records of identified patterns, themes, decisions, and methods used to check for personal bias.

All of these methods were employed within this methodology, and therefore support the credibility of its results.

*Transferability*

Transferability is the degree to which findings can be applied to different settings and populations. This requires clear reporting of the findings for application in other contexts. Transferability was established by presenting a thick, rich description of the data and conclusions to help readers make a decision on applicability by matching the context and settings. This was done by incorporating participant’s quotes and ideas as explicitly as possible. Recording details of time, place, and context for all meetings, reflections, and archiving data are some other methods that established transferability in this study. The nature of the case study limits transferability to some degree, but it does provide a foundation for future inquiry that may be broader in scope and therefore more supportive of transfer.
Dependability

Dependability of data is assessed via the use of an audit trail to ensure accurate data collection (Guba, 1981) to allow the traceability of the analysis data. Besides using the methods for establishing credibility that relates to maintaining document of all forms and levels of analysis, the study maintained an audit trail of design descriptions, methods and procedures used, sampling process, description of data collection, record of decisions about ethical issues, excerpts from data, research notebook and collected data. Also researcher’s personal bias and assumptions were shared to establish dependability.

Conformability

Conformability relates to the ability to trace all data, figures, facts back to the original source. Lincoln and Guba (1981) recommended an inquiry audit to establish conformability which may not be possible due to time and budget constraints. The study justified insights using literature review and similar research in the field besides archiving all forms and levels of analysis including complete information on the original source.

Limitations

Generalizability

One of the major concerns for qualitative methods relates to the inability to generalize the findings. Findings can be generalized only to the extent that those contacted in the interviews are representative of instructional designers. Patton (1990) suggested using “extrapolations” to address the limited generalizability concern as they take the investigator beyond the data to think about the applicability of the findings as they are (a) “modest speculation on likely applicability”, (b) “logical, thoughtful and
problem oriented”, and (c) “useful when based on information-rich samples” (p. 489).
Hence, the researcher strived to present rich descriptions to facilitate the readers in comprehending the interpretations for respective context and settings.

Scope

Culture is in a constant state of flux and broad characteristics based on nationality or any other kind of grouping may not apply to all the individuals in that group. Therefore, questions and findings within this study were time-bound, and are subject to the same evolution and change inherent to culture itself. Furthermore, the limited number of participants within the study was dictated both by the selected methodology and the effort of convenience on the part of the researcher. This small participant pool made it unlikely that all views of instructional design professionals were captured. This was a deliberate limit to the scope of the study.

Participant Accessibility

Constraints related to participant access, engagement, and practicality dictated the depth of data collected, synthesized and included in the results as influenced by the availability and willingness of participants to share the information. Since all of the interviews were conducted over the phone, it is essential to address some of the limitations associated with such methods. Since both telephone and electronic methods eliminates face-to-face interactions, interpreting from non-verbal behavior is not possible and it becomes difficult to build rapport with the interviewee. Fontana and Frey were skeptical about the potential of electronic interviewing in allowing researchers to obtain thick descriptions for qualitative inquiry (2000, p. 667). Hence, the researcher used extra caution and effort in building rapport and obtaining thick descriptions when using the
electronic method through additional interactions and correspondence before and after the interview.

*Researcher Bias*

Elaborating on the role of researcher in qualitative inquiry Stake (1995) stated that “standard qualitative deigns call for the person most responsible for interpretations to be in the field, making observations, exercising subjective judgment, analyzing and synthesizing, all the while realizing their own consciousness” (p. 41). Given the interpretive and context-dependent nature of this study, the researcher’s background as a researcher, as well as inherent personal biases and assumptions had the potential to affect the research in both positive and negative ways. Hence, in discussing the limitations of this qualitative inquiry it becomes critical to share personal biases and assumptions as a learner, designer, and researcher.

The researcher is originally from India and came to United States twelve years ago after getting married to an American-born Indian. The researcher’s work concentration in India was curriculum development and planning for preschool teacher training programs. The researcher’s educational and work experience in U.S. relates to obtaining a Masters in Education (Curriculum & Instruction Program) at Lesley University (Cambridge, Massachusetts) and working as a senior technical training consultant for a software company in Cambridge, Massachusetts (Pegasystems, Inc.) for over two years. It is also important to mention that the private school system that the researcher attended in India was substantially influenced by the British educational philosophy and methodologies. The researcher personally embrace the worldview pragmatism in research that attends to the pluralistic nature of the real-world and focuses
on finding practical solutions to the problem at hand regardless of the methods used in the process (Creswell & Plano Clark, 2007). The researcher believes that choice of research design and methods must be dictated by the nature of subject under study and the research questions. Also, the researcher believes in maintaining a pluralistic and eclectic approach to philosophical paradigms in instructional design including design theories and models.

Some of the researcher’s views and assumptions as a researcher, learner and designer that deserve attention in this culture related study are as follows:

1. Although science, design and technology delineate the crucial elements of instructional design, the major goal of instructional design is to help the learners learn (Inouye, Merrill & Swan, 2005).

2. Since “education proceeds by the participation of the individual in the social consciousness of the race” (Dewey, 1897, ¶ 1), it may be unrealistic to expect that designers create instruction devoid of the influence of respective cultural norms and values. In other words, objectivity is a delusion.

3. Absolute cultural relativism is a false assumption.

4. Universal principles of learning and teaching across cultures are a possibility.

The notion of presenting the researcher’s views is to share researcher’s personal biases with the readers so they can critically examine how they shaped the conceptualization in this study and draw their own conclusions related to the findings.
CHAPTER 4. DATA COLLECTION AND ANALYSIS

The purpose of this study was to explore strategies for expanding learner analysis within the instructional design process to better address cultural influences on learning. Based on a case study methodology the study focuses on the experiences and perceptions of practicing instructional designers to build a framework for improving the effectiveness of culturally competent learner analysis. This chapter describes the overall data collection and analysis approach, processes, and the results comprising of three sections.

The first section describes the participants’ characteristics and the interview process. The second section outlines the data analysis tools and techniques and the third section presents the data analysis results by providing discussion of the overall findings and emerging themes illustrated by the rich descriptions captured during data collection. The goal of including participants’ characteristics and the interview procedures in detail is to take into account the researcher’s bias in this culture-related study so that readers can critically examine how they shaped the researcher’s conceptualization and draw their own conclusions related to the findings. The research questions explored in this study are as follows:

1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?

2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?
3. How do instructional designers characterize the role of cultural analysis in creating culturally appropriate e-learning content?

4. How do designers define the elements of cultural analysis critical for culturally competent design?

Participants’ Characteristics and the Interview

The approach to establishing a pool of participants for this study was informed by Miles and Huberman (1994), who endorsed the use of a small and broad sample of participants for an in-depth study. For drawing insightful trends, the richness of data was enhanced by the diverse sample of eight designers from varied educational and business backgrounds. The designers had wide-ranging experiences of cross-cultural design working for variety of corporate training environments such as healthcare, financial services, insurance, and corporate universities. Table 2 provides a synopsis of participant location, industry, and the countries within which they have gained cross-cultural design experience.

The participants ranged from independent contractors and self-employed e-learning consultants to corporate designers of large international companies. The cross-cultural design experience also varied in that some participants had extensive or exclusive experience designing and delivering training for learners from a multitude of nations and cultures, while the experience of others was limited to designing for learners from different cultures within a given country. The perception and approach to cross-cultural learner analysis was significantly influenced by each participant’s knowledge, expertise, and experience. All the participants had five or more years of experience in design
including e-learning and in-depth knowledge and familiarity with the needs assessment process.

Table 2. Participants’ Profile

<table>
<thead>
<tr>
<th>Case No.</th>
<th>Born in</th>
<th>Industry sector (Instructional Design)</th>
<th>Cross-cultural design experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>U.K.</td>
<td>Software-product and consultancy (business process management), designing and delivering training for IT specialists globally.</td>
<td>England, Scotland, Ireland, Northern Ireland, France, Belgium, Germany, Spain, Switzerland, U.S.A., Canada, China, Australia, Hong Kong, Singapore, Philippines, Malaysia, India, Sri Lanka, New Zealand U.S., U.K.</td>
</tr>
<tr>
<td>2</td>
<td>U.S.</td>
<td>Financial services: banking, insurance. Instruction designer-contractor</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>U.S.</td>
<td>HR/ Banking, diversity manager/trainer</td>
<td>U.S., U.K., Asia pacific, Europe</td>
</tr>
<tr>
<td>4</td>
<td>India</td>
<td>HR, trainer/designer</td>
<td>Different cultures within India</td>
</tr>
<tr>
<td>6</td>
<td>U.S.</td>
<td>Corporate training &amp; e-learning, designer/training consultant</td>
<td>U.S., U.K., Europe, Asia, Middle East</td>
</tr>
<tr>
<td>7</td>
<td>U.S.</td>
<td>Healthcare, Banking, Universities, consultant and instructional designer (self-employed)</td>
<td>Different cultures within U.S., African American, Hispanic, and Asian.</td>
</tr>
<tr>
<td>8</td>
<td>U.S.</td>
<td>Financial Services, Healthcare, Television Media, instructional designer contractor</td>
<td>Different cultures within U.S.</td>
</tr>
</tbody>
</table>
Potential participants were contacted via email describing the purpose and nature of the research (Appendix A). The eight participants selected received a copy of the study synopsis that outlined the study’s focus, interview format, and guiding questions. The reason for sharing the guiding questions with the participants ahead of time was to provide a clear context of the study given the complex nature of culture and the myriad of perspectives on its manifestation in teaching and learning. Informed consent was obtained both in written form and orally over the phone prior to the interviews (Appendix B). The 60-minute interviews were conducted over the phone and recorded using a digital recorder. The Contact Summary Form adapted from Miles and Huberman (1994) was filled out after each interview to mark salient points and themes. The interview followed a protocol and used probes that were field tested by peers and faculty members. The semi-structured interview format offered opportunity for in-depth exploration of the research focus and allowed the participants to offer insights via open-ended dialogue.

Data Analysis Tools and Techniques

The data analysis and exploration was based upon the textual and conceptual functionality of coding in Atlas.ti and the qualitative analysis methods for cross-case analysis proposed by Miles and Huberman (1994). The analysis included the following processes: (a) coding and within-case analysis, (b) cross-case exploration using partially ordered display tables, (c) cross-case explanation and prediction via conceptually ordered content-analytic summary tables, fragment causal networks, and narratives, and (d) meta-analysis of fragment causal networks.
Coding

Coding, a form of analysis, is the process of using labels or tags “for assigning units of meaning to the descriptive of inferential information compiled during the study” (Miles & Huberman, 1994, p. 56). A provisional start list of codes was developed drawn from the conceptual framework, research questions, literature review, and key variables brought to the study. The a priori codes were based on Bogdan and Biklen (1992) scheme of defining codes in the following ways: (a) setting or context, (b) definition or situation, (c) perspectives, (d) ways of thinking about people and objects, (e) process, (f) activities, (g) events, (h) strategies, (i) relationships and social structure, and (j) methods. Among the aforementioned ways, those selected relate strongly to the research questions and the conceptual framework of the study. Such a scheme aided the researcher in assigning meaningfully interrelated categories for the a priori codes, which consequently provided a strong foundation for the development of the first level codes (see Table 3).

1. Definition of the situation: how people define, understand, or perceive the research topics. The a priori codes defined for this category related to the definition (DEF) and perception (PER) of culture, cross-cultural design, and cross-cultural learner analysis,

2. Process: order of events, transitions, flow, turning points, changes overtime. The a priori code for this category was the process (PRO) related to cross-cultural design and learner analysis, and

3. Strategies: ways of accomplishing things; methods, techniques. The a priori codes for this category included cultural information (CUL-INFO),
accommodations (ACC), strategies (STR), and challenges (CHAL) related to cross-cultural learner analysis and design (Miles & Huberman, 1992, p. 61).

Table 3. A Priori Codes

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Conceptual Framework</th>
<th>A Priori Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?</td>
<td>1. Definition of culture/diversity&lt;br&gt;2. Process: what, when, how, why</td>
<td>DEF&lt;br&gt;PRO</td>
</tr>
<tr>
<td>2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?</td>
<td>1. Accommodations</td>
<td>ACC</td>
</tr>
<tr>
<td>3. How do designers characterize the role of cultural analysis</td>
<td>1. Perception of cultural analysis in the context of design &amp; learner analysis</td>
<td>PER</td>
</tr>
</tbody>
</table>

First Level Coding

The first level of coding was done based on the a priori codes by reviewing the transcripts in a sequential order. Data segments were reviewed and coded for each case in accordance with the predefined themes and a priori codes, while also defining new themes for sections that did not fit the a priori themes or codes. Table 4 provides a breakdown of all code definitions. The analysis process was open to redefining or
discarding codes to accommodate a more accurate and inclusive set of constructs.

Memoing was an integral part of initial coding for the following reasons: (a) to tie together discrete pieces of data into a meaningful cluster, (b) to mark either meaningful patterns or unique elements in a case, (c) to propose new codes, and (d) to mark unclear concepts.

Coding and memoing were completed using the software ATLAS.ti. The software provided a workbench for the qualitative analysis by helping to manage, extract, compare, explore, and reconstruct discrete, meaningful pieces of data from the large amounts of unstructured information systematically. Figure 4 provides a screen shot of ATLAS.ti as an interview was being coded and memoed.

The coding procedures used by the researcher to establish code labels were similar to the operations described by Lincoln and Guba (1985): (a) adding codes, reconstructing a coherent format as new insights emerged, (b) going back to the earlier codes and looking at them with a new angle to discover new themes and constructs, (c) finding new or previously misinterpreted relationship within a category, and (d) identifying new categories.

**Family Coding**

The next step in the analysis was to look at the first level summaries and codes and group them into a smaller number of emerging themes and constructs through the assignment of code families that were linked to related research questions. Memoing aided the within-case inferential analysis and the regrouping of the codes by providing a constellation that could be followed during the second phase of coding.
Table 4. Definition of First Level Codes

<table>
<thead>
<tr>
<th>A Priori Codes</th>
<th>First Level Codes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEF</td>
<td>CUL-DEF</td>
<td>Definition of culture as perceived by the participants</td>
</tr>
<tr>
<td>DEF</td>
<td>DIV</td>
<td>Definition of diversity as perceived by the participants</td>
</tr>
<tr>
<td>CUL-INFO</td>
<td>CVAR</td>
<td>Cultural variables used during learner analysis</td>
</tr>
<tr>
<td>PRO</td>
<td>CCLA-PRO</td>
<td>Cross-cultural learner analysis process in real practice</td>
</tr>
<tr>
<td>CUL-INFO</td>
<td>CUL-ACC</td>
<td>Cultural accommodations incorporated in course design/delivery</td>
</tr>
<tr>
<td>STR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>CCD-PER</td>
<td>Participants’ perception of cross-cultural design</td>
</tr>
<tr>
<td>PER</td>
<td>CCLA-PER</td>
<td>Participants’ perception of cross-cultural learner analysis</td>
</tr>
<tr>
<td>CHAL</td>
<td>CHAL</td>
<td>Challenges in conducting cross-cultural learner analysis: organizational, procedural, personal</td>
</tr>
<tr>
<td>CHAL</td>
<td>CULISSUE-PER</td>
<td>Participants’ perception of cultural issues in design and analysis</td>
</tr>
<tr>
<td>CUL-INFO</td>
<td>CUL-INFO</td>
<td>Cultural information on learners critical for competent cross-cultural design</td>
</tr>
<tr>
<td>STR</td>
<td>CCLA-STR</td>
<td>Cross-cultural learner analysis strategies: both proposed and in real practice</td>
</tr>
<tr>
<td>STR</td>
<td>DESER-ROLE</td>
<td>Designers’ role in facilitating competent cross-cultural design and analysis</td>
</tr>
<tr>
<td>STR</td>
<td>LEARNER-ROLE</td>
<td>Learners’ role in facilitating competent cross-cultural design and analysis</td>
</tr>
</tbody>
</table>
These code families served as constructs identified under the themes as follows: (a) definition, (b) process, (c) cultural accommodations, (d) perception, (e) challenges, and (f) strategies. Constructs provide order to the descriptive data as they are concepts that are derived from observed phenomena and can be used to explain those phenomena. These constructs are explored through data analysis in this study and used throughout the analysis process to organize the findings and draw conclusions for the final frameworks. Table 5 describes the relationship of the family codes or constructs with the research questions and underlying themes.
Table 5. Code Family or Constructs Related to Research Questions

<table>
<thead>
<tr>
<th>Research Question (RQ)</th>
<th>Sub-Questions/ Themes</th>
<th>First Level Codes</th>
<th>Code Family/ Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?</td>
<td>1a. How do designers define culture in the context of cross-cultural design and learner analysis?</td>
<td>CUL-DEF DIV CVAR</td>
<td>1 Definition</td>
</tr>
<tr>
<td></td>
<td>1b. How do designers conduct the process of cross-cultural learner analysis?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RQ2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?</td>
<td>2. How do designers accommodate the identified cultural differences?</td>
<td>CUL-ACC</td>
<td>3 Cultural Accommodations</td>
</tr>
<tr>
<td>RQ4. How do designers define the elements of cultural analysis critical for culturally competent design?</td>
<td>4a. How do designers define the challenges in conducting cultural analysis?</td>
<td>CHAL CULISSUE PER</td>
<td>5 Challenges</td>
</tr>
<tr>
<td></td>
<td>4b. How do designers define the strategies for cultural analysis critical for culturally competent design?</td>
<td>CUL-INFO CCLA-STR DESER-ROLE LEARNER-ROLE</td>
<td>6 Strategies</td>
</tr>
</tbody>
</table>

Cross-Case Exploration

The volume of data that emerges in a multiple case study usually requires that the first attempt at cross-cases analysis be exploratory in nature. Cross-case data makes use
of common codes, common displays of coded data segments, and common reporting formats to uncover points of comparison within the data. The major constructs defined during within-case analysis in the previous section guided both cross-case explorations and cross-case analysis: explanation and prediction.

ATLAS.ti’s filtering features allowed the researcher to examine quotations from all of the cases to draw broader themes. Word files for each code family were printed and reviewed carefully to create partially ordered meta-matrices of the major constructs for all the cases. Meta-matrices are “master charts assembling descriptive data from each of the several cases in a standard format” (Miles & Huberman, 1994, p. 178). The meta-matrices assigned at this stage repeated the major constructs identified during within-case analysis: definition, process, cultural accommodations, perception, challenges, and strategies. The partially ordered meta-matrices are simply a stack of case-level charts for the identified constructs with the purpose of presenting summarized data including actual extracts from the interview transcripts. Each of these constructs are explored in the following section.

**Meta-Matrix: Definition**

The first research question for this study asks, *To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?*, and Research Question 1a asks *How do designers define and perceive culture and cross-cultural design in the context of learner analysis?* Table 6 presents the summarized themes that address these questions. The table provides a synopsis of each respondent’s definition or perception of culture, and then summarizes the diversity and cultural variables as labeled by the participants. The wide range of definitions of culture and the
myriad of cultural variables identified by the participants underscore the complex nature of culture. The responses suggest that culture can mean different things to different people based on their personal and professional experiences.

*Meta-Matrix: Process*

In moving to process, Research Question 1b asks *How do designers conduct cultural inquiry during learner analysis?* To address this question, the researcher extracted self-reports from each participant about their practices with regard to cultural inquiry during learner analysis as summarized in Table 7. The responses reflect that in the majority of cases a full-fledged cross-cultural learner analysis process is not an essential part of the instructional design process. The two cases that were involved in a full-fledged process held the title of cultural expert and diversity trainer. The general impression of other participants is that cross-cultural learner analysis is a process that can be or should be handled by cultural experts or assigned professionals only.

*Meta-Matrix: Cultural Accommodations*

The examination of cultural accommodations is grounded in Research Question 2, which asks, *In what ways are instructional designers currently considering and addressing cultural influences on their design process?* This research question focuses on how designers accommodate the identified cultural differences. Each respondent’s discussion about their strategies to accommodate cultural differences is chronicled in Table 8. The response summary reveals high level of awareness and sensitivity to cultural differences of learners among the designers. Also, the responses divulge a major emphasis on (a) cultural taboos and etiquettes based on national differences, and (b) content related variables such as clarity of written and spoken language or graphics.
<table>
<thead>
<tr>
<th>Case</th>
<th>Definition/perception of culture</th>
<th>Diversity and cultural variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Technical/ system, the impact of culture on learning is not that big and cultural differences not that important as they used to be.</td>
<td>date, currency, browser setting, time zone, language, color or learning culture of the learners</td>
</tr>
<tr>
<td>Case 2</td>
<td>Different understandings across cultures of business processes, a complex issue.</td>
<td>Human brain functions, not learning styles</td>
</tr>
<tr>
<td>Case 3</td>
<td>Thought diversity and its influence on culture as culture tells how people think and how they act and influenced by where they are from and the perspectives they bring.</td>
<td>8 categories of gender, ethnicity, age, disability, sexual orientation, nationality, religion and difference of thought, working culture, key legislation</td>
</tr>
<tr>
<td>Case 4</td>
<td>An accepted norm or way of working in an organization or a particular set-up.</td>
<td>culture, age, work experience, cross-cultural etiquettes</td>
</tr>
<tr>
<td>Case 5</td>
<td>Shared characteristics based on a set of values as taught to a given group of people to respond to other people, their community or the surroundings.</td>
<td>age, gender, job role, organizational culture, religion, taboos, etiquettes, caste or social system, education system or pedagogical differences, cultural dimensions</td>
</tr>
<tr>
<td>Case 6</td>
<td>Differences in terms of cross-faith, cross-border, both people perspectives and religion perspectives, more diversity than culture.</td>
<td>race, country, religion, sexual orientation, handicaps, privacy issues, laws, and regulations</td>
</tr>
<tr>
<td>Case 7</td>
<td>Different meaning such as nationality, ethnicity, employee culture, language, e-learning capability.</td>
<td>nationality, ethnicity, employee culture, language, e-learning capability</td>
</tr>
<tr>
<td>Case 8</td>
<td>Different things such as age, generation gap, ethnic background or country, preferred learning styles.</td>
<td>age, generation gap or ”GenX”, ethnic background or country, preferred</td>
</tr>
</tbody>
</table>
### Table 7. Construct 2: Process Related to Cross-Cultural Analysis

<table>
<thead>
<tr>
<th>Case</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Informal, post delivery analysis based on learner’s course evaluation or instructor feedback.</td>
</tr>
<tr>
<td>Case 2</td>
<td>Handled by local or cultural experts or team, a process separate from design process.</td>
</tr>
<tr>
<td>Case 3</td>
<td>Work with regional diversity board with consultants and partnership with local business partners, cultural experts or learning partners, and HR along with feedback from participants to identify audience make-up and learning needs.</td>
</tr>
<tr>
<td>Case 4</td>
<td>No scientific or standardized method, incorporation of cultural sensitivity in the training design if demanded by the customer.</td>
</tr>
<tr>
<td>Case 5</td>
<td>Formal and full-fledged process using an inverted pyramid starting with the broader categorization of the target culture attributes that impact learning to specific learning needs of the given group. Customs, cultural dimensions and cultural barrier to learning form the topmost learner characteristics followed by cultural variables such as the language and e-learning needs. The critical red flags are run by cultural experts and learner input is incorporated via field test and/or mini focus group and post delivery feedback: an ongoing process.</td>
</tr>
<tr>
<td>Case 6</td>
<td>Part of the training needs analysis to identify needs based on demographics via a checklist that includes cultural or local needs analysis and aspects such as tenure, experience, technical infrastructure and experience, age etc. However, no learner input is involved, the demographics is provided by the customer or client and the design team is expected to figure out the needs based on their research, expertise and experience.</td>
</tr>
<tr>
<td>Case 7</td>
<td>Standard set of questions and format for needs assessment that includes needs analysis of variables such as age, language, location, ethnicity etc.</td>
</tr>
<tr>
<td>Case 8</td>
<td>Done on an ad-hoc basis, post delivery and anecdotally and no formal learner analysis and varies and depends on how and to what extent individual designers like to conduct such an analysis which may vary from one project to another.</td>
</tr>
</tbody>
</table>
Table 8. Construct 3: Cultural Accommodations

<table>
<thead>
<tr>
<th>Case</th>
<th>Cultural Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Focus on post delivery feedback from learners clients and trainers for ongoing revision. Incorporating clarity and flexibility in written material and presentation so it could be translated across cultures, industries and application: a universal design principle that works in favor of all learners.</td>
</tr>
<tr>
<td>Case 2</td>
<td>First acknowledge the differences, let the qualified cultural experts handle the complex cultural issues and designers need to pay attention to language and examples in the written material and take care of any learning barriers related to the material for diverse audiences.</td>
</tr>
<tr>
<td>Case 3</td>
<td>Involving the key stakeholders and learning partners such as the local HR, trainers and cultural experts from the beginning and inquiring and understanding the needs and priorities of learners based on regional cultural differences along with ongoing learner feedback for individualized training programs for each region or audience.</td>
</tr>
<tr>
<td>Case 4</td>
<td>Attention toward cultural etiquettes, taboos, and sensitivity toward cultural differences related to work culture in different countries and educating the workers/trainers on how to work with cross-cultural differences and dimensions via diversity training.</td>
</tr>
<tr>
<td>Case 5</td>
<td>Follow an effective learner analysis process that includes consideration of broad cultural differences and dimensions based on nationality to specific differences related to culture and diversity variables and incorporate the accommodations as part of the design process and adjust accordingly the content, presentation, and pedagogy.</td>
</tr>
<tr>
<td>Case 6</td>
<td>Cultural sensitivity and adaptations for written and spoken content (examples, metaphors, language), inclusive strategies for multimedia or actor-based training to factor in nationalities, religions and ethnicities.</td>
</tr>
<tr>
<td>Case 7</td>
<td>Keeping communication, written or other, as clear as possible. Following sound e-learning principles to accommodate adaptability differences.</td>
</tr>
<tr>
<td>Case 8</td>
<td>Being aware of my own biases and learning from experience and post delivery feedback what has been successful in the past. Keeping the language culturally neutral as much as possible.</td>
</tr>
</tbody>
</table>
Meta-Matrix: Perception

The role of perception was the focus of Research Question 3, which asks, *How do designers characterize the role of cross-cultural design or cross-cultural learner analysis?* Table 9 presents the thematic responses of each participant with regard to how they, as professionals, characterize the role of cross-cultural design and analysis in their work. While data related to the perception of cross-cultural design is varied and reflect a positive attitude and acute sense of inclusivity among the designers, perspectives on cross-cultural learner analysis exhibits skepticism. Even though the designers expressed interest in learning more about the cultural differences of learners, they drew attention to the challenges related to conducting a learner analysis process on a big scale. The major challenges identified are business demands, cost, time, and money constraints, and the fast pace of work defined by corporate culture. The exception to the norm is the perception of the cultural analyst and the diversity trainer as they emphasize the practical value of a well-developed cross-cultural learner analysis for a culturally competent design.

Meta-Matrix: Challenges

In asking Research Question 4, *How do designers define the elements of cultural analysis critical for culturally competent design?,* the study sought to better understand how designers define the challenges inherent to conducting cultural analysis before delving into the strategies. Table 10 presents the themes related to the construct “challenges”. The responses reveal that one of the major challenges in conducting a full-scale analysis is the undefined role of cross-cultural learner analysis in cross-cultural design. The responses also identify the reasons for the undefined role as: Western
hegemony and bias, the lack of understanding and awareness, the lack of training and information resources, the lack of acknowledgement of the need, and organizational constraints related to time, budget, and resources.

Meta-Matrix: Strategies

Another goal of exploring the key elements of cultural analysis was to identify the key strategies as defined by the study participants. Table 11 presents the themes related to the construct strategies that addresses Research Question 4, which asks How do designers define the elements of cultural analysis critical for culturally competent design? The participants’ responses include many strategies that could improve the effectiveness of cross-cultural design and analysis. The underlying focus of the strategies can be classified as redefining the following: the approach to the process, the role of the participants, the resource and training needs, and organizational outlook toward cultural analysis.

Table 9. Construct 4: Perception Related to Cross-Cultural Analysis

<table>
<thead>
<tr>
<th>Case</th>
<th>Cross-cultural design</th>
<th>Cross-cultural learner analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>How materials are created, written and presented. Americans do not naturally consider differences though and preference for one way of doing things is industry standard.</td>
<td>Commercial decision based on customer base: trainer perspective should do more but practical perspective if does not affect sales then why create a big problem.</td>
</tr>
<tr>
<td>Case 2</td>
<td>What motivates people, what is meaningful, realistic and memorable Not to get caught up in the learning styles debate or buzzwords and make an effort to do something incomprehensible as culture includes so many changing variables and it is impossible to meet the needs of so many people. Everybody has a different meaning and definition, culture is a complex issue to be tackled alone.</td>
<td>Pace of design and learning does not afford a lot of attention to this variable, people pay lip service as it is difficult to understand the how and why and the definition although a lot of research talk is there about CCLA.</td>
</tr>
<tr>
<td>Case</td>
<td>Cross-cultural design</td>
<td>Cross-cultural learner analysis</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Case 3</td>
<td>Is what you can see to what you cannot see, going from visible to invisible and generally falls in one of the 8 categories of gender, ethnicity, age, disability, sexual orientation, nationality, religion and difference of thought.</td>
<td>Identifying regional traits significant for that region and build content upon that based on company’s learning and research, from a LA perspective we consider where our audience was.</td>
</tr>
<tr>
<td>Case 4</td>
<td>Organization just looks for the right kind of workers who can work in the cross-cultural environment or train them or hire people with required cultural expertise</td>
<td>Business demands and goals drive the process although LA is not a popular concept in my country and companies look for off-the shelf programs and vendors to conduct such processes. Depends on the designers if he/she is knowledgeable and wants to personally take the time to find out about the learners.</td>
</tr>
<tr>
<td>Case 5</td>
<td>Understand cultural values of target learners especially the three components that impact ID: content, teaching method, pedagogy, technology.</td>
<td>CCLA is being able to most accurately define the learners’ needs based on their cultural differences. It has many levels and complex and companies must put the time and effort upfront in such an analysis.</td>
</tr>
<tr>
<td>Case 6</td>
<td>Americans have a heightened sense of political correctness and the company is sensitive to cultural differences for global audiences. Given the premise of globalization customer will have little tolerance for companies that do not address cultural differences.</td>
<td>Part of due diligence and should be part of the design principles and ingrained within the design process. However, not something that needs to be done with a lot of science and must be executed in an inexpensive and efficient manner.</td>
</tr>
</tbody>
</table>
Table 9. Construct 4: Perception Related to Cross-Cultural Analysis (continued)

<table>
<thead>
<tr>
<th>Case</th>
<th>Cross-cultural design</th>
<th>Cross-cultural learner analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 7</td>
<td>For U.S. customer base cross-cultural design is not critical and want one standard design for all learners as long as some inclusivity is shown in graphics</td>
<td>No one pays particular attention to LA in the needs assessment process and it is up to the designer to take the time and effort to understand the learner needs and include critical LA variables in the design process such as language, age, nationality.</td>
</tr>
<tr>
<td>Case 8</td>
<td>Design need to consider learner attributes such as age, GenX and preferred learning styles.</td>
<td>More global companies must do more learner analysis, there are lots of variations but probably most of them are not doing it.</td>
</tr>
</tbody>
</table>

Table 10. Construct 5: Challenges Related to Cross-Cultural Learner Analysis

<table>
<thead>
<tr>
<th>Case</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>No database or knowledge base for designers to identify cultural differences based on nationalities or otherwise and ask the right questions and adjust instruction accordingly.</td>
</tr>
<tr>
<td>Case 2</td>
<td>Lack of acknowledgement and the readiness to take the responsibility to address cultural differences via learner needs analysis on part of the companies and designers due complacency or lack of awareness.</td>
</tr>
</tbody>
</table>
| Case 3 | 1. Challenging to get buy-in from top to bottom due to lack of acknowledgement of the need to conduct learner analysis.  
2. Difficulty achieving consensus on critical aspects of learner needs from myriad of diverse regional boards of different countries.  
3. Difficulty finding the right cultural experts, local experts and culturally competent vendors for e-learning. |
| Case 4 | No formal process in place, time and cost restraints                                                                                                                                                    |
Table 10. Construct 5: Challenges Related to Cross-Cultural Learner Analysis (continued)

<table>
<thead>
<tr>
<th>Case</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| Case 5    | 1. American values and bias that leads to the inability to acknowledge the need to address cultural differences.  
           | 2. Lack of awareness of the cultural issues among the general population.  
           | 3. Lack of understanding due to the complex nature of the issue.  
           | 4. Unwillingness to dedicate the required time due to the fast pace of corporate America and the expectations of quick fixes.  
           | 5. Organizational culture dictating the buy-in especially at the top management level.  
           | 6. The bottom management level is able to offer buy-in in concept only and not in commitment.  
           | 7. Lack of information and training for designers to competently conduct cross-cultural learner needs analysis. |
| Case 6    | 1. Time and money constraints.  
           | 2. Expectations of the clients or customers that companies must be culturally competent in assessing learner needs without a formal process given the premise of globalization. |
| Case 7    | 1. Lack of interest and the acknowledgement of the need on part of the clients or customers  
           | 2. Budget and time constraints  
           | 3. No explicit research on how to define cultures from a learning perspective.  
           | 4. Lack of knowledge and information on how to conduct cross-cultural learner needs analysis on part of the designers  
           | 5. Personal biases. |
| Case 8    | No formal process in place, time restraints, and personal biases. |

Cross-Case Analysis: Explanation and Prediction

With the initial exploration complete, the second cut at cross-case analysis includes: (a) further reduction of data to be able to draw summary themes for each of the constructs via conceptually ordered displays, (b) discovery of the underlying patterns, the key factors, and their interrelationship via mental maps, and (c) the display of the
inferential picture presenting the identified key factors and their relationship via *fragment causal networks*. For the sake of clarity, the conceptually ordered display and the causal network display for each of the constructs are coupled together along with the narrative to present the findings in the next section. What follows is the description of the displays, both content analytic summary tables and fragment causal network, to elucidate how they facilitated cross-case explanation and prediction.

Table 11. Construct 6: Strategies for Cross-Cultural Learner Analysis

<table>
<thead>
<tr>
<th>Case</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| Case 1 | 1. Focus on some universal principles of design and ensure clarity in content.  
2. Feedback from designers, trainers, and learners is essential.  
3. Knowledge base or database on critical cross-cultural design and analysis principles will be helpful. |
| Case 2 | 1. Use cultural and/or local experts to handle complex cultural differences issues.  
2. Increase awareness among designers to underline the need to raise cultural issues.  
3. Include learner input upfront, raise cultural issues and ask the right questions upfront. |
| Case 3 | 1. Include the key stakeholders to get buy-in upfront and throughout the process  
2. Involve the local cultural experts and training staff in the design process.  
3. Include learner input via pre and/or post delivery evaluation of the course.  
4. Preliminary vendor and support analysis for the process.  
5. Knowledge sharing from past experiences and projects among designers via a knowledge base is critical to avoid replication and to afford transferability of concepts learned from one design project to another. |
| Case 4 | 1. Designer’s personal efforts and commitment in conducting the analysis and adjusting the design.  
2. A formal process in place will help analyze the learner needs. |
Table 11. Construct 6: Strategies for Cross-Cultural Learner Analysis (*continued*)

<table>
<thead>
<tr>
<th>Case</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| Case 5 | 1. Designers must move beyond their personal biases and play an active role and take the responsibility to be truly committed to accepting and understanding the differences and willing to make the required changes to design.  
  2. Include the targeted learners throughout the design process.  
  3. Make good use of the available research on cultural dimensions  
  4. Organizational culture needs to change to commit to such processes to address the time and budget constraints.  
  5. Information and training programs on cross-cultural design and analysis is essential for not only the designers but also other participants in the process to address lack of awareness and unwillingness to accept the need. |
| Case 6 | 1. CCLA must be ingrained and part of the needs assessment process.  
  2. Companies must have the knowledge base and cultural expertise to be able to create a culturally competent courseware based on the learner demographic provided by the client or customer with or without learner input. |
| Case 7 | 1. Focus on universal design principles such as clarity in content and presented material.  
  2. Learner input is essential pre or post delivery evaluations.  
  3. The research community and professional organizations such as ASTD, AEER must play a critical role in informing and educating the designer community about CCLA or CCD.  
  4. Designers should actively seek information related to cultural differences and learner needs.  
  5. Keep all the participants such as the learners, the facilitators and key stakeholders involved throughout the process from design to post delivery to gather critical input on the how and why of the process. |
| Case 8 | 1. Being aware of personal biases as a designer/ trainer.  
  2. Having a knowledge base within the company to learn from past successes.  
  3. Include learner input and ensure confidentiality of learner feedback.  
  4. A formal model like ADDIE for CCLA that offers a toolkit or checklist to conduct the analysis covering critical cultural issues: universal or regional.  
  5. Knowledge base for designers/ trainers to share and learn about CCLA.  
  6. Training or workshops for designers/ trainers on cross-cultural design and needs analysis. |
Conceptually Ordered Displays

One of the best ways to present multi-case findings is via a conceptually ordered display that is centrally organized by variables or concepts. This study used one such form of a conceptually ordered display, content-analytic summary table, which capitalizes on the dimensions critical to the study (Miles & Huberman, 1994, p. 183). In this study the critical dimensions were the constructs related to the research questions. The extrapolation of the content in the meta-matrices (Tables 6-11) helped create content-analytic summary tables (Tables 12-17) for each of the corresponding constructs without referencing the cases. The process of arriving at the summary themes for the content analytic summary tables involved looking at the individually identified themes under each of the meta-matrices and making contrasts and comparisons (see Figure 5).

Fragment Causal Networks

Exploration of the summary themes in the content-analytic summary tables led to the discovery of interrelated factors or mental maps for each of the constructs. These maps helped put together discrete pieces of data into a meaningful pattern across cases. The study used causal network to align the mental maps for all the constructs and to graphically present the inferential analysis. Causal network is defined as, “an abstracted, inferential picture organizing data in a coherent way” (Miles & Huberman, 1994, p. 153). The use of causal network allows a more inferential level of analysis that helps to organize data into a single summarizing form.

The researcher used an inductive strategy to build the fragment causal networks for each of the constructs. In an inductive approach the researcher discovers recurrent
phenomenon and relations across cases; this leads to working hypotheses that are modified and refined progressively with the further analysis of data. The links and elements take their own names and labels that then cluster into cause and effect, finally ending up as a causal network (Miles & Huberman, 1994, p. 155).

**Figure 5.** Sample of arriving at summary themes for the content-analytic summary table.

The first step in causal analysis was the extrapolation of the interrelated factors or variables in the content analytic summary tables (Tables 12-17). Reflective remarks and memos helped in comparing and contrasting the variables to find underlying themes or
patterns. The discrete variables that stayed grouped in the assigned families after successive data analysis took form of a label in the “box” in the causal network. For example, the majority of the participants expressed their perception of culture, directly or implied, as a complex phenomenon; this was then labeled in the box under the construct of definition (see Figure 8). All the labels under a construct have some causal relation that helps build a logical chain of evidence, an abstract induction.

The second step was to quantify the labels based on the ratings low, high or moderate. The ratings were based on the frequency of favored responses, not on the degree of their influence. For example, six out of eight participants explicitly stated or implied the difficulty in addressing cultural issues due to the complex and transient nature of culture (high rating) as opposed to only two participants expressing confusion over the terminology related to culture and diversity (low rating).

Finally, analytical function of causal network was used to make predictions based on identified streams of factors. Within a given causal network comprised of labels A to D, one is in a position to say that “effect D is likely to occur when A and B predictors occur together”. For example, inferential analysis of factor 1, lack of clear expectations and factor 2, lack of understanding and awareness, can be predicted to determine the outcome, undefined role of cultural analysis in design. The same predictive function was used for the meta-analysis of the fragment causal networks also discussed in the last step of analysis in this chapter. Causal narrative is included to draw conclusion from each of the fragment causal networks and to add credibility to the identified factors or variables.

Such a fragment is data-based and different from a-priori conceptual framework. Member checks helped validate the networks in this study. It is important to mention that
the study used a variation of the causal network. The original concept of causal network is the “display of the most independent and dependent variables in a field study” where the relationship among the variables is directional rather than correlational only (Miles & Huberman, p. 153). The authors cautioned the users for specifying the rules applied in the construction of the networks if using a variation of the original model.

This study used a variation of the original concept in that first, the comparative analysis is conducted across the cases based on the predefined constructs, not just the case responses in general. Second, the relationships among the key factors or variables are more correlational than directional and emphasize the interdependence among the factors. Hence, the labels’ ratings are based on the frequency of the favored responses as opposed to the degree of influence. Third, due to the lack of emphasis on the directional relationship of the variables, the causal networks in this study do not identify the causal influence of one variable on another: direct (+) or inverse (-). The next section presents the findings using the content analytic summary tables, the causal networks, and associated narratives for each of the constructs.

Findings and Discussion

The discussion of the overall findings is also arranged around the major constructs: definition, process, cultural accommodations, perception, challenges, and strategies. Due to the large quantity of the data that were collected and analyzed and for the sake of clarity, the overall findings are presented using a data reporting structure for each of the research questions and related constructs as outlined in Figure 6. Related to each research question and associated construct, the content analytic summary table is
presented with a summary of overall themes for that construct (Tables 12-17). A causal network for each of the constructs is then presented along with the narrative explaining the prediction of the causal streams of the variables. The narrative also links the findings back to the research question.

The idea is to present a clear and precise overview of the relevant findings from the thematic analysis. Direct quotes from the participants are used to support and clarify the themes. To avoid over-generalization and to not lose focus of the participants’ experiences that helped define the themes, a thick description of the participant’s account in included in each of the narratives.

Figure 6. Steps of the process of presenting findings related to research questions.

Construct 1: Definition

The first construct explored in this more discrete analysis relates again to Research Question 1, with particular emphasis on the research sub-question 1a, which
asks, *How do designers define and perceive culture and cross-cultural design in the context of learner analysis?* In pursuit of an answer to this question, the researcher extrapolated the themes from the earlier analysis captured in the *Meta-Matrix: Definition* (Table 6). This collapsing of the data is demonstrated in Table 12 and Figure 7.

Table 12. Content Analytic Summary Table: Definition

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
</table>
| Definition (themes drawn from Table 6) | 1. Culture: a complex phenomenon with many interpretations.  
2. Cultural differences are manifested in varying teaching, learning and working styles.  
3. Confusion over terminology: diversity or culture?  
4. Culture differences in e-learning can be interpreted as an aggregate of critical cultural variables.  
5. Cultural variables identified: technical attributes (date, currency, time zone), learning styles, gender, age, disability, nationality, sexual orientation, working culture, religion, taboos, etiquettes, caste or social system, pedagogy, handicaps, privacy issues, laws and regulations, GenX, ethnicity, e-learning capability. |

*Figure 7. Causal fragment 1: Definition of culture.*

Some of the major themes that surfaced in relation to the definition and perception of culture were: (a) the complex and transient nature of culture that leads to
diverse interpretations and makes it difficult to apply in terms of teaching and learning, (b) the confusion over the interchangeable use of the terms culture and diversity, (c) a sense of inclusivity and the focus on universal variables, and (d) attention to cultural taboos or etiquettes.

*Complexity of the phenomenon.* Case 2 commented on the complex nature of culture that exceeds nationality, “Culture is such a big thing and so many aspects of it. When you say culture in this country people often say Indian, Japanese but it is a bigger animal than that” (¶25). Also, several questions emerged when analyzing participants’ responses to how they defined culture in regard to instructional design and learning.

Some of the questions illustrating the complex nature of culture are as follows: Which variables are bounded by culture: ethnicity, gender, age, socioeconomic status, religion, organizational working style? Do learners with similar cultural background share same ways of learning? When do cultural traits run the danger of stereotypical overgeneralization? Are learners in a given culture typical of their culture in some regards and atypical in others? Is diversity same as culture and do they share similar variables? Such significant but controversial questions about culture were raised directly or indirectly by many participants underlining the complexity of the phenomenon and the inherent difficulties in applying teaching-learning theories related to cultural diversity and learning.

The myriad of interpretations of culture can be partly accounted for due to the dissimilar work experiences and organizational culture of the participants. For example, Case 1, who designs training for IT specialists globally, defined culture as very technical:
Culture to me, given the kind of training we do, is very technical in nature. [It] tends to be very system-based and lot of things that manifest itself in courseware as cross-cultural issues tends to be directly related to system. For example, things like date format, time zone, browser settings, color, currency. (¶1)

Some participants who design training predominantly for cultures either within a country or an organization defined culture as embedded in the business processes and strongly related to the organizational culture while also identifying nationality and ethnicity as essential elements of the cultural make up of an individual. The participants shared the perspective that culture is “different understanding and perspectives on business processes” (case 2, ¶2) or “an accepted norm of working in an organization” (case 4, ¶1). Case 6, an individual who works for an organization with international offices spread across the globe, defined cultural differences as “cross-faith and cross-border as both people perspective and religious perspective” (¶1). Case 5 works as a cultural analyst and designer for e-learning, and had the following definition for culture:

Different sets of values that they have been taught to respond to other people, their community, their surroundings etc. Culture tends to affect certain large groups of people but there are, of course, always individual differences as well. But certain groups of people tend to have similar characteristics that are based on values and how they were raised to communicate with the world and such. (¶1)

Confusion over the terminology. Two participants, Cases 3 and 6, questioned the terminology when people use diversity and culture interchangeably. When asked to identify cultural variables and given probes for examples such as age, gender, ethnicity, Case 6 noted that “from a terminology perspective, I like to think things you mentioned were more like diversity than culture” (¶18). Case 3, who is involved in diversity training, commented:
Diversity is what you can see to what you cannot see, going from visible to invisible. [It] generally falls in one of the eight categories of gender, ethnicity, age, disability, sexual orientation, nationality, religion, and difference of thought. We have not defined culture as such as we deal with diversity. Yes, they influence each other and we are talking more about thought diversity and how that influences culture because culture tells how people think and how they act and are influenced by where they are from and what their perspectives are. (¶2)

The analysis implies the lack of clear understanding of the complex phenomenon and the relation between culture and learning on part of the designers. The different interpretations of cultural analysis in the context of design indicates the lack of clear expectations set by the organizations in regard to the extent of cultural analysis either required or desired for a culturally competent design.

_Inclusivity and the focus on universal variables._ Regardless of the somewhat dissimilar approaches to defining culture, an acute and universal sense of inclusivity in instructional designers was evident from the participants’ responses. All the participants agreed that there is an urgent need to acknowledge, understand, and adjust to cultural differences for globalized e-learning. The awareness and a heightened sense of responsibility toward a culturally competent design were illustrated by the wide range of cultural variables identified by the participants to take into account when designing for global learners. Case 2 underscored the importance of this by saying,

_Cultural variables have a tremendous impact in the success of the program because if you do not bring those insights of cultural experts and do not have the conversation of how that plays out in different societies, it is not a one size fit all._ (¶12)

Some of the most common variables identified were language, ethnicity, nationality, age, etiquettes, and gender. Case 1 defined a cultural variable as “anything that kind of makes you aware of the fact that the course was not created with me in mind
that can be use of language or spelling, some classic cultural issues between U.S. and U.K.” (¶2). Case 8 identified a unique variable, the GenX, “One big one that I have experienced is GenX or next wave of people who grew up in the information age versus people who haven’t and just how people are used to receiving information” (¶1). Participants with relatively broad cross-cultural design experience identified additional variables such as religion, sexual orientation, disability, privacy laws, and legislation.

Attention to cultural taboos and etiquettes. Some participants stressed that the reason for adjusting design is for the sake of political correctness so as to not offend learners. In such cases the focus was on general etiquettes or taboos, as opposed to attention to cultural differences related to learning and cognition. Some illustrative quotes from Case 6 are, “Americans tend to have a heightened sense of political correctness so when we develop something that is more globally oriented we will care more about how phrases are being used, examples being used to make sure that they are transferable to cross-cultural countries” (¶6), and “it is important to make sure that we are not offending anyone for any of those diversity or cultural differences” (¶19). Case 1 noted,

If there are any cultural differences it is not really affecting the level of training, it is more in the way you interact in general in business rather than in the classroom. Some culture, like in Asia, people are far more respectful and keen to learn and more academically minded and they actually embrace the classroom where we can learn from somebody who knows a little bit about the topic. Whereas in U.S., certainly in Europe, the learners are more challenging and harder to interact because they are more demanding and in some cases less respectful as well. (¶7)

However, with additional probing the participants identified variables specifically related to learning, such as the learning culture of the population based on nationality, or organization and preferred learning styles. However Case 2 disagreed, stating, “key to successful training whether you are dealing with somebody in India or U.S. I think is
really just dealing with human brains and not the learning styles” (¶6). Only Case 5, the cultural analyst, identified cultural dimensions based on nationality defined by experts such as Hofstead (1984) as critical for teaching-learning such as power distance index and individualism.

As far as the most significant [variable] that I think affects learning online or otherwise are power distance index and individualism. I put those two together as they seem to be related as higher the power difference index the lower the individual index and vice-versa. In general those two seem to influence, in my experience, the cultural differences heavily. I would say those two dimensions, as they are symmetrically opposite, say a lot to me about how the learner acts and how education and communication systems are affected in that given culture. (¶28)

Data analysis reveals the designers’ consensus on some of the critical teaching-learning variables impacted by culture that need attention when designing for culturally diverse learners. The data show a strong focus on universal variables such as language and strong attention to cultural taboos and etiquettes. However, the lack of knowledge and awareness of some critical cultural dimensions that may exert influence on cognition and learning was also apparent in the analysis. The next section explores the second part of Research Question 1, the construct process.

Construct 2: Process

This conceptual variable explored the process of cross-cultural analysis as practiced by the participants in their jobs and sought to address the next level of analysis required to answer Research Question 1b, which asks, How do designers conduct cultural inquiry during learner analysis? Table 13 captures the themes that emerged from a second-level analysis of the construct Process in Table 7 and highlights the participants’
operationalization of the process construct, while Figure 8 demonstrates the dynamics of the cross-cultural learner analysis process.

Table 13. Content Analytic Summary Table: Process

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process (themes drawn from Table 7)</td>
<td>1. Informal, anecdotal, ad-hoc.</td>
</tr>
<tr>
<td></td>
<td>2. Part of the training needs analysis.</td>
</tr>
<tr>
<td></td>
<td>3. Part of writing and presenting the materials or content.</td>
</tr>
<tr>
<td></td>
<td>4. Handled by a team of cultural and/or local experts</td>
</tr>
<tr>
<td></td>
<td>5. Formal, full-fledged process from cultural dimensions to specific cultural variables.</td>
</tr>
<tr>
<td></td>
<td>6. Strong partnership with regional diversity boards, local cultural experts, learning partners and learners.</td>
</tr>
</tbody>
</table>

Figure 8. Causal fragment 3: Cross-cultural learner analysis process.

The major themes discovered under this construct were: (a) an undefined approach and focus for cultural analysis, and (b) varied perspectives on the need for a full-scale cultural analysis process.

*Approach and focus undefined for the process.* The majority of the cases confirmed an ad-hoc, informal process mostly in the form of post-delivery evaluation.
focusing on gathering feedback on the good and bad aspects of the courseware: not specifically in the cultural context. Case 1 confirmed,

Quite honestly, I don’t think we really do a lot of that: I don’t think we do enough of it. I don’t think people who develop our courses consider culture. They design and deliver for America. It is usually after the fact. It is a battle really for us to try to influence the course materials and make it more multicultural so it translates better. Currently we are not doing cultural analysis and [it’s] not part of the course development process. It is more like we deal with the issues later, if it comes up. (¶8)

Case 4 commented that “there is no scientific or standardized method followed per se, typically the input of people in line of business” (¶5). When asked what portion of needs assessment is the learner analysis process, Case 8 answered, “If I would have to qualify it, it varies from project to project and depends on what is available for different audiences”. The same participant described the learner analysis process as follows.

We could probably do a better job. I think it is done very ad-hoc and anecdotally. I do not think anyone has actually looked at the different population and surveyed people or tested. I think it is done maybe through like I have done, asked project sponsors or managers as to tell me about how people like to learn or what works for the audience. We do, but we do not have a formal process of doing it. Maybe not everybody does it the same way. It is up to the individual designer to decide how they want to do it. One way we do it is after the fact, level 1 or 2 evaluations will give you feedback about if training was successful and you may uncover, for instance, learner’s reaction and how they would prefer to receive the learning and you use that info next time around. (¶4)

Case 6 described the learner analysis process as part of the needs assessment including variables such as the age, language, location, and ethnicity. Case 7 informed that it is part of the training needs analysis to understand the audience using a predefined checklist that would include “many things beyond culture such as tenure, experience, technical experience using e-learning. It could be number of factors and it [culture] would be one of many questions” (¶5).
Case 5 and Case 3, the cultural analyst and the diversity trainer, however, described a full-scale learner analysis process beginning with focus on cultural dimensions and customs of different nationalities and narrowing it down to subsets of culture including variables such as language, technology and organizational culture. However, it is pertinent to point out that the instructional design experience of the two participants relate to targeted groups from a country or region such as Japan or Asia Pacific as opposed a mix of global learners.

*Varied perspectives on the need and scale.* Although all the participants confirmed the need for a formal process in place there were varied perspectives on to what degree or scale the process should be planned and executed. The varied perspectives can be attributed to the differences based on personal design experience in a given job or industry sector and the mix of audience the designers designed for: diverse multicultural groups of learners or group of learners from a targeted culture. Case 1 acknowledged that as a designer he or she would like to do more but also felt that from an organizational perspective the investment of time and money must be justifiable based on the customer base. Case 7 also expressed the desire to learn more about the learners and hear their perspectives on their needs via a predefined formal process but explained that most of the clients did not allow a feedback loop from learners to the designer.

Three participants strongly believed in either using in-house cultural expertise or bringing in cultural and local experts for a diverse or targeted cultural group of audience. Case 2 stated,

I think unless you have the expertise yourself or you can bring that perspective to that translation process, as it is bigger than the language, [it’s] not just a matter of hitting a button and translating U.S. English to an Asian language: it does not
translate that. You need to have someone who has the experts who can think about all the variables [that] come in like process, how they feel comfortable, how they do business. How do we do business in U.S. does not work in other countries, there are different customs and ways in which they show respect than U.S.. I think those things should be handled and looked at otherwise. I have a story from long time ago, [not sure] Japanese or Chinese. A class was being delivered and translated [and] was not very successful as they did not have people raising hands or answering questions. So if there is a facilitator writing a course asking questions, what do you think of this or next step should be [it is not going to work in other cultures]. In some cultures people will not speak up. So I think it takes the knowledge and understanding of the culture and deeper than just the translation of the language aspect of a culture. Just because the way we do things in U.S., we are all proactive and we speak up and not shy, that does not play out across the globe and can be very different. (¶11)

The same participant described the learner analysis process in his/ her jobs as follows.

I think with someone like ABC having offices all over the globe, what you might be doing is hand it over to another office such as XYZ. You get a whole another team that comes in and looks at it how we translate it in terms of language as that becomes a whole different issue. Technically, I have never gone that far down the road with any kind of training [that] I have developed. [It] was handled by usually the people with the expertise to understand a program not just the language but does it have the same meaning. You never really see someone in the U.S. based office handling that kind of responsibility, they hand it over to someone with the expertise. Transferring that into the organizational culture will be different overseas: how people conduct business. Maybe in some cultures people don’t think they can speak up and that is getting into so many nuances. (¶9)

Case 3 described an in-depth learner analysis process followed when designing diversity training for an audience spread across Europe, Asia, U.S., and U.K..

We had regional diversity boards and a body of senior officials in each one of those regions and from small areas as well [who] identified issues that are important. And we had consultants from those areas that offered materials based on the eight diversity variables. We would also work with HR representatives and our learning partners when we partner with people who might be trainers and who could do an overview of the specific audience of the regions. (¶5)
Yet another participant, Case 5, described an even more detailed cultural analysis process when designing for a targeted cultural group where the focus was on identifying cultural variables that might hinder the learning process.

I am usually designing learning for somewhat targeted groups [such as] a corporation in some area in Japan [who] wants a course taught in Japan as well. It is a pretty focused group. So what I look at is cultural dimensions, customs at a high level. I look for things that might create a barrier to targeted learners to learn. For example, I look at the country and the culture but then I start narrowing it down particularly in education: how are people taught in this country or culture and how do they expect to learn. Then I also look at them and narrow it down a bit more as usually it is a particular group of people as a subset of the culture. So I may be looking at Japanese employees in a corporate and employees are computer programmer so I have a culture within a culture so I have to look at the characteristics of those groups of people as that might make it a bit different from the culture. I look at the cultural dimensions suggested by Hofsetad, Trompenaars etc. I try to look at the bulk of those cross-cultural dimensions and see what might raise red flags. (¶6)

On the contrary, Case 8 pointed to the budgetary aspect of the process dictating the scale and need for in-depth analysis and stated that, “the more science you want to use the more cost, time, and resources you will need, it is more likely that is not going to happen considering today’s cost sensitive perspectives” (¶23).

*Summary for Research Question 1.* In regard to Research Question 1a, *How do designers define and perceive culture in the context of cross-cultural design?*, data analysis shows that designers’ perceive culture as a complex phenomenon that needs attention when designing for a diverse learner population. Although the designers recognize many cultural variables as critical to cross-cultural design, there is lack of understanding on the exact relation between culture and learning and its manifestation in cross-cultural design. However, the multifarious definitions of culture and a comprehensive list of cultural variables that emerged from the data demonstrate a sense
of inclusivity among the designers; hence, the designers’ strong desire to learn more about the impact of culture on learning to apply the implications in practice.

The data analysis related to Research Question 1b, *How designers are conducting cultural inquiry?*, reveals a mix of formal and informal processes as practiced by the participants. However, formal or informal, pre-planned or ad-hoc, the designers expressed the desire to obtain more information on learner needs in the cultural context to be able to create culturally competent courseware. However, data analysis also divulges that the feasibility of following a well-defined cross-cultural learner analysis process given the time, cost, and resources constrains, depends on the strong partnership across the board from sponsors to cultural experts and learners. Therefore, what is necessary in making cultural inquiry feasible for the designers is a reformulated approach and focus via joint deliberation of all the participants to define and sustain a strong partnership across the board.

*Construct 3: Cultural Accommodations*

As the focus of the study shifts from defining and establishing a process for cultural analysis toward actually accommodating cultural differences, Construct 3 examines the data that speak to the provision of cultural accommodations and sheds further light on Research Question 2 which asks, *In what ways are instructional designers currently considering and addressing cultural influences in their design process?* The themes that emerged on this subject are summarized in Table 14 and a visual depiction of the relationships within the construct is provided in Figure 9.
Table 14. Content Analytic Summary Table: Cultural Accommodations

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
</table>
| Cultural Accommodations (themes drawn from Table 8) | 1. Focus on universal design principles.  
2. Attention toward cultural etiquettes and taboos.  
3. Attention to personal biases as a designer.  
4. Effective learner analysis process based on predefined cultural variables leading to adjustment of content, presentation and pedagogy accordingly.  
5. Identifying learning needs by partnering with regional boards, local cultural experts and learners to design highly individualized training programs. |
Focus on universal design variables. Data analysis of the accommodations for cultural differences made it clear that the majority of the focus in the current practice of participating designers has been on some common variables based on the universal design principles. Consideration of such variables in instructional design would apply to any course regardless of the cultural differences of learners such as language, age, gender, and e-learning adaptability. One such universal variable emphasized by majority of the participants was the clarity of language or content. Case 2 commented,

My first question to my clients will be: who is going to review the language and examples to identify what needs to be changed, what is going to be a barrier and not going to play out. So you are asking the full spectrum of questions because it could be as simple as a word that may not have the same meaning in another country or a process. (¶23)

Case 7 also underlined the critical need for paying attention to language for simple and clear communication.

What worked for me is keeping it simple as few words as possible or figuring out the simplest way to communicate whatever information you want to communicate and that is really good for all learners and particularly good for English as a second language [learners]. My job is to tell you what you need to know in as simple a way as possible where I give you just enough information to be able to do what you want to do back on the job. I do that for all learners but I cannot help particularly with English as second language learners. I believe that is good for all cultures and all people but I can’t help believe it is not a lot better with people with English as second language. (¶19)

Case 3 also made the case for clarity in communication both in content and delivery: written materials and video or audio presentation.

But again, across the board no focus on any particular cultural variable, just way of making the courses better in terms of words and instruction. In my case, changing post code or whatever happens to be to make it translate better in words like finding examples that translate across cultural boundaries, even industries and applications. [I] don’t see anything cultural but certainly the way that words are spoken, and given the constraints that they have to be in English and they have to have a regional person presenting the materials, we try to think of as many
obstacles to people’s understanding by slowing down, breaking things down, thinking clearly, and using simple language and remove jargon, technology related jargon and any corky phrases. Words would not be understandable or make sense to other cultures and we try to replace those with much more generic language. We try to make the material as simple as possible so the instructor can be as flexible as possible in the delivery. (¶22)

Case 7 stated,

So I take into consideration of words, I also take into consideration the look of the characters in the learner analysis. If the client is able to tell me or willing to tell me and if they are able to break their learner population by age, gender, ethnicity, I try to make the characters in my e-learning respond to that. (¶8)

The designers’ focus on the listed variables resonate the universal design principles presented by Eberie and Childress (2007) where the instruction is created by focusing on the needs of all learners in advance to adjust the materials and strategies accordingly. The goal of such a design is to maximize learning opportunities for every learner via a good mix and match of strategies, materials, methods, media and assessment practices. Hence, although the consideration of some specific cultural variables that relate to cognition and learning is absent in the picture, the universal design principles followed by the designers provide a solid foundation for a culturally competent design.

*Strong attention to taboos and etiquettes.* Another critical variable that emerged as part of the universal design principle was an acute attention toward cultural taboos or etiquettes. Case 1 underlined the importance of general business etiquettes impacting training more than other variables. Case 7 comments emphasized consideration toward etiquettes as part of inclusivity,

Does it matter that graphics represents all sorts of ethnicities? I think it does. Does it have any impact on learners? I don’t think so. Does that mean I would ever design with only one ethnicity represented? Under no circumstances, its kind of like being polite ok, I don’t think it has any effect on learning but I think it is a polite thing to do. (¶20)
The designers exhibited concerns about offending learners in regard to religious beliefs and social etiquettes as illustrated by the following comment by case 8.

For example, if I am designing training to English speaking audience I will go through and review and make sure I am wording things in a way that are culturally neutral as much as possible, using different ethnicities, using names that learners can relate to personally. For example not using only Smiths and Wilson but using a name from your culture. (¶7)

One other example of attention toward not offending any culture in particular is demonstrated by the following comment by case 6,

People are used to paying a lot of money for multimedia e-learning: use of music, actors, and actresses. Built into those, even with pictures, is the flip end of having someone who may offend someone. You also want to use enough characters to be inclusive. So what we have done for example in one of our training courses that included actors and actresses, we have tried to have as many minorities as possible in the skits. We have the representation of all cultures as opposed to having all Caucasian actors and actresses. We also use music that is not offensive to people. If you get to the high end of multimedia you should be sensitive who you use for actors and what kind of music etc. Even what is in the background, gosh if you have a cross on the wall on the background [it will] probably be very offensive to some people. (¶14)

One exception to the rest of the data about accommodations was provided by Case 5, who asserted that such accommodations go beyond the universal variables of language, technology, age, and gender and focus on the impact of culture on specific teaching-learning variables such as motivation and learning barriers.

We usually go to the easiest to most complex design challenge as people understand the easiest first. So even if a course is designed in English it is usually full of American colloquialism, idioms, and crazy grammar. One of the biggest changes we have people do is to actually edit materials just so that it makes more sense. And not only for English speakers, if it has to be translated into a different language they save themselves money by getting rid of the garbage language that most Americans tend to include in their writings. Then we hit them with the localization items, they understand them easily too. If we tell them it is a taboo gesture in other culture, they will get rid of it. Then we go to the next level and we say you have a very competitive, individualistic type activity where winner takes
all and that works great in American but this activity might be better presented to this group oriented culture in a different way. That is when we go to the learning objects and try to get them to the kind of plug and play. We say maybe you should also have a group activity along with the individualistic activity that does the same thing so people from different cultures can choose which way they want to go or if it is already built into the course we say [that] you might want to complement this activity with a different type in this other culture. (¶20-22)

Accommodations relating to such specific cultural variables may require 1) in-depth understanding of the respective cultures’ manifestation of the variables in teaching-learning and consequently 2) significant changes or additions in both content and delivery styles based on the mix of cultures in a given audience.

Acknowledgement of designers’ personal bias. Another observation that surfaced during data analysis was the awareness and attention to personal bias as a designer in some of the designers. When asked what have worked for designers in the past in trying to accommodate different cultures case 7 responded, “Being aware of my own biases.” Case 8 stated, “The biggest think I need to do in cross-cultural design or most important thing is be aware of my own biases and learning styles” (¶7). Such an acknowledgement is important because it allows the designers to overcome one of the biggest hurdles in creating a culturally competent design: the dismissal of the need due to the lack of acknowledgement of the cultural differences and their impact on teaching-learning.

Summary for Research Question 2. The exploration of responses relating to the Research Question, How are designers currently accommodating cultural differences of learners?, implies a strong sense of inclusivity among the designers. Nonetheless, the cultural accommodations are limited by individual understanding and knowledge of cultural variables and their impact on learning, and respective organizations’ demands and support. The data analysis also illustrates a better understanding of the universal
design principles among the designers and limited understanding of specific cultural
dimensions and variables related to cognition and learning as identified by the research
(Hall, 1981; Hofstead, 1984; Trompenaar & Hampden, 1998). The designers were either
uninformed or dubious about specific cultural variables based on the theories of cognition
and learning.

Also, the designers exhibit strong attention to the cultural taboos and etiquettes.
The accommodations can be extended for specific cultural needs related to cognition and
learning by redefining the approach and focus for cultural analysis, and by educating the
designers on the why and how of the analysis. Most importantly, designers need
information and training on how to incorporate the information gathered during cultural
analysis into course characteristics to create culturally competent courseware.

Construct 4: Perception

The perception construct focuses attention in Research Question 3 which asks,

*How do designers characterize the role of cross-cultural design and cross-cultural
learner analysis?* A secondary analysis of the data from the participant interviews that
focused on this question noted several themes related to perception as listed in Table 15.

Figure 10 and Figure 11 provide a graphic depiction of the dynamic elements of
perception in cross-cultural design and cross-cultural learner analysis respectively.

Consistent with the themes identified under the previous constructs, the inferential
analysis of the construct of perception validated the evident sense of inclusivity regarding
cross-cultural design, but the lack of clarity and focus related to cross-cultural learner
analysis on part of the designers. The major themes located under the construct
perception of cross-cultural design are: (a) consensus on the need and (b) lack of clarity and focus.

Table 15. Content Analytic Summary Table: Perception

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
</table>
| Perception of cross-cultural design (themes drawn from Table 9) | 1. Industry standard and preference for doing things one-way  
2. Focus on what motivates learners and what is meaningful.  
3. Culture is a complex issue to be tackled by design alone.  
4. Cross-cultural design can be accomplished successfully by identifying learner needs based on diversity or cultural variables.  
5. Cross-cultural design calls for an in-depth understanding of cultural values of targeted learners  
6. Heightened sensitivity to cultural differences and variables when designing is critical given the premise of globalization.  
7. Minimal attention to cross-cultural differences and superficial adjustments. |
| Perception of cross-cultural learner analysis (Table 9) | 1. Commercial decision based on customer base, time and cost.  
2. Lack of understanding of the how and why of the process.  
3. Formal process defined by a strong partnership with the key stakeholders and sponsors.  
4. Driven by business processes and goals.  
5. A formal, multilevel, complex process that requires time, money and effort upfront.  
6. Part of due diligence and must be ingrained in the design principles and process.  
7. Must be executable in an inexpensive and efficient manner or it would not happen at all due to time and cost constraints.  
8. Contingent upon designers’ perception of the need and the understanding of the what and how of the process. |
Figure 10. Causal fragment 2: Perception of cross-cultural design.

Consensus on the need. All the participants felt strongly about the need to address cultural issues for globalized e-learning thereby exhibiting sense of inclusivity in instructional design. However, the practical experiences related to cross-cultural design were significantly influenced by their job or industry expectations of cultural analysis. For example, Case 6, working for a global company, asserted, “At the end of the day companies that are competent for clients are those that are very aware and have a high sensitivity to cultural differences and clients have little tolerance for those who don’t address it” (¶22). On the contrary, Case 7, who works primarily for U.S.-based clients, stated

Majority of my clients do not care which is not a good thing to be saying but they don’t. They are like just show samples of people from different ethnicity groups. They don’t care. I sometimes wonder that if I did not bring it up they would care at all but nobody will: all white people, all male, and all young, whatever. (¶6)

Lack of clarity and focus. Another issue that surfaced was lack of clarity on how to address problems related to culture in design due to the complex and transient nature of culture and because of the myriad of variables associated with culture and learning. There was skepticism in regard to the focus of analysis on different kinds of cultural...
variables. While most of the participants considered the focus on the common variables such as language, age, gender doable and necessary, and attention to specific cultural variables based on theory of cognition and learning was questionable. For example, in response to how participants defined culture in the context of designing materials Case 2 discussed the problem with focusing on the variable of learning styles.

People tend to get a little bit caught up and I have heard it for years, “Well how are you addressing learning styles?” If we focus on that too much none of us would get through school or corporate training as a whole through our entire careers as we are constantly trying to meet the kinds of needs that change from situation to situations. I [have] heard a lot of buzzword about it but do people really do it? And are they taking it into consideration? Probably not because it is such a changing variable and difficult if you are trying to meet the needs of so many people in one training course: it is probably going to become convoluted and fail. (¶7)

Case 7 stated that, “they [the clients] won’t let me design multiple or different way of teaching something based on somebody’s culture” (¶6). Yet another participant, Case 1, shared the perception that “the way it [culture] affects is probably not more about learning styles but more so about how materials are created, written, and presented that will create cultural issues” (¶7). Evidently, the majority of the participants shared the primary focus on content while addressing universal variables such as language, gender, and ethnicity, as opposed to cultural-specific or learning-specific variables since it is practically impossible to address the need of each and every culture or learner in the audience. However, Case 5, the cultural analyst, underlined the need to understand the cultural-specific variables that may impact both content and delivery for a culturally competent design.

What it means to me in designing materials is that if I understand the cultural value. I look at my targeted learners and I do research at very high level down to very specific level and try to understand as much as I can about my targeted
audience. And when I am designing materials I try to make sure whether it is e-learning or classroom, accommodate the culture of the targeted learners. One of the things that I discovered from my research and my experience is that the three components of instructional design or instruction that are particularly affected by culture are: content as I feel sometimes content is very acceptable in one culture and it would be very different in other culture. For example, teaching leadership skills course, it will be an American design that may not be necessarily appropriate for another culture because it is based on American values. I look at technology since I am in e-learning as to what kinds of technology are used and available readily to the targeted learners in another culture. That is sometimes a little bit simpler than the content and pedagogy. I line them [content, pedagogy, and technology] with the cultural values of the targeted learners. （¶2）

While Case 5 asserted strong relationship between cultural values and teaching-learning variables, Case 2 disagreed and presented the following views on the focus of cross-cultural design.

To me what makes it meaningful is how you motivate people. I think it is the same for all human beings in that what is in it for them and challenging people that they always do not know everything. Especially when people say, “oh another training,” maybe if you can challenge people on what their prior knowledge is and get them to think about, maybe you do not know everything or you did not realize there is a different way of solving problem. People are always coming in with preconceived notions and different degrees of knowledge. If we both has same job as instructional designers and taking a course on instructional design we both have different preconceived notions about it and different ways of using methodologies. So how you tap into that has a lot to do with how you get them motivated and come to the class. So if you can replicate whatever the gap is or more you can mimic the real work and get them to know what is in it for them personal reward or whatever the case maybe. （¶5）

All of the comments captured here affirm the diversity of preference with regard to engaging learners with the exception of Case 5, who emphasized on the variable of motivation as separate from culture. Nonetheless, according to the literature, what is meaningful, authentic, and motivating for learners may vary from one culture to another (Ames, 1990; Markus & Kitayama, 1991). The comment made by Case 5, although contradictory to research-based assumptions on the impact of culture on prior knowledge and motivation, shows that the designer is knowledgeable about teaching and learning
variables critical for instructional design; nonetheless, there is skepticism on the impact of culture on those variables. Next is the causal network for the perception of cross-cultural learner analysis along with the narrative.

![Causal Network](image)

**Figure 11.** Causal fragment 5: Perception of cross-cultural learner analysis.

The perception related to cross-cultural learner analysis largely underscored organizational limitations in path of conducting a full-scale cultural analysis. Some of the hurdles identified were time, budget, and resource constrictions along with organizational culture and values.

**Cost, time, and money constraints.** Cost, time, and money were identified as the primary business drivers for cross-cultural learner analysis. Case 1 commented, “It is a commercial decision that if it is not worth the investment, why do it and so no customers are doing it. That is what is driving the process: the commercial aspect of it” (¶10). Case 4 noted that “business demands and organizational goals are the major drivers while designing and they decide if learner analysis is required or not as it is more a designers’ initiative or responsibility to understand learner needs” (¶4). Case 6 asserted, “I do not think in today’s world anyone would be opposed to that. I think it is a budgetary
question” (¶23). Another perception noted by Case 8 was that only companies that are more global may be doing a full-scale learner analysis as noted by one participant, “Some organizations more cosmopolitan may do more learner analysis. I guess there are lots of variations and probably most of them are not doing it.” (¶19)

The consistent observations on this issue explain the varied perspectives of the participants and the skepticism on the value and feasibility of a full-scale cross-cultural learner analysis process. The common perception was that a full-scale cross-cultural learner analysis process is justifiable only if the company is global or if the process can be executed in an inexpensive and efficient manner.

Corporate culture and individual beliefs. While the participants expressed their professional desire to gather more information and learn more about the learners’ cultural background via a formal process, their personal beliefs about the need for a full-scale learner analysis and their practice is influenced and bounded by the perception and policy of their respective organizations. Case 8 confirmed the need for a formal process, “There are so many things we could be learning about different cultures; it would be good to have a more formal process in place” (¶10). Case 1, however, shared mixed feelings toward a full-scale cross-cultural learner analysis process and pointed to corporate America’s strong focus on ROI and sales. The comments underscore the significance of justifying the return on investment for any process given the corporate perspectives on time and money investment.

I think we have to look at the market that the company is in and the vast majority of customers are in North America and the customer base is in Europe, mostly customers in U.S.. If they are not more global then [it’s] not cost effective to do it and probably that is why they don’t do it. It depends; they do it on need basis. Personally, the trainer side of me thinks we should do more and because I am
from U.K. and I do training abroad and I see more issues so I wish we could do more, but the practical side of me says actually I don’t see doing it myself. I think the company probably got the balance almost right in that I think it is lots of effort. When you look at it from a corporate standpoint, where is the return on that? And if it is mildly annoying for some, they have to get over and get on with it, it doesn’t really affect sales. It is very difficult to actually measure the impact that is not that great. So we do what we can within reason but without creating a bit of a problem for ourselves to some degree. (¶11)

Case 7, who worked as an independent contractor for customers primarily within the United States stated,

I am going to tell you that most of them do not do anything or ask any questions but I ask questions related to age, language, ethnicity etc. I have been doing this for over ten years and I have never seen anybody pay particular attention other than make sure that my characters represent diverse population. I allocate my ten hours to do needs assessment and I work with the clients on that and it is just two minutes on the learner analysis. I am not kidding and I am sorry but it is the truth. (¶4-30)

In contrast, two of the participants, Case 3 and Case 5, not only strongly believed in the need for cultural analysis, but also shared their practical experience involving a full-scale cross-cultural learner analysis process. One of them underlined the complexity and hence the need for an in-depth learner analysis process. Nonetheless, they also agreed to the concept of being restricted by the beliefs and practice of respective organizations or customers.

I would say cross-cultural learner analysis is been able to most accurately define the learners’ needs based on their cultural differences. I think that that has many levels to this [cultural differences] so it is not a simple thing that there are in such and such country or culture and there is just one characteristic that is particular to a group of people that I accommodate. (¶5)

One other perspective was that the fast pace of corporate America sets expectations for goals to be achieved in the most time-efficient manner. Hence, anything that requires more time would most probably be rejected and replaced by processes that
get things done faster, though not necessarily to the benefit of all the learners. Case 2 noted that “with the pace of learning and the pace of design and development, I don’t think a lot of attention is paid to that specifically. Although it does not mean it is not important to pay attention to” (¶3).

**Summary for Research Question 3.** Analysis of participants’ perception of cross-cultural design leads to the conclusion that the role of culture in learning and cultural analysis in cross-cultural design is currently unclear and mostly undefined for the designers. The designers were ambiguous about exactly what, how and how much of the cultural inquiry is required and feasible for a culturally competent design. The extent to which designers would like to engage or could engage in cultural inquiry of learners during analysis is basically dependent on (a) the designers’ understanding of culture and cultural manifestations in teaching-learning and (b) the respective organizations’ acknowledgment of the need and the expectations set to engage in cultural analysis.

Analysis of participants’ perception of cross-cultural learner analysis implies that although designers strongly believe in gathering more information on learners in regard to culture, their respective organizations may not allow the same in practice. Designers also agreed that the common drivers and hurdles for the process were cost, time and resource constraints. As a result, there emerged a strong need for a clear understanding and establishment of a formal cross-cultural learner analysis process that uses time, cost, and resources efficiently. The designers also expressed the need for such an analysis as part of good design principles and emphasized that good design dictates that it be ingrained in the needs assessment process seamlessly. Hence, the findings indicate an urgent need to redefine (a) the approach and focus of cross-cultural design and analysis,
(b) the role of sponsors or organizational support, and (c) information and training resources to educate the designers on the what and how of a culturally competent design.

**Construct 5: Challenges**

The final research question that guides this research asks *How do designers define the elements of cultural analysis critical for culturally competent design?* The discussion of perception naturally leads into a deeper exploration into the challenges designers face in trying to integrate cultural analysis into their practice that answers the Research Question 4a, *How do designers define the challenges in conducting cultural analysis?*

Analysis of the data that focused on challenges established several broad themes related to barriers to regular integration of cultural analysis. These themes are presented in Table 16, and Figure 12 establishes a visual representation of the elements of the various challenges and how they impact implementation of cultural analysis.

Table 16. Content Analytic Summary Table: Challenges

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenges (themes drawn from Table 10)</td>
<td>1. No database or knowledge base to inform.</td>
</tr>
<tr>
<td></td>
<td>2. Lack of acknowledgment of the need.</td>
</tr>
<tr>
<td></td>
<td>3. Challenging to get buy-in.</td>
</tr>
<tr>
<td></td>
<td>4. Time, budget and resource constraints.</td>
</tr>
<tr>
<td></td>
<td>5. Lack of established formal procedures.</td>
</tr>
<tr>
<td></td>
<td>6. Western hegemony and bias.</td>
</tr>
<tr>
<td></td>
<td>7. Lack of awareness and understanding of the process.</td>
</tr>
<tr>
<td></td>
<td>9. Difficulty finding the right cultural experts.</td>
</tr>
<tr>
<td></td>
<td>10. Lack of information and training for designers.</td>
</tr>
<tr>
<td></td>
<td>11. Designers’ individual biases.</td>
</tr>
<tr>
<td></td>
<td>12. Lack of efficient dissemination of research based knowledge.</td>
</tr>
</tbody>
</table>

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Figure 12. Causal fragment 6: Challenges related to cross-cultural learner analysis.

The challenges related to cross-cultural learner analysis as revealed in the data analysis can be classified into three major categories: (a) lack of understanding and awareness, (b) lack of training and information, and (c) lack of acknowledgement of the need. Participants shared major factors contributing to the challenges that are discussed in detail in this section.

Lack of understanding and awareness. The lack of understanding and awareness can be attributed to the complexity of the issue and to the dearth of a knowledge base or database related to cross-cultural dimensions or variables in the cross-cultural design context. The foremost challenge identified by the participants was the complexity of the issue in that first, the term culture has many interpretations; second, the manifestation of culture in the teaching-learning context is unclear to many designers, and third, there are no set standards that clarify the degree of cultural analysis needed or expected from
management, designers, and learners. Case 2 underlined the lack of clarity on the approach to cultural issues in design,

The best answer I can give you, in my perspective, is [that] do not ignore it and you have to have the courage to ask those questions and that is the best first effort that you can make with it. I do not hear about that a lot and never have and I just don’t think people ask those questions nor have those discussions maybe because they think they are not important or necessary or [because of] complacency or expectations that they should take care of it on their own but kind of a big problem to solve. (¶21)

Also, designers expressed the need for knowledge sharing within the profession to facilitate the awareness and understanding of cultural issues in cross-cultural design. Case 1 pointed out, “I don’t really think there is any kind of knowledge base or data base, more a case of anecdotal, finding out as much as you can by talking to sponsor or counterpart in the company” (¶38). Case 2, 7 and 8 asserted the need for a more formal process complimented by a model, checklist or a toolkit for designers that would outline the critical cultural variables to look for during cross-cultural analysis with ramifications for design.

Maybe we need a more formal process or checklist of things to do. We have an ADDIE model so we have a formal process for design or a formal process for writing test questions when we look at the learning objectives and cognitive levels of the objectives. We have all those processes. Maybe there is a formal process now and I did not learn it as I graduated from my masters program in 1990 and there was not much awareness or attention paid to cultural differences in learners but there is now. A far more formal process to account for those differences, a toolkit of some kind that would work so if your learner analysis is such and such you can use such and such techniques or approaches that might work related to cultural variables. (Case 8, ¶11)

Some kind of knowledge sharing or awareness, should not have to be formal training, even just knowing color red is good luck in China and certain numbers have different meanings for people so that will help; so, having some kind of a knowledge-base. (Case 8, ¶11)
Lack of information and training. The second challenge identified was lack of training and information as the designers shared the dearth of knowledge on the how and why of the process as validated by Case 7 in the following comment,

The reality is that I don’t know enough, I don’t know enough…to even say for sure exactly what I would ask them. I don’t think there is a lot of research on how learning might vary between different groups. So just like I talk to you about I want to gather information get their opinion from a sample. I don’t know the best way to interview, one on one, over the phone, survey or whatever. I think there is not anything out there to tell me what the best way is to do this and so in the actual gathering I don’t know what is the best way to do it and that would be the barrier. I don’t even think much research is even out there on how different cultures learn or how you define cultures from a learning perspective. (¶24)

Reflecting upon the lack of understanding and knowledge of the complex issue such as culture on part of the clients, Case 5 explained,

Sometimes they do not understand that some of the changes could be really simple, they might just provide a glossary or have an orientation for the course or do a test run with the targeted learners. Because they are not familiar with concepts of cultural values and such, they are overwhelmed with it. That is one of my problems is to just getting people to relate to them and understand what accommodating cultural differences can do for them. (¶24)

When asked to share perspectives on organizational, procedural, and personal barriers in gathering cultural information, Case 5 responded reflecting upon the difficulties related to designers’ lack of understanding,

I think the barrier is when we are doing analysis, [there are] not too many procedures as we are doing most of the research and we need access to certain people and we will be gathering information from them and since we can do most of that virtually it is pretty easy. It is when we go beyond that and we want people to actually implement the changes we run into procedural difficulties as you are talking to group of instructional designers who are not familiar with it or do not want to change things or even if they want to change things they do not understand why. (¶30)

Case 7 pondered over the relationship between culture and motivation sharing the concern over lack of knowledge and information related to research,
I am always wondering and I doubt that motivation is the same for every culture, I know it is not, what am I talking about. So I kind of go with the Anglo European model for motivation. Oh I would be so interested in knowing if there is something I could do differently that would make it more acceptable and would maintain the motivation of larger groups of people. (¶17)

The factors contributing to the lack of training and information were identified as the absence of mandatory training related to culture for designers, difficulty finding the right cultural experts or expertise for a given audience, and inability to disseminate research information related to cross-cultural design efficiently to the designer population. Thus, the need for formalized training within the profession is clear, as its absence limits the ability of even the most well-intentioned professional to perform meaningful and effective cultural analysis.

*Lack of acknowledgement of the need.* The third challenge identified by the participants was resistance to acknowledge the cultural issues and accept the need for a formal process. The factors leading to this challenge include the individual bias of the designers, western hegemony and bias, and the difficulty in getting organizational buy-in due to time, money, and resource constraints. Four out of eight participants acknowledged personal bias as barriers to cross-cultural design. One such illustrative comment by Case 7,

Yeah, me and my own biases: my own ability to figure out how to do that interview is limited by my own personal experiences. So I am a barrier because I am a U.S. citizen and also because I speak with an accent and that is a problem for some people. It’s really my personal biases that will get in the way and I have not only cultural biases but also learning biases that will get into the way. (¶29)

The perspective on western hegemony and bias was shared by four participants varying in degree and context with the common view that Americans in general have a difficult time acknowledging, accepting, and adjusting to values different from their own.
culture. Case 1 pointed out the impact of anti-American feelings in the world on design and e-learning,

The way it affects is probably not more about learning styles but more so about how materials are created, written, and presented that will create cultural issues. Especially with the Anti American feeling in the world at the moment, anything that feels and looks American tends to draw criticism and that is what I have to defend against when I am teaching. (¶7)

One other example of the view on American domination shared by the same participant is as follows,

It annoys English people intensely that Americans spells things differently and more so that they make sure [that] you accept the way they do training if you work for them rather than the other way round. People get very annoyed at being forced American things on them. (¶6)

Case 5, shared similar perspective on American bias in instructional design,

And they also have a very, in my opinion, egocentric attitude “well, if I am giving them this job they have to learn it our way”. If you live in America you got to learn English. Too many Americans have not been in other countries and cultures to realize that this is not the case. Americans need to have more exposure, like a mandatory cultural immersion in another culture. (¶17)

The same participant stated that one of the challenges encountered when dealing with American corporation or university is the assumption that “any other country that speaks English is exactly like our culture” and pointed out,

Americans by their own cultural nature are culturally blind. So one, trying to get people understand the challenge and two, even if they realize [that] things are not working they are hesitant to make the changes that need to be made because of our own cultural perspectives. (¶16)

Interestingly, Case 1 when asked about cultural issues related to teaching-learning shared a view different from rest of the participants validating the aforementioned assumption that if a nation can speak the English language or exposed to American culture then adjusting to that Western culture must not be a major issue.
I don’t think cultural differences are as they used to be or as important as they used to be and that might be everything against what you are trying to do in your guesses and analysis. If you are looking for a kind of scale or impact, I would say not that big. Those people, you could argue if it is globalization in general, most people are exposed to American movies, literature, the music and the boundaries; there is not really massive amount of isolation in learning. Certainly the market [that] we are involved in, everybody is basically Americanized. Like it or not I don’t think it is a big deal and people even though liking a different culture and language even in some cases. Again, English being an international language, most people even if they think they can’t speak English, actually it is not a barrier to understanding and I have been pleasantly surprised wherever I have gone including China and some European countries. Even if English is not their main language, people are working in it everyday so it is not a big obstacle. (¶31)

Case 5 elaborated on the concept of the natural predispositions in American designers and how that might impact design,

We, Americans, are raised with certain concepts about how education takes place and who can teach and how we talk to other people, and we design our course materials based on that with the assumption that everyone understands and thinks the same way. In my experience that is not really particularly true as learners from other cultures expect to learn or be taught differently and even the instructors and teachers are regarded differently. (¶3)

The view above was validated by Case 7 while acknowledging qualms related to Anglo-European pedagogy,

From my Anglo European perspective it is my understanding that people like to learn from making mistakes as long as not everything is a mistake. So, that assumption of mine probably does not work across cultures. (¶18)

Another comment by Case 5 exemplifies pedagogical differences leading to different expectations form learners,

So say they are going to take training to Canada, New Zealand or India, if everyone speaks English, they assume that everyone is going to understand and learn in the same way. That is one particular challenge as lot of these corporations I work with in U.S. tend to design for a lot of English speaking countries and then they find out when they go to do training when they hear “Oh, that is too Americanized or we don’t do that or why did they give out prizes for that activity: that is so frivolous”: all kinds of things that we just do not even think of. (¶13)
The resistance to accept the need for a formal process for cultural analysis is also related to the American values and bias to some degree as noted by Case 2,

The differences exists absolutely positively, not a question if it does exist, it does. I do not know probably what happens a lot is just an expectation in this country that it is not the company’s problem and I do not necessarily agree with that. I think it has to be a lot of time handled offline. (¶83)

Another organizational barrier leading to the lack of acknowledgment and acceptance of the need for a formal cultural analysis process, as revealed in the interviews, is also related to corporate American values and work ethics.

Another barrier in the corporate world is that everyone wants everything done yesterday and that is very fast paced and to do something like that [cultural analysis] or to do that for every project, people will be like it is just going to slow us down, we know what we are doing and we do not need to take the time to do that. We need to get this training out of the door and we need this product launching or whatever and there is so much pressure. (Case 8, ¶15)

I know that they will let me do it only one way and so it is like I have to design based upon the budget I have........what am I trying to say..........is I try to do as much as I can for every type of leaner…ok…. that means I really can’t do a lot, alright. (Case 7, ¶7)

No, they are like it’s got to be designed one way and do it this way. And I love my clients and they are wonderful and [they are] working with a limited budget. That is all it comes down to, the learning officer making clear to the chief executive officer how important learning or training is and if they are not able to persuade then they will not get the budget dollars and these are people doing incredible things with few dollars. They just have limited budget and they do the best they can with it. (Case 7, ¶32)

Probably, one of the barriers is inability or unwillingness to accept that this is a research process. Americans usually want quick answers: how do I fix it. For most part, people have not even done sessions in conferences or workshops on how to design for culturally appropriate learning they do not even want to take the time to do that. They just want to go to a book and real quick say here look this is the answer and move on. (Case 5, ¶27)

That is kind of our culture that we are so time and task oriented that even if we step back and see that we need to get this design right for this other culture but if
we cannot do it instantly and quickly then they do not want to do it. (Case 5, ¶15)

You have to think about [that] these projects cost certain amount of money and the more we spend to understand something with a lot of science that the client believes you can answer without the science, that cost will be cut from the project. (Case 6, ¶12)

Such values encumber the buy-in process for cultural analysis and reflected in the time, cost, and resource constraints. Participants noted that training is always under the pressure to deliver programs at the right time and with the right cost within the budget. Participants underlined the corporate values that pose time and budget constraints.

The challenges outlined in this section are directly related to the strategies for improving cross-cultural learner analysis and were reiterated by the participants in the interviews while discussing the research question on strategies. In an attempt to avoid replication of quotes from interview transcripts, the discussion on strategies is sparse on thick descriptions. The strategies discussed in the next section were foundational for crafting a framework for improving the effectiveness of cross-cultural learner analysis.

**Construct 6: Strategies**

With the need for cultural analysis validated by the prior constructs, the second part of the final Research Question 4b that guides this research asks *How do designers define the strategies for cultural analysis critical for culturally competent design?*

Analysis of the data related to implementation strategies yielded several themes. These are depicted in Table 17 and Figure 13.

The major focus of this question was to find out what have worked for designers in the past and what they think would work or is doable that is not in place currently.

Data analysis related to the research question on elements of cultural analysis critical for
culturally competent design led to the discovery of the following major aspects of the practice that may benefit from modifications: (a) approach to the process, (b) role of the participants, (c) resource and training needs allocation, and (d) organizational outlook toward cultural analysis.

**Approach to process.** In regard to approach to the process, designers consider the focus on universal cultural variables more feasible than specific cultural nuances of each and every learner given the complexity of the variable culture. Such a perception is supported by the belief that there are some teaching-learning variables that can be treated universally to benefit all learners regardless of the cultural differences and that it is not possible to address the unique needs of each and every learner. For example, maintaining clarity in content and offering more flexibility and choices in both content and delivery to address age or gender issues. Case 6 provided an example of focus on the common variable content as illustrated by the following comment,

> Content-written and spoken, most people use metaphor to explain difficult concepts and people that are not as culturally aware may be using analogies and metaphors that are very targeted culturally so outside the culture you might not get it. I guess with the examples and metaphors you have to be careful. (¶13)

Case 7 described the attention paid to the universal variables to offer cultural accommodations to learners without getting into the specifics of learners’ cultures.

> So when I am in that kind of situation what I do is basically just try to put in as much differences as possible. Keep the words simple, make the characters represent different ethnicities, and keep the background very simple so it is not distracting the learner. For example, I try to put something in the graphic that probably only represents U.S. and hopefully common to all countries. Age differences, I also sometimes cannot make things as kind of up to date technologically because my older learners cannot handle it [as] they do not know what to automatically do. What else, graphic, text, that is pretty much how I handle it. (¶9)
### Table 17. Content Analytic Summary Table: Strategies

<table>
<thead>
<tr>
<th>Construct</th>
<th>Overall Summary Themes</th>
</tr>
</thead>
</table>
| Strategies (themes drawn from Table 11) | 1. Focus on universal learner needs.  
2. Feedback loop for trainers, designers and learners is essential.  
3. A database of critical cultural dimensions.  
4. Buy-in from key stakeholders and sponsors.  
5. Strong partnership with regional and/or local staff and experts and access to cultural experts.  
6. Culture and diversity training workshops or programs must be made mandatory.  
7. Knowledge sharing via a knowledgebase of cross-cultural design principles.  
8. A formal model or toolkit inclusive of universal and regional frameworks.  
9. Awareness, acknowledgement and understanding of personal and others’ biases and commitment.  
10. Learners must be actively involved.  
11. Organizational cultural changes required to embrace the process.  
12. Effective role of the research community and professional organizations. |

**Figure 13.** Causal fragment 7: Strategies for cross-cultural learner analysis.
Hence, there surfaced the need to redefine the focus of cultural analysis based on variables that are feasible to explore and address in cross-cultural design. Another aspect of the approach was to treat cross-cultural learner analysis as an ongoing process from needs assessment to evaluation as opposed to a one-time obligation during needs assessment. As noted by Case 5, “Probably, one of the barriers is inability or unwillingness to accept that this is a research process. Americans usually want quick answers: how do I fix it” (¶27). Likewise, Case 1 explained,

It is an ongoing process, I would say, not really what we call a methodology we have. We do not really do a lot of analysis upfront and then design and then write a course. What we did we develop courses that constantly got feedback from customers about what they need in the courses and what not in the courses and then we create the material and tweaking it and constant feedback process involving trainers and customer feedback, those two mechanisms. (¶20)

The goal is to keep the feedback loop among the designers, the facilitators, the learners, and the researchers open for continual enhancement of the process. It is not otherwise possible to address the myriad of cultural variables that could be vastly different for different levels such as individual, social, organizational or national.

Role of participants. Commenting on the role of the designers, one participant affirmed that “unless designers are truly committed to understanding the differences and accepting the fact that it is making a difference and that they have to find a new way to do something” (Case 5, ¶32), cross-cultural design will be unattainable. Case 1, 2, 5, 7, and 8 underlined the critical role of learner input to understand the end-user perspective on design. Case 5 commented, “One of my pet peeves with instructional designers when they are designing new course or revising existing courses is that they do not include the darn targeted learners” (¶10). The same participant asserted that, “no matter how much
research we do and no matter how well-informed we are we still need to use the targeted people to validate the assumptions that we are doing a good job at cultural analysis”.

Case 7 also validated the integral role of direct input from learners in qualifying their cultural needs specific to learning,

I would ask for samples to get a statistical sample of the population of the entire learner group and do interviews. I would not do focus groups as I do not like them to influence each other. I would probably do some research, reading on, maybe interview is not the best way of gathering that information. Maybe better I do the survey if there are preferences for that cultural group. I have to figure that out first. But I would gather more information from the actual learners themselves. (¶25)

Training, information, and resource allocation. Another significant need articulated by the designers was training and information resources. Some of the designers urged the research community and the professional organizations to take active part in dissemination of the research-based information and in educating the key stakeholders. They also expressed the need for a database or knowledge base to share critical cultural data of learners around the globe along with access to cultural experts or expertise. The need for a toolkit or model for cross-cultural analysis also surfaced in the interviews. The following comments illustrate the need and importance of formal training or workshops to offer access to research-based information on cross-cultural design.

Training is always good, we had training on ABC and all and that was helpful. So if you are working for an organization with operations in China and you are developing training in China then some kind of training on Chinese culture for learning differences will be helpful. (Case 8, ¶11)

What would make that work a little better, professional meetings to be including this topic and people doing that research so I don’t have to go out and do it and the information disseminated by professional organization such as ASTD, AEER as we all are out here working through tons of information. So I look for these organizations to spread the information. (Case 7, ¶33)
Organizational support and buy-in. While discussing the organizational barriers many participants highlighted the challenges related to time, budget, and resources that could be overcome only if companies can “include the right stakeholders and the right experts” (Case 3, ¶10). Case 6 also pointed to budget and time issues, suggesting that the task will be doable only if the information can be gathered in the most time and cost-effective manner.

The client will have to tell us the demographics. I don’t know that people would want to go to that extra step and I think the client would expect us to be able to figure out as long as they can tell us the make up of the audience. I think I understand where you are coming from: it would be nice to be heard from everyone what’s best for them. From a cultural perspective, unless it can be obtained in a very inexpensive and efficient way it is difficult to execute. (¶11)

The data analysis revealed that most of the participants agreed that cross-cultural learner analysis can be accomplished and the information from the analysis can be used efficiently for a culturally competent design, but only if there is individual designers’ and organizational support.

Summary for Research Question 4. Consistent with the themes emerging from the analysis of previous data, analysis of the research question on how participants defined the elements of cultural analysis divulges the need to address the issues relating to individual and organizational approach, focus, and support. However, to build such a support there is a need to first underscore the role of cultural analysis in creating culturally competent e-learning content. Consequently, the role of all the participants needs to be redefined to ensure support across the board. Finally, training, information, and research requirements need to be spelled out and addressed efficiently. Most
importantly, all the participants must share equal responsibility in translating the
aforementioned strategies into real practice.

Such an endeavor can be successful only via a strong partnership among the key
stakeholders: the management, the designers, the learners, the research community, and
the professional organizations. The next section explains the last step in the analysis

Meta-Analysis of Fragment Causal Networks

The predictive function of causal networking was used to further analyze the
fragment causal networks and to make predictions based on the identified streams of
factors. This process helped identify all the events, factors, outcomes, and processes that
were directly or indirectly related to cross-cultural learner analysis. These factors
emerged as important, and resulted in those factors being then listed and converted into
variables (see Figure 14). The defined variables provide a critical foundation for the last
step in the analysis process: cross-case causal networking. Cross-case causal networking
is a comparative analysis of all the cases in a sample, using variables estimated to be
most influential in accounting for the outcome or criterion, for each case, the stream of
variables, leading to or ‘determining’ that outcome’ (Miles & Huberman, 1994, p 228).

The variables were derived from the fragment causal networks. The researcher
sought to make reasonable associations based on the data about which factors logically
influenced others, which ones were likely to appear together and which not, and which
one have to occur first for others to ensue later. The starter factors were labeled as the
antecedent variables while the mediating factors were labeled as the intervening variables
that together led to the results or the outcomes aligned with each of the constructs: definition, process, cultural accommodations, perception, challenges and strategies. For example, the western hegemony and the individual designers’ bias can be categorized as the starter factors (antecedent variables) for varied perspectives on the value of cultural analysis that lead to lack of acknowledgment and clear expectations, and the undefined role of cultural analysis—the mediating factors or intervening variables that lead to the conclusion of the need to clearly define the role of cultural analysis in cross-cultural design: the results or outcomes. Some were case-unique variables and some were dominant in most but not all the cases.

<table>
<thead>
<tr>
<th>Antecedent Variables</th>
<th>Mediating Variable</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western hegemony &amp; bias</td>
<td>Varied perspectives on the need</td>
<td>Define role of cultural analysis</td>
</tr>
<tr>
<td>Individual bias</td>
<td>Lack of clear expectations</td>
<td></td>
</tr>
<tr>
<td>Difficulty in buy-in</td>
<td>Lack of acknowledgment of the need</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Undefined role of cultural analysis</td>
<td></td>
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</tbody>
</table>

Figure 14. Sample list of antecedent, mediating, and outcome variables.
The causal variables from all of the fragment causal networks were combined together to create the meta-causal network that helped define the outcome variables or outcomes (Figure 15) as follows:

1. Define the role of cultural analysis.
2. Reformulate approach and focus for cultural analysis.
3. Redefine the role of the participants and the sponsors.
4. Reassess training and information needs.

This criterion helped draw the key components of the cross-cultural analysis frameworks. Like the fragment causal networks, the meta-causal network also focuses on the interrelationship among the variables more than the causal influences. The emphasis on the interrelationship underlines the interdependence of the variables in that all the antecedent and intervening variables are directly or indirectly related to each other leading to the criterion for the frameworks.

Conclusion

Data analysis related to Research Question 1, *To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?*, shows that although designers recognize the cultural variables as critical to cross-cultural design, they lack a comprehensive understanding of the precise relation between culture and learning and how to apply the implications in practice. Also, the designers expressed the need for a reformulated approach to cultural analysis by establishing a formal, well-defined learner analysis process as an essential part of culturally competent instructional design. The investigation of responses relating to Research Question 2, *How are
designers currently accommodating cultural differences of learners?, implies a strong sense of inclusivity among the designers. Nonetheless, the cultural accommodations are limited by the designers’ understanding of culture and cultural manifestations in teaching-learning and the respective organizations’ acknowledgment of the need and the expectations set to engage in cultural analysis.

![Meta-causal network for cross-cultural learner analysis.](image)

Figure 15. Meta-causal network for cross-cultural learner analysis.

Analysis of responses relating to Research Question 3, *How do instructional designers characterize the role of cultural analysis in creating culturally appropriate e-learning content?*, leads to the conclusion that the role of culture in learning and cultural analysis in cross-cultural design is currently unclear and mostly undefined for the
designers. The designers were unclear about exactly *what, how and how much* of the cultural inquiry is realistic for a culturally competent design. The extent to which designers could engage in cultural inquiry of learners during analysis is dependent on the designers’ understanding of culture and cultural manifestations in teaching-learning and the respective organizations’ acknowledgment of the need and the expectations set to engage in cultural analysis. The findings indicate an urgent need to redefine (a) the approach and focus of cross-cultural design and analysis, (b) the role of sponsors or organizational support, and (c) information and training resources to educate the designers on the *what* and *how* of a culturally competent design.

Research Question 4, *How participants defined the elements of cultural analysis,* reveals the need to address the issues relating to individual and organizational approach, focus, and support. The findings indicate that to build such a support there is a need to first emphasize the role of cultural analysis in creating culturally competent e-learning content. Second, the role of all the participants needs to be redefined to ensure support across the board. Finally, training, information, and research requirements need to be clearly defined and addressed efficiently.

This chapter presented an in-depth analysis of data related to each of the research questions organized around the major constructs identified during coding: definition, process, cultural accommodations, perception, challenges, and strategies. The participants identified a number of critical cultural variables in the teaching-learning context while also underlining the complex and transient nature of culture. All the participants revealed a sense of inclusivity in design while most of the participants expressed the desire to learn and do more in terms of cultural analysis. Some of the key challenges identified in
conducting a full-fledged cross-cultural learner analysis were related to organizational approach to time, budget, and resource allocations.

Other difficulties recognized in the path of cultural analysis included training and information gaps and individual approach toward cross-cultural design. Participants also shared myriad of strategies that have worked in the past and would be efficient for cross-cultural design moving forward. Some of the core findings from data analysis included the need to redefine and reassess key factors from individual and organizational approach to redefinition of roles from designers to learners. Chapter 5 capitalizes on the outcomes deduced from the meta-causal network to establish the needs and requirements for an effective cultural analysis process. The established findings were foundational in identifying the key elements of the proposed framework to improve the effectiveness of cross-cultural learner analysis.
CHAPTER 5. RESULTS, RECOMMENDATIONS, AND CONCLUSION

This chapter presents the major findings and the discussion of the proposed framework. This dissertation was an attempt to find out how instructional designers conduct cultural inquiry of their learners during the design phase of their practice. Semi-structured interviews were conducted with eight designers who had extensive experience in needs assessment and design of culturally diverse populations. The interviews aimed to explore how designers perceive the role of cultural analysis in design, and what they thought were best practices for cultural inquiry. The following research questions were posed to carry out the aforementioned exploration:

1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?
2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?
3. How do instructional designers characterize the role of cultural analysis in creating culturally appropriate e-learning content?
4. How do designers define the elements of cultural analysis critical for culturally competent design?

The discussion in this chapter begins with the results that explain the findings in regard to the theoretical proposition of the study. The discussion is divided into two major sections: (a) the discussion on the outcomes derived from the meta-causal network
in chapter 4 to establish the needs and requirements for effective cross-cultural learner analysis, and (b) the discussion on the barriers and solutions related to the established needs and requirements and the proposed framework for cross-cultural learner analysis based on the proposed solutions. Next the limitations and significance of the study are described followed by the recommendations for future research and final thoughts.

Results

The theoretical propositions that guided the study were: (a) traditional strategies of cultural analysis for learners need to be redefined to facilitate culturally competent instructional design in e-learning, and (b) existing cultural analysis frameworks and culturally responsive design theories and models can help define a strong framework for cross-cultural learner analysis. The findings of the study confirmed the first theoretical proposition, revealing that conventional strategies related to learner analysis in needs assessment tend to gather only minimal information on learners’ needs related to their cultural profiles and are inadequate in informing a culturally competent design practice. However, the findings also revealed the majority of the designers following design principles and theories that were based on some of the existing cultural analysis frameworks.

For example, most of the designers focused on critical universal variables related to culture and followed the design principles based on Universal Design for Culturally Diverse Online Learning proposed by Eberie and Childress (2007). In universal design, the instruction is created by focusing on the needs of all learners in advance to maximize learning opportunities for every learner via a good mix of strategies, materials, methods,
media, and assessment practices. Likewise, some other designers relied on existing culturally responsive models and theories (Edmundson, 2007; Hofstead, 1984) to conduct a full-fledged learner analysis process to afford a culturally competent design. Nonetheless, formal standards or models for cross-cultural learner analysis do not exist in the current practice. Evidently, some of the existing cultural analysis frameworks and theories are being used effectively to inform culturally inclusive design. This confirms the second theoretical proposition that existing theories and models could be used to craft a strong framework for cross-cultural learner analysis.

Needs and Requirements

The data analysis facilitated the exploration of instructional designer’s use of learner analysis for diverse learner populations. The analysis afforded insights into the current challenges associated with conducting cross-cultural learner analysis and revealed various strategies that designers are either currently using or believe would be effective. The outcomes of the data analysis identified in the meta-causal network in chapter 4 were as follows:

1. Define the role of cultural analysis,
2. Reformulate approach and focus for cultural analysis,
3. Redefine the role of the participants and the sponsors, and
4. Reassess training and information needs.

This section elucidates the findings related to the outcomes that helped establish the needs and requirements for an effective cross-cultural learner analysis process.

*Define the Role of Cultural Analysis in Cross-Cultural Design*
Each of the participants came up with a different definition of culture with some commonalities. While some associated culture with the organizational culture that learners come from, others linked culture with nationality or ethnicity, and language; still others interpreted cultural differences as defined by personal learning styles. The feedback from the participants helped create an extensive list of cultural variables critical for e-learning design from language and technical adaptability to religion, cultural taboos, and etiquettes but also revealed the absence of any universally applicable definition of culture. The participants’ perceptions of cross-cultural design revealed a strong sense of cultural inclusivity among designers and the desire to learn more about learners’ cultural needs, but because each defined culture differently there was no common approach.

Nonetheless, the diversity of perceptions also acknowledged that culture is a complex phenomenon that may mean many things to different people. The attempts to address the multifaceted aspects of culture in teaching and learning by design alone may not be the right solution. For example, designers cannot invest the desired time and effort to gather cultural data on learners without required support from the management. Likewise, cultural variables cannot be accurately translated into the teaching-learning context without ample research information and training sustained by the research community, and professional training organizations. There seems to be a lack of clarity on (a) how to precisely define culture and diversity in the teaching-learning context, (b) how to delineate the cultural variables that are critical to include during learner analysis, (c) what are the expectations of the participants from the sponsors and the designers to the learners and the research community as to how much of the cultural analysis is
necessary to be able to create a culturally competent design, and (d) how to approach the cultural analysis process with no defined framework or model.

Rogers, Graham and Mayes (2006) pointed out that learner analysis in the instructional design process is frequently overlooked due to time, budget, resource, and organizational issues. The participants in this study acknowledged similar reasons for the cultural analysis being a small part of needs assessment in the current practice. Most designers rely on tacit knowledge and personal experience to understand the diverse cultural needs of the learners that varies from one project to another rather than on a formal system for gathering such information. The uncertainty among the designers on how to approach the process stems from many factors including budget, time, and resource constraints.

According to some of the participants, the awareness of the need to invest time and money in cultural analysis is absent among the key stakeholders: the sponsors. Even if the designers and the management acknowledge the need, personal bias or ignorance may lead to a lack of acceptance or recognition of the cultural issues; and this might also contribute to resistance by sponsors and designers. For example, Case 5 explained, “customers hire me to discover why training is not working in other cultures or cultures and when I tell them I do not know why they do not quite believe it and I am not sure how to get them past that hurdle. It must be an American thing that I must be doing everything right.” (¶49) The findings align with the conclusions drawn by many studies that divulged the natural embodiment of a pro-Western bias in e-learning (Chen, Mashadi, Ang & Harkrider, 1999; Henderson, 1996; McLoughlin, 1999a; Rogers, Graham, & Mayes, 2007; Smith & Ayers, 2006).
Most disconcerting is the fact that even when the need to address cultural issues within an organization is recognized, there often is the lack of knowledge and awareness among the designer community about how to approach the process. Therefore, there is a critical need for the instructional design community to clearly define the role of cultural analysis in the needs assessment of diverse learners for cross-cultural design, and this call to action is echoed by other researchers such as Henderson (1996), McLoughlin (1999a), and Rogers, Graham, and Mayes (2007). The cultural variables critical to such an analysis must be delineated precisely for the designers. All participants, from the sponsors to the learners, must reach consensus on the scope and type of analysis required based on the make-up of a given learner population and e-learning criteria. Most importantly, all the participants must work together to craft a framework or model for cross-cultural learner analysis that is feasible for the majority of the organization, regardless of their size or customer base.

Reformulate Approach and Focus

Analysis of the construct related to the perception of designers toward cross-cultural design and cross-cultural learner analysis revealed that the designers agreed with the need to address cultural issues. However, even though the designers had a strong desire to learn more about the learners in order to understand their cultural needs, the current practice does not have a clearly defined approach and focus for such an analysis during the needs assessment process. Whether it be due to the time, budget, and resource constraints or because of the bias and ignorance, the sponsors and the management are unable to precisely understand and support cultural analysis as delineated by the designers. This is a phenomenon that was also documented by Rogers, Graham, and
Mayes (2007). Hence, the organizations are unable to define the why, when, what, and how of the process for the designers in specific ways that would include:

1. The lack of understanding related to the question of why invest time and money in cultural analysis and how exactly the results will benefit design or business especially if the customer base is not largely global,

2. The aspect of when to do what is unclear. Sometimes learner feedback during evaluation is being confused with learner analysis while the process should be ongoing from pre-delivery to redesign,

3. What is cultural analysis in the teaching-learning context and what are the critical cultural variables to be included in the process? and

4. The uncertainty of exactly how to approach the complex phenomenon of culture during learner analysis and how to use the cultural information to create culturally competent design.

Why. The first step in the process of reformulating a clear approach to cultural analysis that will answer the question why must be to educate and inform the management from top to bottom to get the buy-in. For most participants, cultural analysis is either a small part of needs assessment or absent in the instructional design process. However, two designers who were engaged in a full-fledged cultural analysis confirmed that they were able to do so due to organizational support and buy-in from the key stakeholders. Unless the sponsors acknowledge, accept, and understand the purpose and benefits of cultural analysis they will not invest time and money in the process. Moreover, organizational support will be feasible only if the approach and focus of
cultural analysis is well-defined to afford a process that is relatively inexpensive, efficient, and offers a clear benefit.

*When.* The second step in establishing a well-defined approach to cultural analysis that can answer the question *when* must be to clarify where cultural analysis fits in the instructional design process. Designers report that they are currently doing cultural analysis on ad hoc basis and in an anecdotal manner. Some of the participants affirmed gathering feedback on learners’ needs post-delivery during the evaluation phase while others shared the perspective that cultural analysis should be embedded in the design process from start to finish as an essential part of good design principles. It is essential to approach cultural analysis as an ongoing process that may begin with the needs assessment process, but continues through the evaluation phase and redesign. Such an approach will address the difficulty of perceiving the process as an additional step in design and assist in building the readiness to embrace the process as part of good design.

*What.* The third step in defining a clear focus for cultural analysis that can address the question *what* must be to educate and inform the designers and learners about the cultural variables that have a direct impact on teaching and learning. Data analysis revealed that more attention in cross-cultural design was given to either taboos or etiquettes or to stereotypical categorization of nations. Such findings resonate Henderson’s (1996) and McLoughlin’s (1999a) claims regarding the omission of the cognitive, epistemological, and philosophical construct of cultural contexts in existing multicultural paradigms. Although being thoughtful about such variables is part of good design practice, dismissal of specific cultural dimensions that have a direct impact on pedagogy, and hence learning, is not considered an inclusive design practice. The goal is
to make cultural analysis an essential part of learner analysis that goes beyond age, gender, language, ethnicity, and stereotypical categorizations of nations and include cultural inquiry into critical particular cultural variables that impact teaching-learning such as cultural dimensions, social systems, and pedagogy.

Also, the focus of cultural analysis can be delineated precisely by addressing the differences between universal and individual cultural variables. There is a need to resolve the debate regarding the feasibility of addressing universal cultural variables more easily versus specific cultural variables based on national cultures or sub-cultures. Once the approach and focus are outlined clearly, it will be easier for the designers to follow a structured, formal cultural analysis process during needs assessment and gather required information on learners for a culturally competent design.

*How.* Finally, the answer to the question *how* will require a comprehensible approach and focus on part of the designers that will emerge only after a clear understanding of the cultural gaps in learning involving a multitude of cultures. This in turn will be possible only with adequate knowledge, information, and training support. Some of the cultural gaps in learning as documented by some leading studies in cultural issues relate to the differences in educational values and cultural beliefs embedded in the content, different roles of the instructor and the learner, different teaching and learning styles, and issues related to language and semantics (Chen et al., 1999; Henderson, 1996; McLoughlin, 1999a; McLoughlin & Oliver, 2000; Rogers et al., 2007; Smith & Ayers, 2006). The discussion that focused on cultural gaps in learning during the interviews revealed stories of similar cultural gaps that the participants faced in creating a culturally competent courseware. Case 5 offered some examples of the cultural gaps in learning due
to differences in teaching and learning styles and preferences based on pedagogical variations.

[I’ll] give you an example about China. They presented training to Chinese [individuals] as case studies and put them through ten different case studies: this is the scenario, this is what happened, and this is how you can fix it. People were already working in particular industries and they were going to talk about some of the problems that they were having and see if they could solve them. So they talked about a challenge and the instructor asked, “How would you solve this?” None of the people were able to answer them. The trainer was like I do not understand we just been through the case studies. Someone said that this is not the same as case studies from 1-10 and the trainer said that no it is a new case study. They said if it is not case study 1-10 then we do not know what to do. What he was countering was the Chinese educational system was based on memorization so they have memorized the case studies and if the new scenario did not fit exactly into one of the case studies, they still did not know what to do. (¶49)

[The] other thing he was doing was mixing the supervisors with the employees. Based on the hierarchical system people are not going to want to challenge or contradict or speak up to a supervisor as they would want to save face. The trainer thought that since he did an ice-breaker activity everyone would be ready to work together, but it did not work and in fact people thought the ice-breaker activity was quite stupid. He [the trainer] was almost overwhelmed by the feedback we gave him and he did not know where to start. (¶53)

Another example quoted by Case 1 demonstrates the complexity of the pedagogical differences between nations that need attention and inclusion in the design process.

I like to call it, I guess, learning culture. For example, [in] China, Hong Kong, the culture there is very much one of maintaining face in public. A simple example is people do not ask questions. It is almost perceived as being an embarrassing thing to have to ask as it shows you don’t understand something so the perception is that under no circumstances nobody will ask for clarification. They will nod politely and just let the person deliver the presentation. Then at the end of the course when everybody is switched off and going suddenly you have a line of people at the desk with questions [that] they have all written down. They want to ask you [the questions] in private to avoid facing their bosses or colleagues or whatever. Nothing can prepare you for that unless you have the experience and does not matter if you offer bribe or gift or money anything in class: they DO NOT ask questions. The course material, you kind of encourage questions and just make the instruction interactive and do your best job of trying to be persuasive
about that: it just doesn’t happen that way. Again the material has to be designed so [that] you convey the way you deliver it so I would historically ask questions on their behalf and if previously somebody asked a questions about what was not covered in the material. And so I ask myself he was probably thinking how does that works so I ask questions FOR THEM. (¶95)

Case 6 shared a simple example about the hazards of using culturally incompetent metaphors in teaching. Such an example speaks to the importance of designers understanding the cultural backgrounds of their learners.

Metaphor, using American football for example, is not very useful like terms like being in the red zone, at the 20 yards line or two minute warning. Those types of things do not translate very well with countries that do not bother with American football. These are the kinds of things [that] are important to recognize when they use pictures, words, examples, and not using phrases that are inappropriate and that cannot be understood by someone from other country. (¶20)

This calls for an in-depth understanding of the particular cultural pedagogies and nuances that requires a comprehensive approach to knowledge and information sharing. Ideally, a feedback loop among the designers, the facilitators and the learners would help maintain an ongoing focus to understand and address any cultural gaps in learning, and to facilitate the creation of a knowledge base that gathers input from all of the participants. Nonetheless, the goal can be achieved only via joint deliberation of all the participants including the sponsors and the learners.

Redefine the Role of Participants

The absence of clearly assigned roles of the participants in the analysis process including the sponsors, the designers, the facilitators, the research community, and the learners results in a lack of commitment to cultural analysis on part of the management and the designers. Management is not invested in the process due to (a) time, budget, and resource constraints, (b) nominal perception on the need and benefits of gathering
cultural information on learners, and (c) minimal understanding of how to approach the process for the myriad of cultures and subcultures. Meanwhile, designers understand the urgent need to gather critical cultural data on learners but are bound by organizational expectations and policies, personal bias, and the lack of knowledge on (a) how to approach the process, (b) what exactly to look for in cultural analysis, and (c) how to translate the information in cross-cultural design.

The management, the sponsors, and the designers need to recognize that, just like market analysis of a product helps understand the consumer needs and preferences which in turn benefits sales and profit, cultural analysis will help understand the consumer—the learners’—needs and help create a more culturally competent and beneficial courseware in the online market. The participants need to recognize the need for a strong partnership, commitment, and consensus across the board to facilitate a culturally competent design for e-learning.

The absence of direct input from the learners is of significant concern as well as the majority of the participants acknowledged that learner information is provided by the sponsors or clients or gathered via other sources with no direct learner input. Some of the designers, however, expressed a strong desire to include the learner in the process, either before or after delivery, to understand the learning gaps created due to cultural differences. Case 5 asserted that even an otherwise thorough cultural analysis process is incomplete without learners’ input. Hence, there is a need to redefine the role of learners as active participants in the cultural analysis process whether it is to gather new information or to validate the assumptions based on research information.

Reassess Training and Information Needs
Some of the participants expressed the need for a database or knowledge base on cultural variables or cultural profiles of learners based on nationality or other critical criteria that impact learning that could serve as a reference. The designers had a strong desire to learn about cultural needs, but they expressed the need for access to research-based information in an organized form such as in a knowledge base related to cross-cultural design principles or cultural variables. The research community and professional organizations can help by disseminating the research information efficiently and making it easily available for designers and learners.

Other participants articulated the idea of learning through training workshops, if not through extensive training, in cross-cultural design. Currently, there are no mandatory training or competency requirements for designers to be skilled in cross-cultural design or cultural analysis. Because there are no standards, the participants were not only ambivalent about what it means to be culturally competent but also intimidated by the idea of trying to address the myriad of cultures. Therefore, a readily available data source would assist in addressing some of the aforementioned concerns.

Also, the designers expressed the need for a framework or model for cross-cultural learner analysis with clearly outlined steps in the process for designers. Some of the participants pointed out the difficulty in having access to cultural expertise. Redefined training and information resources might bring a level of cultural expertise to the designers that would augment their existing repertoire of cross-cultural design skills.

The needs and requirements based on the data are illustrated in Figure 16. It is important to note both the individual elements within the framework as well as the
relationships among the various parts. The intricacies of the framework reflect the intrinsically complex nature of cultural analysis and highlight the varied knowledge and skills designers require to make the practice a core element of their design approach. The next section builds upon the requirements dictated by the findings to discuss the related barriers and solutions in fulfilling the needs that helped identify the elements of the framework for improving the effectiveness of cross-cultural learner analysis.

Figure 16. Needs and requirements for cross-cultural learner analysis.

Barriers, Solutions, and the Proposed Framework

This section presents the barriers and solutions for addressing the needs and requirements outlined in the previous section. The discussion on the solutions helped
identify the critical elements of the proposed framework. The barriers and solutions identified are classified under three categories: organizational, procedural, and personal. These three categories are summarized and aligned with the identified elements of the proposed framework in Table 18 and discussed in detail within this section.

Table 18. Barriers and Solutions for Cross-Cultural Learner Analysis

<table>
<thead>
<tr>
<th>Category</th>
<th>Barriers</th>
<th>Solutions</th>
<th>Elements of Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>Buy-in</td>
<td>1. Educate management and make a strong business case for cultural analysis.</td>
<td>Mandatory cross-cultural education and training</td>
</tr>
<tr>
<td>Define the role of the process and the participants</td>
<td>Ongoing support</td>
<td>2. Strong partnership across board to build consensus and commitment.</td>
<td>Well-defined cross-cultural competencies</td>
</tr>
<tr>
<td>Procedural</td>
<td>Uncertain approach and focus</td>
<td>1. Craft a toolkit or model to outline the steps of the formal process. 2. Delineate the scope based on critical criteria and learner population. 3. Database created by the support of research community, and professional organizational network dedicated to cross-cultural design and analysis.</td>
<td>A tested model or toolkit</td>
</tr>
<tr>
<td>Reassess approach, focus, and resources</td>
<td>Time and money constraints</td>
<td>4. Build in-house cultural expertise via training. 5. Education and training for all participants.</td>
<td>A database of cultural dimensions</td>
</tr>
<tr>
<td></td>
<td>Resource constraints</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feasibility issues</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 18. Barriers and Solutions for Cross-Cultural Learner Analysis (continued)

<table>
<thead>
<tr>
<th>Category</th>
<th>Barriers</th>
<th>Solutions</th>
<th>Elements of Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal (participants) Address</td>
<td>Lack of knowledge and awareness</td>
<td>1. Establish a knowledge base and define knowledge sharing process within and outside a given organization for the designers.</td>
<td>An established knowledge base</td>
</tr>
<tr>
<td>training and information needs</td>
<td>No formal training</td>
<td>2. Define competencies, host seminars or workshops and curriculum add-ins for not only the designers but also other participants including the management and the learners (degree and certificate programs).</td>
<td>Well-defined cross-cultural competencies</td>
</tr>
<tr>
<td></td>
<td>Personal bias</td>
<td>3. Knowledge, awareness and acceptance via training and personal commitment by all the participants.</td>
<td>Mandatory cross-cultural education and training</td>
</tr>
</tbody>
</table>

The key elements of the framework identified in Table 18 calls for the following mandates and provisions:

1. Well-defined cross-cultural competencies for all the participants.

2. Mandatory cross-cultural education and training for all the participants.

3. A tested model or toolkit for cross-cultural learner analysis.

4. An established knowledge base for cross-cultural design and analysis.

5. A database of cultural dimensions or profiles.
These provisions helped craft the proposed framework (see Figure 17) for improving the effectiveness of cross-cultural learner analysis to facilitate the design of culturally competent courseware. Elaboration on each of the provisions is embedded in the discussion of the barriers and solutions in the next section.

**Organizational Barriers**

Some of the major organizational challenges faced by the designers relate to the difficulty getting buy-in from the key stakeholders, ongoing support, and resource constraints. The proposed solutions for the aforementioned barriers include educating the management, making a strong business case for cultural analysis, and establishing a strong partnership across the board. Due to the lack of acknowledgement of the need and acceptance of cross-cultural issues, management tends to be disinclined to invest time, money, and resources in cultural analysis. Case 5 commented on the challenges, stating

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*Figure 17. Cross-cultural learner analysis framework.*
I would say it is still probably mostly organizational because while I will often work with someone in the organization who understands the value in what we are doing and that it will save the company time or money or save a relationship, it is often not the highest level in the company: so they often do not get buy-in. So to gather cultural information or to do cultural analysis is often inhibited by the higher ups in the organization as they are not bought into the concept and that kind of trickles down. Even if I am working with someone who understands what I am saying and wants to do all the right things, if their organization is pushing timelines and saying “you do not have time to do analysis or focus group, this has always worked before, forget it.” So even though I often work with people who understand [the need for cultural analysis], their organization has not bought into it [the concept]. They say they have, but it is only in concept: not in commitment and understanding about what kind of information we really need to get and into what depth. (¶100)

One way of addressing this concern is by educating and informing management about the significance of cultural analysis in creating effective targeted training for global learners. This can be done via mandatory workshops, training or seminars especially designed for the leaders and the management. During such sessions the cross-cultural design can be presented as an essential global leadership skill to reap the long term benefits of investing time and money upfront.

One other solution is to help business leaders and managers become more culturally intelligent themselves. Thomas and Inkson (2009) defined cultural intelligence (CQ) as “being skilled and flexible about understanding a culture, learning more about it from your ongoing interactions with it, and gradually reshaping your thinking to be more sympathetic to the culture and developing your behavior to be more skilled and appropriate with others from the culture” (p. 17). They included three variables in CQ: knowledge, mindfulness, and skills: (a) knowledge of what culture is, how culture vary, and how culture affects behavior, (b) mindfulness as the ability to reflect and act appropriately in cross-cultural situations and, (c) skills involving selecting the right
behavior for different intercultural scenarios. It is anticipated that as personal cultural intelligence rises, so too does a positive disposition toward cultural analysis.

Additionally, it is also important to make a business case for cultural analysis for the sponsors and clients. Case 5 suggested presenting it as a critical part of market analysis while another participant recommended it being ingrained in the needs assessment process as part of sound design principles.

This is our biggest challenge [that] there are very few companies who will work from ground-up to discover those differences. I, to date, had only one. We tell to American businesses that you do a market analysis and everything to make sure that the project is successful. But when you are designing learning and you want it to be successful in other country or culture WHY would you NOT explore this aspect and not include as otherwise you are setting yourself to defeat for market loss, money loss. He looked at me and said, “Haa, I never looked at it that way.” I say it is just part of market analysis. In that respect sometimes we get a few people who understand right from the beginning and they let us make those changes but that is really rare. (¶164)

If the key stakeholders understand and appreciate the need for cultural analysis, organizations will have a clearly defined role for cultural analysis in that it will become an essential part of the needs assessment. Designers will then have access to the resources they need to conduct an effective cultural analysis process that gathers critical cultural data on learners. Although additional efforts will be needed to get buy-in from the key stakeholders, this study is an effort to help designers evaluate the implicit barriers and strategies to address the challenges in creating a culturally competent design.

Another challenge at the organizational level is sustaining ongoing support for the process from start to finish. Although education and training will help build a sense of commitment and consensus among the management and the designers, it is also essential to address the procedural issues related to time, money and resources constraints. If the
process can be conducted in a relatively inexpensive and efficient manner, the sponsors may be more inclined to support the process, as opposed to dismissing it altogether. However, sustainable support will be possible only via a strong partnership across the board from the leaders to the learners. For this it is critical to address the procedural issues related to cultural analysis.

*Procedural Barriers*

The procedural barriers in cross-cultural learner analysis include an unclear approach and focus, time and cost limitations, resource constraints, and feasibility issues.

*Approach and focus.* One of the important steps in addressing the time constraints is to explain to the participants, especially the sponsors, the need to approach cultural analysis as an ongoing process that is embedded in the instructional design process from needs assessment through evaluation and redesign. Since globalization is a relatively new phenomenon and because culture is a multifaceted issue, questions dealing with cultural analysis will not have easy answers. Case 5 noted,

> Probably, one of the barriers is inability or unwillingness to accept that this is a research process. Americans usually want quick answers: how do I fix it. They just want to go to a book and real quick say here look this is the answer and move on. (¶181)

However, with the right approach and focus, the process of cultural analysis can be defined for the targeted audience and executed in a time efficient manner. For this, it is critical to craft a framework and a model that outlines the essential steps of the formal process and delineates the scope so the designers can take the time upfront to learn about the cultural make up of the audience based on that pre-define model. The model can be built upon the existing learner analysis variables such as gender, age, ethnicity, language
but also need to make good use of existing research to add other critical cultural variables that have significant impact on the content, delivery method, pedagogy, and technological aspects of the course.

Approaches to instructional design have been evidently delineated for designers via instructional design models such as ADDIE or frameworks related to standard design principles for e-learning. Likewise, approaches to cultural analysis should be laid out for designers via frameworks or models. However, the standards must be crafted via the joint deliberation of all the participants from the sponsors to the learners. Some of the arguments against such an endeavor are the difficulty of defining integrative frameworks within a model for the myriad of cultural contexts around the globe and the feasibility of applying universal design principles.

Although universal principles in instructional design exist and are usually applied, Rogers et al. (2007) discovered that not all learners will engage with all forms of design, and this lack of initial receptivity to various forms of instruction must not be interpreted as those forms of instruction having no value. The notion is that the deeper principles behind the instructional design theories are applicable cross-culturally with some efforts toward building bridges between the principles and learner contexts (p. 210). Hence, if it is possible to define some universal principles in instructional design, the task of defining common principles for cross-cultural design must also be doable.

Based on existing research, a model for cross-cultural analysis may include cultural variables ranging from cross-cultural dimensions based on nationality as defined by Hofstead (1984) to cognitive profiles based on East and West cultures (Nisbet, 2003). The model, however, must be adaptable based on the cultural diversity among targeted
audience and the project needs. In other words, designers should be able to delineate the scope of the cultural analysis for a given project and identify the targeted audience based on the model. For example, the framework may have some essential variables and processes defined as part of the basic analysis process for a multicultural diverse group of learners as opposed to some optional variables and processes defined to be used for a targeted group of learners such as from one nation like Japan. Such a model may help address some of the issues related to time constraints, approach, and focus by providing a structure for making decisions about culturally competent design.

*Time, cost, and resource constraints.* The issue of resource and time constraints can be tackled by making information on cultural profiles and issues easily accessible for designers to bring cultural expertise to the design and analysis process. Establishing a database created by the support of a research community, and building professional organizational networks dedicated to cross-cultural design and analysis is the first step in the process. The goal of such a research-based and data-driven database would be to provide a repository of varied philosophical, pedagogical, cultural and epistemological underpinnings of diverse learners based on predefined categories. Such a database would serve as a knowledge base for practitioners and researchers worldwide.

The database base would be similar to Open Educational Resources (OER) in distance education so all the participants in the online community will have access to a wide range of audience, a larger body of literature, and increased visibility (Downes, 2007). Most importantly, like OER, the database will have a strong potential for helping develop cross-cultural instructional design knowledge base at a global level. With the advent of intelligent and interactive tutoring systems, there is a further possibility of
building a database of individual learner profiles in different cultural contexts. Likewise, educational technology can help build instructional design theories embodied in electronic performance support systems (Reigeluth, 1999, p. 26) to enable designers to adapt or design the right mix of instructional materials and activities as suited for the defined learner profiles in the audience analysis.

Although there is potential benefit for designers to work from a repository of cultural profiles based on national cultures and other cultural variables to match the cultural profile of learner with course characteristics, the need for cultural analysis does not end with the initial design. Once the learners begin interacting in the course room, the facilitator and the learners together create an environment that leads to the creation of a third identity in reaction to the course demands, support and interactions. In other words, although cultural dimensions based on national cultures and other models will help identify some critical characteristics of the cultural profile of global learners, focus on intercultural communications and interactions in the online course room itself is also essential. Hence, what becomes critical in shaping the cyber identity of the learner is the communication or interactions for which it is essential that not only the designers, but also the facilitator and the learners, be aware of the cultural profiles of learners to make sense of the diversity in the cyberspace.

Therefore, when outlining cultural profile of learners for globalized e-learning, designers can begin with the dimensions predefined by research initially, but must also take steps to identify the needs of the new cyber identities formed in the class during the course interactions. This can be done by having learners match their profiles before and after the course with the predefined dimensions to see how the course did or did not
shape their identity, or if the predefined profiles did or did not make a difference in their learning experience. Such research could offer useful information in further analyzing the learner needs in a globalized e-learning environment.

**Feasibility issues.** One of the arguments against establishing a cultural knowledge base is the feasibility of the practice in terms of effort, time, and money needed for gathering information about different cultural theories and profiles of learners across the globe. Case 3 conducted a full-scale learner analysis process to create a diversity training program for a company’s leaders spread across the globe. When questioned about the applicability of the findings from that study to other training programs, the participant answered,

Yes it is doable, it could be replicated at a lower cost, and this was costly due to false starts. If we have to do it again, both with the hindsight or my experience we would have avoided some of the re-dos and I would lend that knowledge to other people how they could avoid those re-dos. (¶170)

When inquired about the reuse of the knowledge discovered in one project for another, the participant commented, “the research that went into creating this and expertise used to create the content can be used to create other training.” (¶178) Thus with solicitous market research, strong institutional support (Alexander, 2002; Bates & Gpe, 1997) and a shared vision by the online distance education community, although daunting, the goal is attainable. The state of cultural pluralism in global information infrastructures such as e-learning will be attainable only through collaboration and the sharing of resources. Research on cross-cultural dimensions of online learning needs to take a transformative stance to guide the current and future interventions for designing culturally pluralistic instruction.
Personal Barriers

The personal challenges for any participant in the cultural analysis process include the lack of knowledge and awareness, absence of formal training, and personal bias. Establishing a knowledge base and defining a knowledge sharing process within and outside a given organization can help address the lack of knowledge and awareness issue. Access to the database of cultural profiles of global learners will also help reduce anxiety about how to approach the myriad of cultural differences around the globe.

One of the major issues related to personal challenges is the absence of well-defined training or knowledge sharing programs for the participants, especially the designers. The data analysis revealed that most of the participants were not aware of existing research and models that can address cultural issues to some degree and offer guidelines for cross-cultural design. Such existing models include the Multiple Cultures Model (MCM) proposed by Henderson (1996), the Cultural Adaptation Process (CAP) Model by Edmundson (2007) and the Universal Design for Culturally Diverse Online Learning proposed by Eberie and Childress (2007).

Another issue relates to the absence of well-defined cultural competencies for the designers. Just like the International Board of Standards for Training, Performance, and Instruction has outlined instructional design competencies for the designers, there should be clear standards for cross-cultural design competencies for not only the designers, but also the management. Also, the instructional design and the research community must work together to create seminars or workshops for cross-cultural design that can evolve into a mandatory curriculum for instructional design training.
Cultural issues must be part of training and knowledge for not only the designers, but also other participants including the management and the learners. The awareness and knowledge of differing cultures will have a direct impact on personal biases of the participants and help them build cultural intelligence (Thomas & Inkson, 2009) to be able to work competently in the global world. Nonetheless, personal bias is something designers need to be aware of so they can acknowledge it and then try to address if they are truly committed to creating culturally competent design. Case 5 pointed out that, “designers are unless truly committed to understanding the differences and accepting the fact that it is making a difference they will not be invested in designing differently.” (¶138)

The discussion on the barriers and solutions helped delineate the key components of the proposed framework for cross-cultural learner analysis. The framework suggests strategies based upon the participants’ feedback and existing research in cross-cultural design. The most critical factor in improving cross-cultural learner analysis effectiveness is the judicious use of existing research on cross-cultural theories and joint deliberation on part of all the participants from key stakeholders the sponsors or management and the designers to the research community and the learners.

Limitations of the Study

All of the eight interviews focused on the cross-cultural learner analysis practice of designers working for corporate organizations only, and most of the participants were from the United States. Hence, generalizations of the findings to other types of organizations will be limited even though the participants came from a wide range of
design backgrounds from large global corporate companies to independent contractors, and from designers designing solely online to ones designing for a blended learning environment. The small participant pool of eight makes it unlikely that all views of instructional design professionals have been captured.

Moreover, since the findings were based on data collected from participants’ personal perception of cross-cultural analysis and design, the results may be biased. Another limitation relates to the proposed framework in regard to its applicability and feasibility depending on organizations’ customer base, its training philosophy, e-learning approach and leadership style. The elements in the framework do not present an exhaustive list, but offer an initial set of variables that need attention to begin improving the effectiveness of cross-cultural learner analysis that ultimately supports culturally competent courseware.

Significance of the Findings

The findings of this study are important for a variety of reasons. First, the findings revealed some of the often unspoken barriers to cross-cultural design as it relates to the organizational and personal predispositions and values. The acknowledgement and acceptance of the need for cross-cultural learner analysis is one of the most significant steps toward improving cross-cultural analysis, and this study divulged the strong sense of inclusivity among the designers that was bound by organizational and procedural barriers.

Secondly, the findings produced an inclusive list of approaches to address the barriers related to cross-cultural learner analysis via the discussion on barriers and
solutions. The expanded discussion on the same further illustrated the gap in practice and existing research to reveal that resources are present, but not in an organized and accessible fashion to be used efficiently by the participants. Lastly, the key finding of the study is the exposure of the urgent need for a joint deliberation on the part of the instructional design community, the research community, and the learners to craft a framework for effective cross-cultural learner analysis.

Recommendations for Future Research

This research presents a framework for advancing cross-cultural learner analysis to inform culturally competent design of e-learning for diverse learners. As a result of this research, several areas of further investigation emerged as suggested in the following questions:

1. What are the potential barriers to each one of the proposed elements of framework as perceived by the participants: leaders, management, designers, researchers, and learners? How can they be overcome?

2. What are the cross-cultural learner analysis processes followed by corporate companies in other nations?

3. How can designers make a strong business case to prove that investment in cross-cultural learner analysis will be financially worthwhile in the long run?

4. Are there databases or knowledge bases around the globe that speak to cultural dimensions or profiles of learners?
5. How can cultural profiles based on nationality or cognitive processing be expanded and how can learning be measured in relation to the key cultural variables?

6. What are the best approaches to making cross-cultural learner analysis relatively inexpensive and affordable for all organizations?

7. What are the best approaches to organizing a joint deliberation of key stakeholders, researchers, designers, and learners around the globe to focus on cross-cultural analysis and design?

8. How are cultural identities based on nationality altered in cyberspace to become the third identity? Does the alteration hinders or facilitate learning?

It is evident that while this study has provided insight to many aspects of cultural analysis, the data also raise many new questions as well. This study provides a foundation for future research that addresses all of these questions. Perhaps most needed is additional research that will validate and expand the proposed framework.

**Summary and Final Thoughts**

The global e-learning community must work together to create a standard process that addresses cross-cultural analysis and design for global e-learners. The goal of cultural pluralism in global information infrastructures will be attainable only via joint deliberation that requires a *global mindset* (Johnson, 1996). The inclusion of such global perspectives relates to the different learning styles and preferences of learners based upon an individual’s cultural background and learning preferences to appropriately inform instructional strategies for globalized e-learning.
This study has produced some practical steps for effective cross-cultural design and analysis that reflects the needs and requirements voiced by professionals in the field. Therefore, it makes a contribution to the literature by identifying the critical areas of cultural analysis and strategies for overcoming related barriers by way of a framework that incorporates cultural analysis into the instructional design process. Instructional design needs to be flexible rather than prescriptive if it is to accommodate learners’ needs and create culturally inclusive instruction.

The emphasis of the proposed frameworks is more on the awareness and appreciation for inclusivity and cultural diversity than on pedagogical guidelines. The goal is to persuade the organizations and instructional design professionals to acknowledge the need for cultural considerations and to seek such knowledge within their instructional design practice. The global reality necessitates that instructional design of any form and in any part of the world address the cultural diversity inherent to it.
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Ess, C. (2005). Being in place our of place…/Being out of place in place: CMC, globalization, and emerging hybridities as new cosmopolitanisms? In M. Thorseth & C. Ess (Eds.), *Technology in a Multicultural and Global Society* (pp. 91-114; NTNU Publications Series No. 6). Trondheim, Norway: Norwegian University of Science and Technology.


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Johnson, D. G. (2002). Is the global information infrastructure a democratic technology? In R. A. Spinello & H. T. Tavani (Eds.), *Readings in cyberethics* (pp. 121-133; vol. 2). Boston, MA: Jones and Bartlett.


APPENDIX A. INITIAL EMAIL TO POTENTIAL PARTICIPANTS

Greetings,
I am working on my doctoral degree at Capella University specializing in Instructional Design for Online Learning. My research focuses on exploring cross-cultural gaps in learner analysis given the global learner population online.

This letter is requesting your participation in the study if you meet the following minimal requirements to participate in the study:

1. Participants must be corporate trainers and/or instructional designers that create cross-culturally for multicultural or multinational learners.
2. Participants’ respective organizations must follow a learner analysis process in the needs assessment phase of designing training at a small or big scale.
3. Training design experience may relate to web-based and/or blended (face-to-face and online) training.

Research Purpose and Nature
The goal of my study is to offer a comprehensive exploration of cross-cultural analysis for effective learner analysis. The research information can be used to inform future explanation and research on cross-cultural design variables for designing culturally competent instruction. My study will be qualitative case study approach using in-depth interviews conducted via telephone. The interview will be one hour long. The participant may be contacted after the interview via email or phone for any follow-up information and member-checking procedures.

Protection of Privacy and Confidentiality
The research will abide by the rules of Institutional Review Board and follow ethical principles of research involving humans. To maintain anonymity and confidentiality of the participants, research findings reported will not reveal identification of any participant and use pseudonyms when transcribing the names of interviewees and/or respective organizations. The research findings will be shared with the participants to offer insights into effective cross-cultural learner analysis for web-based instruction.

If you are interested in participating and meet the minimal requirements, please respond to me (email or phone).

Thank you,

Mamta Saxena

Home Phone: 603.587.0152
Email: mamta_m_saxena@yahoo.com
APPENDIX B. INFORMED CONSENT

The main purpose of this form is to provide information that may affect your decision about whether or not you want to participate in this research project. If you choose to participate, please sign in the space at the end of this form to record your consent.

WHO IS DOING THE RESEARCH and WHAT IS IT ABOUT?
Mamta Saxena, a doctoral learner under the direction of Professor Dr. Charlotte Redden in the School of Education at Capella University, is conducting a research study and is inviting you to participate in it. The title of the study is Learner Analysis Framework for Globalized E-Learning, and its purpose is to explore strategies for expanding learner analysis within the instructional design process to better address cultural influences on learning style and preference.

WHAT DOES PARTICIPATION IN THIS RESEARCH STUDY INVOLVE?
If you decide to participate in this study, you will be asked to fill out the informed consent form and sign the document for approval. Your participation will take approximately one hour for the actual interview and about 30-45 minutes for follow-up inquiry related to data clarity and member checking procedures. You will be audio taped during your participation in this research, which will be kept for at least 3 years from publication.

WHY ARE YOU BEING ASKED TO PARTICIPATE?
You have been invited to participate because you qualify the criteria for the study participation as professional corporate instructional designers/trainers with the experience and expertise in conducting needs assessment for a global learner population.

ARE THERE ANY RISKS INVOLVED IN THIS STUDY?
Although no study is completely risk-free, we don’t anticipate any risks to you if you decide to participate in this study.

ARE THERE ANY BENEFITS TO PARTICIPATION?
We don’t expect any direct benefits to you from participation in this study. However, participants may gain insights into cross-cultural learner analysis that may help them design globalized e-learning more efficiently.

WHAT HAPPENS IF THE RESEARCHER GETS NEW INFORMATION DURING THE STUDY?
The researcher will contact you if she learns new information that could change your decision about participating in this study.

HOW WILL THE RESEARCHER PROTECT PARTICIPANTS’ CONFIDENTIALITY?
The results of the research study will be published, but your name or identity will not be revealed. In order to maintain confidentiality of your records, the researcher will abide by the rules of Institutional Review Board and follow ethical principles of research involving humans. To maintain anonymity and confidentiality of the participants, research findings reported will not reveal identification of any participant and use pseudonyms when transcribing the names of interviewees and respective organizations.
WHAT HAPPENS IF A PARTICIPANT DOESN’T WANT TO CONTINUE IN THE STUDY?
Participation in this study is voluntary. If you choose not to participate or if you choose to withdraw from the study, you may do so at any time.

WILL IT COST ANYTHING TO PARTICIPATE IN THE STUDY? WILL I GET PAID TO PARTICIPATE?
No

VOLUNTARY CONSENT
By signing this form, you are saying (1) that you have read this form or have had it read to you and (2) that you understand this form, the research study, and its risks and benefits. The researcher will be happy to answer any questions you have about the research. If you have any questions, please feel free to contact Mamta Saxena at 603.587.0152 or you may contact Dr. Charlotte Redden at Charlotte.Redden@faculty.capella.edu.

If you have any questions about your rights as a research participant or any concerns about the research process, or if you'd like to discuss an unanticipated problem related to the research, please contact the Capella Human Research Protections Office at 1-888-227-3552, extension 4716. Your identity, questions, and concerns will be kept confidential.

Note: By signing below, you are telling the researcher “Yes,” you want to participate in this study. Please keep one copy of this form for your records.

Your Name (please print):
____________________________________________________

Your Signature:
____________________________________________________

Date:      ______________________________

INVESTIGATOR’S STATEMENT
I certify that this form includes all information concerning the study relevant to the protection of the rights of the participants, including the nature and purpose of this research, benefits, risks, costs, and any experimental procedures.

I have described the rights and protections afforded to human research participants and have done nothing to pressure, coerce, or falsely entice this person to participate. I am available to answer the participant’s questions and have encouraged him or her to ask additional questions at any time during the course of the study.

Investigator’s Signature:
____________________________________________________

Investigator’s Name:                Mamta Saxena
Date:      July, 2009
Capella’s IRB Approval

This research has been approved by Capella University's Institutional Review Board. Approval number: 125976-1; Effective dates: From: July 24, 2009 to July 24, 2010. (This information will be supplied by Capella University's IRB Office upon the approval of the IRB application.)
APPENDIX C. INTERVIEW PROTOCOL

A. Purpose and questions

Purpose
The goal of my study is to offer a comprehensive exploration of cross-cultural analysis for effective learner analysis. The research information can be used to inform future explanation and research on cross-cultural design variables for designing culturally competent instruction.

Guiding Questions
1. To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?
2. In what ways are instructional designers currently considering and addressing cultural influences in their design process?
3. How do instructional designers characterize the role of learner analysis in creating culturally appropriate e-learning content?
4. How do designers define the elements of cultural analysis critical for culturally competent design?

B. Data collection procedures

- Names of contacts:
- Data collection plan- time, date, duration:

C. Outline of interview topics

- Instructional design and delivery and the variable of culture and cognition
- Cross-cultural dimensions and cross-cultural learner analysis
- Culturally responsive/ inclusive/ competent/ adaptive theories and models

D. Recording procedures: Name of device/ software used in the process

Pre-Interview Information

Participant’s Name:
Date of Interview:
Gender/Age:
Job title:
(Note: Mark # for potentially interesting quotes)

Interview Information

Introduction:
First, permission to record the interview? Very well.

I appreciate your willingness to be interviewed today. The purpose of the interview is to find out how designers conduct cultural inquiry of learners and how they collect such information. The goal is to help designers in addressing the diverse needs of global learner population. The interview should last 50-60 minutes. I would like to first confirm that you received the paper copy of the informed consent form and that you have no questions and concerns about the same.

Very well then I would like to make sure that you feel comfortable sharing data as you will have the final say over the content, I will be sharing the transcription and the analysis with you for member checking procedure to make sure that I transcribed and interpreted the responses correctly.

In my earlier communication with you I described the nature of the interview and questions. Should we go over the question areas at this time? (Pause for response). Very well then, my first question.

**Interview Questions**

<table>
<thead>
<tr>
<th>No.</th>
<th>Key Question</th>
<th>Probes</th>
<th>Alternate message for interviewer</th>
<th>Interviewers reflective notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>To what extent do instructional designers conduct cultural inquiry during their analysis of learner characteristics?</td>
<td>I’d like to begin by establishing an understanding of how you define culture in the context of designing materials for learners. What does that term mean to you?</td>
<td>Understanding or perception of the terminology: cross-cultural design or cross-cultural learner analysis and how your corporate culture influenced your own perception if different.</td>
<td></td>
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<tr>
<td>1b</td>
<td>Describe how your organization conducts cultural analysis? (what, when, how, why)</td>
<td>Does your current (or past) organization identify cultural variables when undertaking training</td>
<td>Traditional variables such as age, gender, ethnic background, entry level competence or</td>
<td></td>
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</tbody>
</table>
initiatives? If so, tell me what variables they look for and how they identify them.

Personality or learning style preference are somewhat different from specific cultural variables that one may look for in a cultural inquiry: cultural traits, and cultural dimensions.

2. In what ways are instructional designers currently considering and addressing cultural influences on their design process?

| 2a. | Describe your experience designing instruction for e-learners from different cultures. | You can begin with an example of a project and then work your way around how you defined the need, process and what challenges you faced. | Your personal opinion or perception on the need or process or challenges. |
| 2b. | What kind of design changes do you make to accommodate the cultural differences? | You can give me an example or scenario from your design experience | Changes to course elements such as delivery, materials, methods or media. |

3. How do instructional designers characterize the role of cultural analysis in creating culturally appropriate e-learning content?

| 3a. | What aspects of the cultural analysis do you perceive as useful for designing cross-cultural instruction? | What worked for you? | Informs design and delivery and improves learning. |
| 3b. | What aspects of the cultural analysis do you perceive present barriers for designing cross-cultural instruction? | What would you like to change or prefer different? | Barriers to learning and design or not of much use. |

4. How do designers define the elements of cultural analysis critical for culturally competent
| 4a | What specific cultural information on learners will be useful for designing material that takes into account cultural variability? | Tell me a little bit about what exactly would you like to know about learners from different cultures to be able to cater to their specific needs? | Nationality, language, local variables, ethnicity or besides that or say you have the information what else? |
| 4b | What are some of the difficulties you’ve encountered and/or facilitators to gathering such information? | Organizational, procedural, personal, and learner related variables in terms of process and resources. | |
| Other | Do you have any additional questions or concerns about cross-cultural learner analysis that were not addressed by the interview questions? | | |

*Note. Adapted from the following sources:*
## APPENDIX D. CROSS-CULTURAL DIMENSIONS AND MODELS

<table>
<thead>
<tr>
<th>Name/Author(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hall’s Cultural Dimensions</strong></td>
<td>Dimension related to difference in perception of spatial and temporal relationship defined as “monochromic time” (M-time) and “polychromic time” (P-time) cultures with difference in the communication styles of the two cultures: defined as “low-context” and “high-context” cultures.</td>
</tr>
<tr>
<td><strong>Hofstede’s Cultural Dimensions</strong></td>
<td>Identified and described five indices to categorize similarities and differences across cultures: Power distance, Uncertainty avoidance, Individualism Index, Masculinity Index, Long-Term Orientation Index.</td>
</tr>
<tr>
<td><strong>Trompenaars and Hampden-Turner’s Cultural Dimensions</strong></td>
<td>Identified eight dimensions under three categories of how people relate to one another, people’s attitude toward time, and people’s attitude toward the environment.</td>
</tr>
<tr>
<td><strong>Henderson’s Multiple Cultural Model (MCM)</strong></td>
<td>Focused on cultural cognitive styles or cultural ways of thinking and doing presenting 14 dimensions with binary oppositions: epistemology, pedagogical philosophy, underlying psychology, goal orientation, experiential value, teacher role, program flexibility, value of errors, origin of motivation, accommodation of individual differences, learner control, cooperative learning, cultural sensitivity.</td>
</tr>
<tr>
<td><strong>McLouglin’s Cross-Cultural Teaching Ladder</strong></td>
<td>Conceptualizes effective teaching as focus on student learning as opposed to teacher behavior. The ladder compares traditional and cross-cultural approaches to teaching starting at the bottom with a focus on student difference and ‘assimilation’ while ignoring cultural differences. Second stage is the move to accommodation that calls for adjusting and adopting strategies to match with cultural differences. The top run focuses on extending students’ cognitive abilities.</td>
</tr>
<tr>
<td><strong>Tracey &amp; Richey’s Multiple Intelligences Model</strong></td>
<td>Based off the multiple intelligences theory and offers a matrix of learner characteristics matched with each kind of intelligence that can assist in learner analysis and in writing behavioral objectives incorporating MI along with a comprehensive list of matching strategies and activities for developing instructional materials.</td>
</tr>
<tr>
<td>Edmondson’s Cultural Adaptation Model (CAP)</td>
<td>Simplified form of MCM with two major goals: identifying e-learning course characteristics and matching them with the cultural profiles of targeted learners. As a result of the two analyses the model informed the designer of the varying levels of cultural adaptations or redesign needed based on the complexity of courses (levels 1 to 4) from translation or localization to modularization and origination.</td>
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<td>------------------------------------------</td>
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<tr>
<td>Ebrie and Childress’s Universal Design for Culturally-Diverse Online Learning</td>
<td>Goal is to create instruction and the learning environment by considering the needs of all learners upfront and designing learning materials and strategies accordingly and by offering a good mix and match of strategies, materials, methods, media and assessment practices to accommodate as many people as possible by maximizing learning opportunities for every learner.</td>
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</table>