Cultural Sensitivity and Design Implications of MOOCs from Korean Learners’ Perspectives: Case Studies on edX and Coursera*

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Culture is a crucial concept that forms the thinking and behaviors of a group of people, and it influences interactions in learning. Thus, it is also essential to consider cultural sensitivity in online learning technologies and instructional design as education is a set of learning actions based on values and perceptions. MOOCs, the latest online learning platform, are global online learning platforms that provide global learners with free and various learning resources including courses from different world-class institutions. Despite globalization having brought learners closer to sharing similar learning resources, the actual experiences with the resource are expected to vary according to cultures, mainly because learning behavior is a set of outcomes based on cultural differences. Taking this into consideration, this study aims to examine MOOCs from a cultural perspective in order to facilitate global learners, especially Korean learners, to utilize MOOCs with user-friendly services and contents. To achieve this objective, the study first identified and developed an evaluation criteria to examine the cultural sensitivity of MOOCs and conducted case studies on courses from major MOOC providers including edX and Coursera. From the findings, design recommendations of contents and courses on MOOCs were suggested to provide Korean learners with optimal learning experiences.

Keywords: Culture, Cultural Dimensions of Learning Framework (CDLF), MOOCs, Online learning

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Introduction

Throughout the wave of the digital revolution, online learning has continuously grown as a new and effective delivery method of contents and skills (North, Richardson, & North, 2014). This development is still taking place and expanding its sphere of influence. To provide a richer learning environment than those offered by traditional learning tools, online learning tools have made continuous developments in various forms, Massive Open Online Courses (MOOCs) being one of them. Furthermore, the wave of digital revolutions is also changing its users in terms of how they think and perceive technology (Naughton, 2010). In this context, it can be said that the constant progress and development in online learning is changing both the instructor and learner’s way of thinking and acting compared to the traditional ways of learning and teaching.

Another increasing trend in the field of education is the growing homogenization in learning and teaching. Meaning to say, the expansion of online learning is bringing people closer to sharing not only similar learning pedagogies and resources, but also similar experiences and expectations in learning activities (Sahlberg, 2004). Commonalities are indeed growing between learners, but there are certain variables that still must be considered when attempting to draw out an authentic understanding of the learner.

Considering the increasing trends in education, it seems natural to view culture as an effective tool in understanding the authentic context of the learner. Defined as a set of thinking styles and expected behavior which “impact knowledge acquisition and learning outcomes (Rao, 2011, p. 131),” culture may be seen as a system of thinking that builds the rationale of a specific group’s way of thinking and differentiates it from others. While prominent scholars have developed various frameworks in understanding culture (Hofstede & Hofstede, 2005; Nisbett, 2003; Trompenaars & Hampden-Turner, 1997), this study seeks to apply a certain model in approaching culture—the Cultural Dimensions of Learning Framework (CDLF)
derived by Parrish and Linder-VanBerschot (2010), which focuses on viewing the cultural characteristics of learners and instructors in terms of their behavior and expectations within the learning environment.

Through a cross-comparison of cultural aspects in online learning, this study seeks to examine the cultural sensitivity of MOOC platforms from the Korean learner's perspective. MOOC platforms can be seen as appropriate cases to investigate cross-cultural contexts as they are accessed by students from various countries around the globe. The findings and implications drawn out from a culturally-approached case study of MOOCs may help to establish a deeper insight on how cultural sensitivity can influence the student's learning in global online learning environments. Therefore, this study aims to identify the cultural sensitivity criteria to evaluate the global online learning platforms from the Korean learners' perspective as a sample case. Then, courses provided by edX and Coursera is to be observed in line with the evaluation criteria, in an aim to derive implications on design guidelines for Korean learners in global online learning platforms by identifying how MOOC platforms support Korean learners in terms of cultural sensitivity.

For this, the study has set the following research questions:
1. What are the evaluation criteria that identifies cultural sensitivity of MOOC platforms in providing Korean learners with optimal learning experience?
2. How should contents and courses on the MOOC platforms be designed to facilitate the learning experience of Korean users?

**Theoretical Foundations**

**Cross-cultural issues and studies within the educational sphere**

In recent days, culture is greatly affected by globalization as it introduces new customs and products, also bringing new modes of thinking which permeate in
people’s modes of thinking (Tarc, 2012). Likewise, new technologies, resources, and pedagogies in the educational environment are affecting the way people learn and teach. Another impact of globalization is that it has shaped people to become more active in searching and choosing the resources to fulfill their needs and desires from a wider selection of choices (Cogburn, 2002). This is similar in the learning domain, as learners can choose from a wider selection of learning tools and contents. Similar to ordinary users, some of them naturally turn to learning tools and contents developed from other countries to fulfill their personal needs and preferences. Thus, globalization can be seen to have not only mobilized people in the physical world, but also in the online world as users actively go around the online space to utilize both local and foreign resources. Taking this into consideration, cultural diversity is growing more prominent not only in the offline environment but also in the online space.

The learning experience learners acquire in online space may appear to grow more similar, but how they think and act may still turn out to be different. This is natural, as deeply embedded cultural values and modes of thinking are difficult to separate (Nisbett, 2003). In simple words, learners may show different modes of thinking even in the same space offered by globalization, thus bringing about cultural diversity.

Culture can be seen as an essential pillar in understanding human behavior as it is the set of ideas, emotions, values, and perceptions building people’s framework of actions and thoughts within their situated environment (Yang, 2011). Diversity may be witnessed easily, but building an authentic understanding of it is rather difficult. Moreover, a lack of understanding on the learners’ way of thinking may even bring frustration, negative experiences, and even conflicts between learner and instructor, and among learners.

Dedicated studies have actively been going on over the past decades to identify cultural variables that affect people’s thoughts and behavior. Many scholars have developed different models and frameworks in understanding cultures and
comparing the differences among them (Hofstede & Hofstede, 2005; Nisbett, 2003; Trompenaars & Hampden-Turner, 1997). These models are not only used in order to identify and observe cultures, but are used in a variety of contexts to understand and predict people. For instance, Hofstede’s model of Cultural Dimensions is a

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**Figure 1. Developmental history of Hofstede’s categories**
model which is still actively being used in the field of organizational behavior, especially among multi-national companies. Based on worldwide survey, Hofstede initially identified differences in national cultures and classified them as four dimensions: Power Distance (PDI), Individualism (IDV), Uncertainty Avoidance (UAI) and Masculinity (MAS) shown in Figure 1. This initial analysis was further validated through six subsequent cross-national studies between 1990 and 2002 (Minkov, 2007). The development of the dimensions is visually organized as First version, Second version and Third version as shown in Figure 1.

Hofstede’s cultural dimensions have been applied in many areas of research, especially in studies that explored the role of culture on technology. For instance, the cultural dimensions model is frequently applied in the development of adaptation rules of a culturally compatible user interface (Reinecke, 2010). However, not much research has investigated cultural adaptation in online learning technologies, thus implying a need for a more focused study.

Cultural frameworks in the educational context

In talking about the roles, responsibilities, and expectations of the teacher and student in the learning process, there are a variety of perceptions and ideas defining them (Wursten & Jacobs, 2013). Neglecting this can bring up conflict between learners and instructors. In this context, the Cultural Dimensions of Learning Framework (CDLF) is an analytical tool which focuses on the cultural variables within the instructional and learning context. Derived from the works of Hall (1983), Hofstede and Hofstede (2005), Levine (1997), Lewis (2006), and Nisbett (2003), the CDLF model explains the roles, expectations, and tendencies of instructional providers and learners in relation to their cultural inclinations (Parrish & Linder-VanBerschot, 2010). The framework is composed of three major categories, with a total of eight cultural dimensions, as explained in Table 1.
Table 1. The cultural dimensions of learning framework (Parrish & Linder-VanBerschot, 2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>Cultural dimensions</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social relationships</td>
<td>Equality and authority</td>
<td>Relationship between the teacher and student: the degree of equality in the relationship; types of appropriate interactions (Hofstede &amp; Hofstede, 2005; Lewis, 2006)</td>
</tr>
<tr>
<td></td>
<td>Individualism and collectivism</td>
<td>Preference between interest of the group's or individuals, and the feasible interpersonal relationship to support that interest (Hofstede &amp; Hofstede, 2005; Nisbett, 2003)</td>
</tr>
<tr>
<td></td>
<td>Nurture and challenge</td>
<td>Nature of the goals - harmony through cooperation or recognition and advancement through competition (Hofstede &amp; Hofstede, 2005)</td>
</tr>
<tr>
<td>Epistemological beliefs</td>
<td>Stability-seeking and uncertainty-acceptance</td>
<td>Tendencies towards uncertainty and reactions in dealing with uncertain and ambiguous contexts (Hofstede &amp; Hofstede, 2005; Nisbett, 2003)</td>
</tr>
<tr>
<td></td>
<td>Logic argumentation and being reasonable</td>
<td>Preferences between logical consistency or practical outcomes, and the way disagreement is dealt with (Nisbett, 2003)</td>
</tr>
<tr>
<td></td>
<td>Causality and complex systems</td>
<td>Inclination to either think according to a causal-based analytic approach or a situation-based holistic approach (Nisbett, 2003)</td>
</tr>
<tr>
<td>Temporal perceptions</td>
<td>Clock time and event time</td>
<td>Inclination to preferring either an external measure of time or the natural development of time; Preferences between deadlines or relationships (Levine, 1997)</td>
</tr>
<tr>
<td></td>
<td>Linear time and cyclical time</td>
<td>People's perception of time as either a linear path or a pattern of cycles developing throughout the course of life (Hall, 1983; Lewis, 2006)</td>
</tr>
</tbody>
</table>

Unlike Hofstede's cultural dimensions model, the CDLF by Parrish and Linder-VanBerschot (2010) does not provide a comparison score for a specific country. Thus, in order to identify the cultural tendencies and preferences, each dimension on the framework were determined which value is stronger according to
the country’s learning culture.

Based on the CDLF and the indices of the cultural dimensions derived by the Hofstede Centre (2010), the typical cultural features of Korean learners can be explained as follows: the relationship between a Korean teacher (viewed to be in a higher position) and student (viewed to be under the supervision of the teacher) is usually vertical, with more authority and respect given to the teacher (Kim, 2015). In this classroom, group goals are more emphasized than personal goals, with more emphasis on the group’s harmony over the individual’s success (Cho, Mallinckrodt, & Yune, 2010). For this, collaborating and maintaining good relationships are deemed important, which also bring a sense of security (Parrish & Linder-VanBerschot, 2010). At the same time, Korean learners appear to think more according to specific contexts and situations, leading them to think more reasonably and flexibly instead of valuing the correct logics in situations of disagreement (Cho et al., 2010). Korean learners show higher preference on activities with structured processes, prompt start-and-stops. Meanwhile, the Korean society shows a very high rate of uncertainty avoidance, preferring clearly stated and fixed rules, goals, and guides (Vörös & Choudrie, 2011). In terms of user interface, Marcus and Gould (2000) found that high uncertainty avoidance countries tend to prefer clear indicators of navigations that present all information at once with structuredness. Moreover, they also identified that more feminine countries like Korea have more images than text, and more visual aesthetics compared to masculine countries.

Like most cultural models, the CDLF is a model mainly focused on the offline learning environment. Considering that people’s way of thinking and behaving may also change in technology-based environments, there seems to be a need to expand the cross-cultural framework, specifically to the educational context in order to adequately identify learner’s actions and perceptions in the online learning environments.
Massive Open Online Courses (MOOCs)

The development of MOOC platforms can be related to the third phase of distance education as defined by theorists—a period with more active communication through online-based instructional-learning tools (Williams, Karousou, & Mackness, 2011). With the World Wide Web's development as a “collaborative medium” for people to meet, write, and share opinions (Lawson, 2005), MOOCs are one of the latest learning tools that allow users to interact in a collaborative way and exchange knowledge, co-creating an outcome together. More importantly, the scope of their interaction is expanded to a global level, as they are able to meet users from other locations of the world via the web.

Choi (2014) explains the major distinctive features of MOOC platforms as: completely online-based, open to anyone and everyone, and synchronous management. Among these, openness is perhaps the most attractive factor distinguishing MOOCs from other learning tools. The course Introduction to AI, offered by Stanford in 2012, attracted over 20,000 users from around the world. With major functions including RSS feeds, blog posts, threaded discussions in Moodle and Second Life meetings, opportunities for interaction in a humongous and diverse group of learners seems to be what attracts different users from all over the world (Tracey, 2013).

With openness and universal access as the leading characteristics, MOOC platforms should investigate cross-cultural contexts as global learning platforms, in the sense that they are accessed by students from the around the globe. However, there is no framework or relevant literature that explores cultural differences in online learning spaces such as MOOC platforms. It is because of this that there is a need to conduct a structured study on exploring the cultural dimensions of online learning.

At the same time, adaptive learning technologies in education have rapidly developed to adjust to learner's needs (Johnson, Adams Becker, Estrada, &
Freeman, 2015). The Horizon Report, part of a project by the New Media Consortium which identifies emerging technologies for teaching and learning, anticipates adaptive learning technologies to increase its impact on learning contexts within two to three years. Studies have already progressed to examine and build culturally-sensitive and adaptive environments for its users (Marcus & Gould, 2000; Reinecke, 2010). Research in the educational context, however, is less actively going on. When considering the global reach and accessibility of MOOCs and other global online learning tools, adaptive learning may be the next crucial area of research. From this perspective, it seems necessary to draw out design guidelines of learning tools from more specific cross-cultural contexts in order to build more adaptive learning environments. Thus, as a basic trial to make more culturally adaptive learning environments for global learner, this study will investigate the MOOCs from the cultural perspective. It might have an implication on providing foundations of the methodological approach on such studies and culturally sensitive design perspectives.

**Methodology**

**Research design**

In line with the literature review, each researcher listed and organized specific criteria to evaluate the cultural sensitivity of MOOC interfaces for Korean learners. The criteria drawn out by the researchers were collected, reorganized and classified to 16 criteria under 3 major categories. Then, the criteria were cross-checked and finalized through a pilot study with 10 Korean students, which were then matched with the eight CDLF dimensions. Afterwards, specific adaptation rules most likely to support Korean learners in global e-learning environments were drawn out, with the foundation of an extensive literature review about adaptation rules in
cross-cultural contexts (Parrish & Linder-VanBerschot, 2010; Reinecke, 2010; Shah, 2013). Based on the evaluation criteria, 10 courses from edX and Coursera were selected and observed to assess the cultural sensitivity from Korean learner's viewpoints. From these case studies, design guidelines were derived to provide MOOCs instructional designers and developers with more specific usability strategies to support Korean learners. Figure 2 describes the research procedures in more details.

![Figure 2. Research procedure](image)

**Participants**

The initial version of the evaluation criteria, which included 16 specific criteria under 3 major categories from literature review on cultural dimensions, Korean learner's characteristics, and adaptation rules, were validated with 10 Korean
learners with the 5-points Likert-scale ranging from ‘1: very invalid’ to ‘5: very valid’. Table 2 describes the profile of the participants who took part in the assessment. The participants of this study were 10 students from the Department of Educational Technology at H University. Participants’ academic background were identical while their experiences with MOOC and other courses varied as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>No. of MOOC course accessed</th>
<th>MOOC platforms accessed</th>
<th>No. of other online courses accessed</th>
<th>Length of stay abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>-</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td>&gt; 2 yrs.</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Coursera</td>
<td>2</td>
<td>&gt; 1 yr</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>-</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Coursera</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>-</td>
<td>5</td>
<td>&gt; 2 yrs.</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Coursera; edX</td>
<td>3</td>
<td>&gt; 2 yrs.</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>edX</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Many</td>
<td>Many</td>
<td>Many</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>Coursera; edX; Khan Academy</td>
<td>Many</td>
<td>0</td>
</tr>
</tbody>
</table>

**Case studies**

In order to identify web functions that can help satisfy the Korean user’s cultural inclinations, a cross-examination was conducted to identify the cultural compatibility of MOOC courses. A total of 10 courses were observed in two major MOOC platforms – Coursera and edX by 10 Korean learners with the evaluation framework. Table 3 is a list of the different courses observed during the study:
Table 3. List of MOOC courses observed for the cross-examination

<table>
<thead>
<tr>
<th>Name of course</th>
<th>Platform</th>
<th>Course provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human-centered design: An introduction</td>
<td>Coursera</td>
<td>University of California, San Diego</td>
</tr>
<tr>
<td>Learning how to learn: Powerful mental tools to help you master tough subjects</td>
<td>Coursera</td>
<td>University of California, San Diego</td>
</tr>
<tr>
<td>Shakespeare in community</td>
<td>Coursera</td>
<td>University of Wisconsin-Madison</td>
</tr>
<tr>
<td>ICT in primary education: Transforming Children’s learning across the curriculum</td>
<td>Coursera</td>
<td>University of London</td>
</tr>
<tr>
<td>Big data in education</td>
<td>TeachersCollegeX</td>
<td>University of Toronto</td>
</tr>
<tr>
<td>Teaching with technology and inquiry: An open course for teachers</td>
<td>edX</td>
<td>cdX</td>
</tr>
<tr>
<td>Welcome to the global freshman academy</td>
<td>edX</td>
<td>Harvey Mudd College</td>
</tr>
<tr>
<td>Programming in scratch</td>
<td>edX</td>
<td>Tsinghua University</td>
</tr>
<tr>
<td>Human factors and culture in design</td>
<td>HarvardX</td>
<td></td>
</tr>
<tr>
<td>Introduction to data wise: a collaborative Process to improve learning &amp; teaching</td>
<td>HarvardX</td>
<td></td>
</tr>
</tbody>
</table>

Findings

Evaluation criteria

Table 4 shows the complete chart indicating the different evaluating criteria developed for this case study. The list, initially composed of 16 criteria under 3 major categories, was finalized through a validation test, condensing the list to criteria with a mean score of more than 4.00 on a 5-point Likert scale.
<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Adaptation rules in the Korean learning context</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships</td>
<td>1. Is the learner or staff's information publicly disclosed?</td>
<td>Higher tendency to prefer more prominence and information regarding teachers as a social role (Ex. Teacher’s section such as education, affiliation, career, etc.) and staff (Marcus &amp; Gould, 2000)</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>2. Can the students speak up in limited situations? Are they expected to accommodate teacher's point of view?</td>
<td>Higher tendency to prefer accommodating teacher's point of view (Parrish &amp; Linder-VanBerschot, 2010)</td>
<td>4.18</td>
</tr>
<tr>
<td>Learning activity</td>
<td>3. Are the activities open-ended and require various inputs, processes, and insights?</td>
<td>Higher tendency to prefer activities with structured processes and a “right answer” (Parrish &amp; Linder-VanBerschot, 2010)</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>4. Do activities require a prompt time deadline and a strict schedule?</td>
<td>Higher tendency to prefer prompt start-and-stops (Parrish &amp; Linder-VanBerschot, 2010)</td>
<td>4.27</td>
</tr>
<tr>
<td></td>
<td>5. Do activities require competition among fellow learners?</td>
<td>Higher tendency to prefer collaborating with good relationships and security (Parrish &amp; Linder-VanBerschot, 2010)</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>6. Do activities provide opportunities for learners to collaborate with each other?</td>
<td>Higher tendency to prefer tasks that represent community and harmony (Shah, 2013)</td>
<td>4.09</td>
</tr>
<tr>
<td>User interface</td>
<td>7. Does the instructional/learning course provide different, “non-linear” access and navigation possibilities? (Ex. Table of Contents, Navigation, Sitemap, etc.)</td>
<td>Higher tendency to prefer clear indicators of navigations that present all information at once with structuredness (Shah, 2013)</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>8. Does the instructional/learning course provide the learner with an interface that has more images than text?</td>
<td>Higher tendency to prefer an interface with more images than text, and more visual aesthetics (Marcus &amp; Gould, 2000; Reinecke, 2010)</td>
<td>4.45</td>
</tr>
</tbody>
</table>
Findings of case studies

Based on the evaluation criteria which were identified and developed from the literature review and pilot study, 10 course cases from edX and Coursera on MOOC platforms were studied and examined. Major findings presented below are focused on the most notable features in MOOCs that are likely to be incompatible with the Korean learner’s cultural inclinations.

Relationships

In terms of relationship, two features are examined according to the evaluation criteria: staff’s information openness and the value of the instructor’s perspectives. Most contents from MOOC platforms, especially developed by western countries such as USA or the UK did not appear to expose the identity and authority of the instructor as much as those in the Korean learning resources. As shown in Figure 3, the learning courses from edX and Coursera do not show the lecturer’s name and institution. Showing a closer inclination towards authority over equality, Korean learners tend to value the teacher’s authority over an equal relationship (Parrish & Linder-VanBerschot, 2010). In this sense, credibility of the learning courses or contents can be established and reinforced by constantly exposing the instructor and institution’s information (Marcus & Gould, 2000). As an example, many online resources in Korea tend to have the information of the instructor and institution along with the instructor’s name constantly and contextually on the top part shown in Figure 4. In the 10 learning courses from two different MOOC platforms (edX and Coursera) observed, no course exposed the instructor’s name and institution like the Korean platform. Although some of the courses in Coursera, especially from Tsinghua University in China showed the institution’s logo instead of the instructor’s name, none of the courses in edX showed the instructor and institution’s name as a common aspect in the Korean learning resources. From the Korean learner’s perspective, an important feature that helps them judge the quality and credibility of the course has not been
Secondly, it is difficult to find the instructor’s opinions and assessments within MOOC platforms, such as the instructor’s sample model answers in discussion boards. In fact, they might be one of open course’s inherent features in MOOCs platforms. However, Korean learners have a higher tendency to accommodating
their teacher’s point of view and being assessed by tutors with expertise and authority (Marcus & Gould, 2000). Moreover, they believe it is not virtuous to speak up in accordance with relationship with others. Therefore, MOOC platforms may need to include features that can provide more opinions from tutors, such as sample answers and tutor’s assessment-opinions instead of peer-reviews.

**Learning activities**

As learning activities are essential elements in learning, the observation of learning activities in online courses from edX and Coursera were based on four evaluation criteria: structured learning activities, prompt start-and-stops activities, collaborative activities with good relationships, and harmonious tasks and dialogue.

First, main learning activities in most of MOOC are discussions in forums, although other learning activities such as quizzes and projects are offered. The discussion boards and learning activities from most of courses from MOOCs are not structured as shown in examples in Figure 5. Korean learners prefer more structured learning activities in order to assure them to perform the task with accurate guidelines and certainty (Hofstede & Hofstede, 2005; Parrish & Linder-VanBerschot, 2010). Interestingly, the course from Tsinghua University in China provides learners with obvious structure and numbers (HW2-1-HW4-2) in order to guide them what needs to be done to complete this course in Figure 6.

![Figure 5. Learning activities on edX and Coursera](image-url)
Second, course information on edX presents only starting dates of the course without its ending date. Moreover, due dates of all learning activities in the course of edX are the same, which means that learners do not have a specific schedule and prompt start-and-stops when they perform various learning activities throughout the course. Figure 7 demonstrates an example of the course. However, Korean learners prefer to participate in tasks with prompt time deadline and a strict schedule.
Third, learners in MOOCs are demographically and culturally varied, and Korean learners prefer to collaborate with other learners with a smooth relationship while participating in learning activities. But from the courses observed, 9 from MOOCs did not provide learners with any hint about other learner’s information—such as nationality and gender nor any interaction opportunity to build a good relationship with other fellow learners. Only one course form Coursera turned out to be offering an opportunity to meet and greet among learners who enrolled in the same course, shown in Figure 8. An opportunity to ‘meet and greet’ fellow learners plays a critical role in building a good relationship between learners with similar interest and making a starting point to collaborate for learning tasks in the same interests. Korean learners might value interpersonal relationship with credibility (Nisbett, 2003) in the class and this can promote more active collaboration between learners.

Figure 8. 'Meet and greet' session in Coursera
Finally, discussion forums in MOOCs offered functionalities that encouraged learners to openly challenge other learners’ opinions and insights, which may impart a sense of frustration to the Korean learners. All of the discussion forums in edX and Coursera had functions such as the ‘Like’ or ‘Follow’ to show the learner’s consent towards other learners’ comments, but some courses in Coursera provided an additional function where learners could express their disagreement towards a comment shown in Figure 9 (left). Considering the Korean’s inclination to accept risks for the sake of continuing a harmonious dialogue (Parrish & Linder-VanBerschot, 2010), disliking a comment in public is likely to be less useful for them. Instead, providing different degrees of consent (‘Agree’ or ‘Strongly Agree’ as examples) could be more effective in facilitating discussions and fulfilling the Korean learners’ cultural inclinations such as KOCW in Figure 9 (right).

![Figure 9. ‘Unlike’ function to express disagreement in Coursera and harmonious comments function in KOCW](image)

**User interfaces**

The user interface of MOOC platforms were observed in line with two main criteria—the structure of information with clear navigation and visual aesthetics, both of which were criteria identified and validated through literature reviews and validity tests.

With regards to user interface, most courses on Coursera and edX have linear
structures which may not give the Korean users a sense of satisfying user experience. In fact, Korean users tend to prefer a hierarchical structure with contextual navigation information (Cha, Oshlyansky, & Cairns, 2005). Most Coursera and edX courses observed include contextual navigation information and structures, but it is not very clear and obvious to perceive the hierarchy of the information because the title and contextual notice are not given visual emphasis. Most information including the title and subtitles consist of simple mono-colored texts as shown in Figure 10. If the user interface is highly structured with contextual information such as accurate subtitles and location of the materials, Korean learners may be less frustrated with the contents during their learning process (Cha et al., 2005).

In accordance with the first evaluation criteria, MOOC courses and their lectures in general, displayed a higher ratio of text to images, showing a striking difference from the more visual and aesthetic components in Korean learning resources. This is another feature at the opposite spectrum of the Korean’s general preference towards images to text. As shown in Figure 10, the lectures provided in MOOC platforms were mainly text-based with less images simpler colors.

Figure 10. Linear structures and simple text designs in edX and in Coursera

Though some lecture sessions offered multimedia resources such as YouTube video clips, most of the lecture contents were presented in text format. This is also evident in other menus of the course such as the course syllabus, reading list, and introduction
pages, where most information were either in text or hyperlinks. These kinds of visual design styles might not motivate Korean learners to actively complete all tasks and courses in MOOCs (Marcus & Gould, 2000). Considering that these contents were developed for adult learners, Korean learning materials tend to be designed with colorful texts and icons even if there are not many images and childish animations.

Table 5. MOOCs design recommendations for Korean learner’s learning experience

<table>
<thead>
<tr>
<th>Category</th>
<th>Criteria</th>
<th>Design recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships</td>
<td>1. Is the learner/staff information publicly disclosed?</td>
<td>Provide information of the instructor and institution along with the instructor’s name constantly and contextually at the top of the screen</td>
</tr>
<tr>
<td></td>
<td>2. Is the instructor more open in listening to and accepting learners’ personal opinions and insights throughout the learning sessions?</td>
<td>Include features that give more tutor-opinions, such as sample answers and tutor’s assessment opinions instead of peer’s review</td>
</tr>
<tr>
<td>Learning activity</td>
<td>3. Are the activities open-ended and require various inputs, processes, and insights?</td>
<td>Provide more obvious structures and numbers in order to guide learners what needs to be done to complete the course</td>
</tr>
<tr>
<td></td>
<td>4. Do activities require a prompt time deadline and a strict schedule?</td>
<td>Provide learning tasks and activities with prompt time deadlines and a stricter schedule</td>
</tr>
<tr>
<td></td>
<td>5. Do activities require competition among fellow learners?</td>
<td>Provide interaction opportunity to seek a good relationship with other learners who are taking the same course</td>
</tr>
<tr>
<td></td>
<td>6. Do activities provide opportunities for learners to collaborate with each other?</td>
<td>Provide discussions and features with harmonious comments and opinions</td>
</tr>
<tr>
<td>User interface</td>
<td>7. Does the instructional/learning course provide different, “non-linear” access and navigation possibilities? (Ex. Table of Contents, Navigation, Sitemap...)</td>
<td>Design the User Interface with highly structured and contextual information such as accurate subtitles and location of the materials</td>
</tr>
<tr>
<td></td>
<td>8. Does the instructional/learning course provide the learner with an interface that has more images than text?</td>
<td>Design learning materials with more colorful texts and icons for visual aesthetics and structures</td>
</tr>
</tbody>
</table>
Design recommendations for the Korean culture

In summary, the design recommendations of courses and contents on MOOC platforms in consideration of cross-cultural contexts, especially from a Korean learners’ viewpoint, have been drawn up from the findings as described in Table 5.

Conclusion

To summarize, this study mainly sought to identify criteria on cultural sensitivity to evaluate global online learning platforms, focusing on the case of MOOCs from the Korean learner’s perspective. The evaluation criteria might also contribute to deriving design recommendations aimed to facilitate in the design of more culturally adaptive learning environments in the near future. In order to achieve the research objective, 10 courses from MOOC platforms edX and Coursera were observed with a set of evaluation criteria for cross-cultural online learning platforms. The criteria have been identified from theoretical foundations about cultural models in learning and then developed by an empirical study through a pilot study with 10 Korean learners.

Implications of the study are as follows: first, this study can serve as a fundamental basis to validate certain aspects which hinder global learners from establishing an optimal user experience despite globalization having built a standard of functions and interface in online resources. However, this study demonstrates that cross-cultural sensitivity should be considered in order to optimize user experience and provide more effective learning to global learners, and then how the cultural factors might influence on learner’s learning experience from a specific region, Korea, whose cultural dimensions are very different from the Western-based MOOC developing counterparts.

Furthermore, considering the growing recognition of MOOCs in the non-western hemisphere (especially Korea), it may be timely and necessary to
evaluate MOOCs as global learning platforms for global learners based on cross-cultural dimensions. Finally, drawing out design recommendations for the Korean context to explore MOOCs from a cultural perspective might play a crucial role in establishing a deeper insight on Asian learners for Western instructional designers and instructors. The design recommendations also contribute to offering design guidelines about Korean user-friendly platforms to the Korean policy implementation structure who recently initiated the development of a national-scale MOOC platform called ‘K-MOOC’ (National Institute for Lifelong Education, 2015).

Based on the evaluation frameworks and the findings of the cross-comparison conducted on actual MOOC courses, it cannot be concluded that MOOCs are completely unsupportive to the learners with Korean cultural characteristics. As explained in the findings, some MOOC courses were found as to have already been designed with adaptive features for Korean learners. However, instead of simply viewing MOOCs as supportive or unsupportive for Korean learners (or any learners with a different cultural background), more effort should be put to designing additional adaptations with cultural sensitivity that can satisfy more users with different needs. To reiterate, MOOCs are not completely strange to the Korean learners as globalization has helped widen their insights and become familiar with more diverse materials developed outside of their community. It is widely known that in recent days, there is a certain sense of standardization in the contents, services, and web interface, also found in the educational context. However, as can be seen from the evaluation framework and findings, cultural needs and inclinations have not yet been fully satisfied. Thus, making cultural adaptations and designing courses with cultural sensitivity can contribute to offering the user a more positive and effective experience (Preece, Rogers, & Helen, 2007).

In particular, adaptive learning technologies in education have rapidly developed to adjust to learner’s needs (Johnson et al., 2015). In fact, Horizon Report anticipated that adaptive learning technologies might have a big impact on learning contexts within two to three years. In addition, some studies have made efforts to
provide culturally sensitive and adaptive environments for users (Marcus & Gould, 2000; Reinecke, 2010). Therefore, MOOCs or other global online learning environments might integrate such adaptive learning technologies to individualize learner's learning experience in the near future. From this perspective, design guidelines on cross-cultural contexts should also be considered based on culturally sensitive and adaptive learning environments. Therefore, this study has an implication on providing foundations of the methodological approach and culturally sensitive design perspectives.

Culture is not only a factor which influences experiences and preferences in learning. Culture itself is a very complicated construct and concept integrating many different values and thinking. Moreover, as Hofstede and Hofstede (2005) emphasized, the sources which have impacts on a person’s thinking and behaviors are multi-leveled, including human nature, culture, and personality. In this sense, comparing and identifying the exact cultural dimensions affecting individual styles and preferences are very confusing and may turn out to be subjective. However, it is meaningful to explore on the topic of cultural sensitivity since “cultural preferences are strongly embedded because humans are highly social creatures with strong needs to fit within our groups (Parrish & Linder-VanBerschot, 2010, p. 4)”.

In particular, this study can be a positive milestone in that there is not much research conducted related to cross-cultural issues in online learning technologies and online educational sphere.

This research has been completed as a case study to develop a concrete evaluation tool and design strategies in identifying cultural components in online education resources based on theoretical findings. Further studies will have to be conducted from an empirical perspective, gathering usability-related insights through evaluations and conducting a comprehensive qualitative study with actual users. Future research will also have to explore the mobile domain, since a great amount of tasks, including learning, are being completed in mobile devices and interfaces.
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Cultural Sensitivity and Design Implications of MOOCs from Korean Learners’ Perspectives: Case Studies on edX and Coursera


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http://www.edx.org

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