# ‘One size does not fit all’: Towards cultural adaptivity in learning management systems

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Online learning is immensely popular and attracts learners from diverse cultural backgrounds. Given learning is situated in culture, the diversity of online students presents a great challenge to course designers, but remains largely unaddressed. To complicate matters, Learning Management Systems (LMS), though efficient and easy to use for course design, promote a *one-size-fits-all’* approach. The PhD study referred to in this paper seeks to make inroads to cultural sensitivity in LMS. A beginning point for the project is to explore Instructional designers’ perspectives on culturally sensitive online learning design features. We report on the early findings from this first step and aim to incite rich discussion around culture, instructional design and online learning.

## Introduction

Online learning is perceived to be cost effective and time efficient method of delivering to large student populations and has thus gained great popularity over recent years. Despite the hype, major challenges facing online educators are the high dropout rates and low completion rates (Lee & Choi, 2011; Levy, 2007; Kolowich, 2013). The poor student success rates in online courses are of concern given the sheer numbers of students involved in addition to the significant investments made by higher education institutions in designing and delivering online education. A commonly cited issue leading to high dropout rates is the “*one size fits all*” approach to course design (Sammour, Gladun, Khala, Al-Zoubi, Schreur, 2015; Williams et al., 2014; Lee & Choi, 2011; Levy, 2007) and Learning Management Systems (LMSs)(e.g. Moodle, Blackboard, WebCT) promote a one size fits all approach (Oskouei & Kor, 2016) and thus the same content and instruction are delivered to learners in the same format irrespective of their differences. Increasingly evident in online learning environments is the diversity of students’ cultural backgrounds (Jayatilleke & Gunawardena, 2016). However, issues of online cultural diversity are largely ignored in online learning, to the detriment of learning quality. Neglecting culture in course design is one of the reasons for low student success but we do acknowledge that reasons for low success are complex, varied, and some are due to social, cultural, or personal circumstances beyond control of instructors and institutions. Perhaps the most easily controlled aspect of online learning, is the instructional or course design. The question is how to design online courses that are contextualized to the diverse students’ cultural backgrounds (importantly this also raises the question of what is culture – a complex issue discussed shortly).

Teaching philosophy differ among societies and this leads to different expectations in the teaching and learning process (Hofstede, 1986) thus different cultures handle the teaching and learning process differently. When students and course designers come from different cultural backgrounds come together, conflicts may arise due the differences in role expectations, usefulness of learning objects, and instructional approaches which results into several pedagogical challenges that lead to poor learning experiences, engagement, and learning outcomes (Mei & Boyle, 2010; Hannon & D'Netto, 2007).

Culture impacts *cognitive processes*, *perceptions* and *interactions* within educational settings (Hofstede, 1986) and also impacts learner satisfaction, participation, engagement, and usability in e-learning systems (Hannon & D'Netto, 2007). Online learning system components such as interface layout, icons, language, menus, procedures, and interaction schemes present different challenges to learners from different cultural backgrounds (Hannon & D'Netto, 2007). Similarly, how students interact with instructional sequence, assessment style etc. is influenced in part by culture. The multicultural nature of online learning environments calls for cultural adaptation in online course design and delivery. McLoughlin & Oliver (2000), addressing cultural diversity in online learning design improves student motivation, satisfaction, and results into positive learning experiences. Despite the undeniable impact of culture on online learning, and the need for culture sensitivity, there is a dearth of research on how cultural aspects should be addressed during online course design (Jayatilleke & Gunawardena, 2016; Ogan & Johnson, 2015; Al-Harthi, 2014; Parrish & Linder-VanBerschot, 2010). This dearth is attributed to many reason such as complexity of culture,

lack of frameworks and models for addressing cultural issues during course design and culture is hard to represent in computational models thus can't be processed by machines (Ogan & Johnson, 2015; Parrish & Linder-VanBerschot, 2010; Savard, I., Bourdeau & Paquette, 2008).

In the present concise paper we present some insights gained from early data relating to exploring the culturally sensitive learning/course design features from the instructional/ course designers perspectives. As earlier noted, lack of tools to support instructional designers in addressing cultural variables during course design was cited a major factor (Savard et al., 2008) in low success/retention in online courses. In the same way, we acknowledge this fact and agree that we cannot provide a complete solution, however, we join others in taking up the challenge by first, seeking to establish the most important culturally sensitive features as a step to developing an approach to support online course designers in designing and delivering courses that fit the sociocultural context of learners using LMSs. One possible solution would be to develop a course for every culture (localization), however, this can be cumbersome and time consuming thus not feasible. Therefore, building adaptivity into LMS course design and delivery to enable cultural adaptation, at least in terms of some of the more significant factors, is desirable.

## Conceptual framework

The Socio-cultural theory of learning is informed by the work of Vygotsky (1978) posits that learning is a social, collective and active process that takes place within a social context thus pointing to the fact that social-cultural aspects play a critical role in the learning process and human development. According to Vygotsky (1978), learners create meaning through the social-cultural interactions with the surrounding environment and without which learning becomes difficult. Culture is complex and remains an ill-defined domain because of its multidisciplinary nature ranging from anthropology, psychology, philosophy, sociology, education, and cognitive science among others and this makes it hard to tell what constitutes culture and what is not (Ogan & Johnson, 2015; Mohammed & Mohan, 2013) But, it is important to understand what constitutes culture as relating to learning environments. Collis (1999*)defined culture "as the beliefs, philosophies, traditions, values, perceptions, norms, customs, arts, history, experiences, and patterns by individuals and groups* (p. 204) Savard *et al.,* (2008) mentioned two major component of a person's culture including individual and collective cultures of which individual culture refers to a "*set of general knowledge acquired by an individual*" whereas collective culture is a "*set of usages, customs, artistic, religious, and intellectual expressions that define and differentiate a group, a society*". In the present study, we're concerned about collective culture referring to the enduring patterns of behaviors, beliefs, and values exhibited by an individual as a result of identifying with a particular group in society.

Throughout literature, various authors have sought to expand understanding of the complex concept of culture by considering similarities and differences among cultures and by identifying various cultural constructs which are thought to constitute the idea of culture. There are various cultural frameworks that explain the similarities and difference of two or more cultures based on a given set of cultural constructs. However, every model has its own set of constructs and scope upon which cultural variations are measured. Historically, anthropologists took a leading role and endeavored to simplify and categorize culture, however, the work of Hofstede (1980), Trompenaars &Hampden-Turner, C. (1998), and Hall (1976) among others have been recognized in many disciplines. In addition, we have cultural based models specific to educational setting such as the Multiple Cultural Model (Henderson, 1996), Cultural Dimensions Learning Framework (Parrish & Linder-VanBerschot, 2010). For purposes of this study, we conceptualize culture from the instructional design point of view using Hendersons' (1996) multiple cultural model. Henderson (1996) developed the "Multiple Cultural model" for understanding cross-cultural dimensions in interactive multi-media learning environments. Henderson(1996) argues that "*minority ethnic groups or developing nations looking for technological solutions to their educational and training needs will not be well served by packages designed for a majority Western culture*" (p. 93). Henderson's model is comprised of 14 dimensions that can be applied in understanding learning preferences of learners from different cultures and these include: *epistemology, underlying psychology, pedagogical philosophy, instructional sequence, goal orientation, experiential value, teacher role, programs flexibility, value of errors, accommodation of differences, learner control, user activity, collaborative learning, and origin of motivation.* Henderson's Multiple Cultural Model is based on the "*eclectic paradigm"* which posits that learning materials should support flexibility and variability by reflecting multiple cultural values and perspectives so as to promote equity and enhance learning outcomes (Henderson 1996). Collis (1999) states that the *eclectic* means providing a variety of learning experiences to cater for the diverse cultural learning needs. Embracing the eclectic paradigm in designing and delivering courses to culturally diverse student cohorts is our major concern. Online learning environments are cultural artefact that reflects the cultural values, expectations and beliefs of the designers (Parrish & Linder-VanBerschot, 2010; Swierczek & Bechter, 2010; Henderson, 1996) thus learning design features such as communication tools, assessment, and feedback techniques, learning support mechanisms and instructional approach always reflect the preferences of the designers. McLoughlin (1999)

observed that culture and the learning context "*are interwoven and inseparable*" (p.232) and the process of instructional or course design in online learning is a cultural activity (Parrish & Linder-VanBerschot, 2010).

A survey of empirical studies on cultural influences in online learning environments utilizing Henderson's Multiple Cultural Model (Henrson,1996) as a conceptual framework revealed some of the culturally sensitive learning design features presented into three dimensions including roles and responsibilities, course design elements, and presentation dimension. Roles and responsibilities refer to the role pairs as regards to how power and authority are shared and elements include: teacher and learner roles. Course design elements refer to the key course design features within online learning environments and these include: Course structure (Mercado, Parboteeah, & Zhao, 2004); Course content (Mercado et al., 2004); Assessments and assignment (Mercado,et al., 2004); Feedback (Savard, 2014; Stewart, 2012); Collaboration (Liu, Liu, Lee, & Magjuka, 2010).); Communication (Savard et al, 2008; , Swierczek & Bechter, 2010); Rewards mechanism/Motivation (Savard et al, 2008); Learner support (Swierczek & Bechter, 2010; Collis, 1999). Presentation dimension addresses learning design features from the Computer Human Interaction perspective and these include: Navigation & hierarchy (Mercado *et al.,* 2004); Layout (Reinecker & Bernstein, 2010; Mercado *et al.,* 2004); Language (Swierczek & Bechter, 2010; Mei & Boyle, 2010).

## Methodology

The study adopts a design based research as we intend to design an approach for cultural adaption.

In the initial phase of the project the emphasis is on identifying the course/learning design features while confirming the need for an approach. This is being achieved through the use of survey collected data. We wish to capture both the perspective of course designers (instructional designers and academics), and later students perspectives. The initial survey was designed based on a list of course/learning design features generated from literature review on culture influences in online learning. One section elicited demographic data and the other section was for identifying the most culturally sensitive course design features. Other questions related to participant perceptions of the importance of culture in online learning design. The respondents were asked questions such as "How important do you believe it is to consider culture making decisions related to each of the following learning design features?" A 7-point Likert scale was used from 1=not at all important to 7= extremely important. Data was collected via an email survey to Griffith Business School and the School of Information and Communication Technology, 19 surveys are received to date. Respondents included faculty academics, instructional designers, curriculum advisors all of which had been involved in designing and/or delivering online courses.

## Preliminary insights

Our early data points to a general agreement among participants that culture is an important consideration in the design of online learning environments. 60% of respondents agreed mostly or entirely that culture is an important course design factor influencing student learning outcomes (mean = 5.65), and 52% agreed that culture is an important course design factor influencing student engagement and participation (mean=5.58). All participants agree (50% strongly agree, 25% mostly agree and 25% somewhat agree) that is necessary to consider cultural values in the design of online courses but they made it quite clear that cultural values are complex and difficult to understand, 50% of respondents felt there were some good theories about the role of culture in learning but the remaining half felt that there were not. Interestingly, less than 40% felt they had the necessary knowledge and skills to integrate cultural considerations in their course design. Furthermore, insufficient time to give consideration to culture in online design was identified as an issue (with only 10% agreeing or mostly agreeing they had enough time). A key issue identified in the survey from the preliminary data is that all participants agreed to some extent that "there is a need for better models and frameworks to guide culturally sensitive instructional design of online learning environments". Participants were also asked the open ended question of what is needed to better address culture in their course design. Of the 12 comments received, all but 2 related to the need for training and the need to understand better the influence of culturally diverse students. The need for more funding for time and tools to design to these needs was also raised.

To identify which course elements designers give consideration to in terms of culture, participants were asked "How important do you believe it is to consider culture making decisions related to each of the following learning design features?" .The roles and responsibilities (teacher role, student role) dimension gained the highest agreement with mean score of 6.89. This was followed by collaborative course elements with a mean of 6.37. Agreement on the importance of culture in how the content is presented had a mean value of 5.86. Agreements about importance of culture in relation to course structure and instructional flow was lower. It is interesting that although there is much evidence from the Human-Computer-Interaction perspective on how culture impacts interface design, participants tended to consider these features less important. It appears that most of the course designers were concerned with aspects of the learning environment which involved communication. Other features of the course design were comparatively

less important. Potentially this is more evidence for better models and understanding of the impact of culture along with greater knowledge of interface design.

## Conclusion and future work

Although, the project is in early stages and data obtained to date is meager, the results align with what was gleaned from the survey of literature in the area. It is agreed generally that culture is important in online learning design, but to attend to culture is not simple and straightforward, but rather difficult and time consuming. This is attributed to the fact that culture is complex and its influence on student learning and experience are still not well understood. There is thus a need for further research to unravel the dimensions of culture and to cast some light on which of the dimensions are most important in terms of impacting on learner outcomes and engagement. The project proposed seeks to contribute in this way by establishing the most important culturally sensitive learning design features in online course design and delivery as a step to developing an approach for addressing cultural diversity in LMS. Course designers feel relatively poorly equipped with the skills and tools needed to effectively integrate culture into course design, designing for cultural adaptivity is time intensive. Thus, there is a need to develop more effective, efficient and easy to use methods of incorporating culture.

Our preliminary data is helping to identify the most culturally sensitive learning design features in online learning design and delivery from the instructional/course designers' perspectives. Additionally, the finding that cultural considerations are predominantly being implemented in online interaction tools but not in educational tools raises the issue of possible lack of knowledge and aligns with the participants views of the need for more training and better tools and frameworks.

One limitation about this undertaking is the view that there is a potential of undermining the ability of learners to develop intercultural competence. It is true that learners need intercultural skills to survive in the changing the world, however, our concern is embracing the *eclectic* paradigm which is about providing a variety of learning experiences to cater for the diverse cultural learning needs. Nonetheless, we bring the culturally sensitive learning design features to the attention of online instructional/course designers while at the same time provoking discussion on the nature of culture itself.

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