

# Instructional Design for developing Cultural Intelligence (CQ): Lessons from Blended Learning

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**Abstract:** This study reports results from a course developed to support intercultural learning at a Japanese university. Specifically aimed to develop and track the growth of cultural intelligence, the course utilized instructional design theory and experiential learning in a blended learning environment. The 15-week course involved students in a culturally diverse online exchange and included topical lectures, classroom activities and media. Course engagement and classroom feedback were tracked through a series of synchronous online surveys. Individual and group measures of cultural intelligence were obtained pre/post-course with an online version of the cultural intelligence survey, on a platform supported by the Cultural Intelligence Center. The results show increased scores for the majority of participants. An analysis of these results is presented and discussed in consideration of the cultural elements present in the design of instruction.

**Keywords:** Blended learning, cultural intelligence (CQ), experiential learning, Japan, instructional design

## INTRODUCTION

Advances in technology continue to enable the increasing reach and utilization of online learning technologies. These rapid and comprehensive developments provide a radical challenge to established educational paradigms and learning traditions (Alonso, López, Manrique & Viñes, 2005). Moreover, as Alonso et. al. (2005) highlights, there is evidence that an ever-widening gap is opening between the profusion of technological features on offer and a shortage or non-existence of teaching principles and/or methodologies to accompany or support it.

As for the cultural component in learning, the spread of the internet has brought about the globalization of learning traditions and technologies that emanates from educationally influential centers, connecting people from historically very different cultures and learning traditions. The resultant diversity in online learning groups is already evident, and it seems that the need for intercultural competence in the virtual world is an increasing demand for education experts to consider.

Cross-cultural competence, knowledge and skills are today recognized as a vital ingredient for the skill-set of a global citizen (Fischer, 2011, Roux, 2018). Universities have long been expected to prepare

graduates for future careers but the notion that the diversity of learning environments (physical or virtual) can be exploited to support the skill development of students seems not to have gained wide-spread traction yet.

There are positive indications however. Unveiling a new educational initiative in 2011, the Japanese government (MEXT, 2018) has set a requirement that universities emphasize an education that would result in more internationally minded graduates. This vision appears cognizant of the fact that graduates are increasingly likely to work in diverse environments, regardless of whether these will be based in local or global contexts, as pointed out by some authors (Livermore, 2011; Fischer, 2011)

Speaking to the need for continued understandings of cultural diversity, the notion of cultural intelligence (CQ), which is defined as ‘an individual’s capability to function effectively in culturally diverse settings’ (Ang, Dyne & Tan, 2011) was suggested. Research in this area has grown exponentially in recent years, and the concept of CQ has helped to integrate the somewhat fragmented field of intercultural studies through a focus on the personal capacities that would bridge cultural differences (Ang, Dyne & Rockstuhl, 2012).

According to the Cultural Intelligence Center, four CQ capabilities characterize the intercultural capacity

of a person. Briefly, these are: (1) CQ Drive, which relates to a person's motivation, interest and confidence in settings with cultural diversity; (2) CQ Knowledge, which refers to knowledge about how cultures are similar or different; (3) CQ Strategy, which is how a person makes sense of culturally diverse experiences and social situations; and, (4) CQ Action, which signifies a person's capability to adapt their verbal and non-verbal cultural behavior to appropriately suit a particular context.

CQ is thus similar to IQ (general mental ability) and EQ (emotional intelligence) in that it measures a set of capabilities necessary for personal and professional success. CQ, however, can be differentiated from these because it focuses primarily on the skills and capabilities needed to be successful in situations characterized by cultural diversity, whether these are international or domestic contexts.

Taken together, these trends and developments suggest that current learning environments need to remain aware of culture's pervasive presence in the learning process, but moreover, actively incorporate it as part of curricular design and instruction (Clem, 2004; Thomas, Mitchell & Joseph, 2002). Instructional designers thus need to take seriously some of the reported neglect in consideration of the cultural influences in e-learning (Henderson, 2007; Parrish & Linder-Vanberschot, 2010).

The current study partially addresses a number of these issues through a continuation of a project that aims to develop cultural intelligence (CQ) through the application of instructional design (ID) theory (Roux & Suzuki, 2016, 2017; Roux et al., 2018). Specifically, we report a blended learning intervention that investigates how ID methods may support and enhance CQ. Blended learning refers to methods of learning that mixes various event- or experience-based activities and may include: live e-learning (synchronous), self-paced learning (asynchronous) and face-to-face classrooms (Alonso et al., 2005; Watson, 2008). We incorporated blended learning methods as an approach to expand our framework that supports intercultural learning (Roux & Suzuki, 2016, 2017).

To investigate the efficacy of our framework in achieving the development of CQ, we designed and implemented a 15-week intercultural communication course that combined: 1) traditional educational methods; 2) experiential learning activities in a facilitated format; 3) one multi-cultural workshop; 4) online media, quizzes and feedback formats to enhance learning; and 5) an asynchronous online discussion forum with international counterparts. We measured cultural intelligence (CQ) pre- and post-course using an online form of the cultural intelligence survey (E-CQS), provided independently through the Cultural Intelligence Centre.

Results presented here show notable developments in the self-reported CQ scores of participants when

compared to worldwide norms, providing support for the efficacy of our framework, course design and instructional methods. A brief discussion of these findings and implications for the future designs of intercultural courses are presented.

## RESEARCH DESIGN, METHODS AND PROCEDURES

### Design

Our project continues to rely on a framework that uses an interdisciplinary approach to synthesise well-known instructional design (ID) models (Keller's ARCS model, 2000; ADDIE model, see Molenda, 2003) with Experiential Learning Theory (Kolb, 1984) and intercultural theory, as represented through use of the construct of cultural intelligence (CQ) (Ang et al., 2011). Earlier results and findings suggested a successful integration in a framework with a design sequence that supported intercultural learning (Roux & Suzuki, 2016, Roux et al., 2017, 2018).

The framework thus continues to underpin course design and implementation and, for this investigation, employed a pre/post research design for the measurement of CQ. In addition, the framework allows for data collection through the use of online feedback forms that track and capture summative and formative learning. In turn, this data is then further analyzed to enhance an understanding of how CQ develops. Figure 2 below (Roux & Suzuki, 2017) suggests a visual understanding for the framework, here incorporating the blended learning environment.

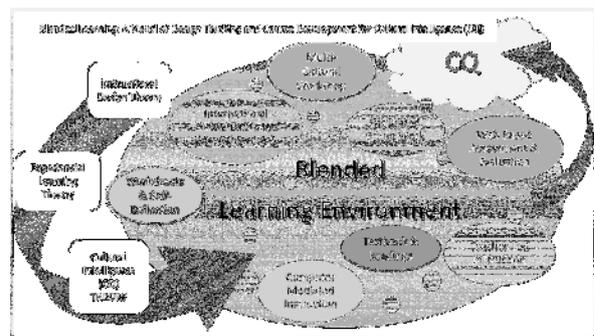


Figure 1. A blended learning model for developing cultural intelligence (CQ)

### Participants

Nineteen undergraduate (2<sup>nd</sup> and 3<sup>rd</sup> year) students participated in a 15-week intercultural learning course. This course is typically enrolled in by students who are interested in short- and/or long-term study abroad. The gender balance was 63% female, 37% male and except for one Taiwanese student, all students were Japanese. The majority of the group (64%) reported limited-moderate prior intercultural experience.

## Procedures

Weekly face-to-face lessons took place with the instructor in a classroom equipped with WiFi and desktop computers. Instructional methods included variations of facilitated group- and/or pair work, engagement with online media (audio-visual), short lectures by the instructor, an online (asynchronous) exchange with a group of Colombian college students, and weekly learning reflection that employed online feedback and evaluation forms that were developed by the instructor.

To investigate whether intercultural education through our course positively influenced the development of CQ, we surveyed participants pre- (Time 1) and post-course (Time 2), using an online version of the Cultural Intelligence Scale (E-CQS), provided by the Cultural Intelligence Centre. These measured participants' self-reported intercultural capabilities and they received a personalized feedback report that compares their CQ with the worldwide norms. The instructor received a group-feedback report showing a summary of scores and a group profile description. A set of guidelines provided by the CQ Center assisted in the interpretation of the feedback. The E-CQS captures a self-rated ability to perform and adapt in diverse environments and can be used as a diagnostic tool for intercultural success (Ang et al., 2011; Ang et. al., 2012).

## RESULTS

### Measuring Cultural Intelligence (CQ)

Participants' CQ development were measured pre- (T1) and post-course (T2), using an online version of the Cultural Intelligence Scale (E-CQS). A comparison of the results for T1 and T2, relative to the worldwide norms, show positive changes on all four dimensions of the CQS. These results are shown in Figure 2. Overall, these results broadly indicate that the intercultural education provided through our course positively influenced the development of CQ.

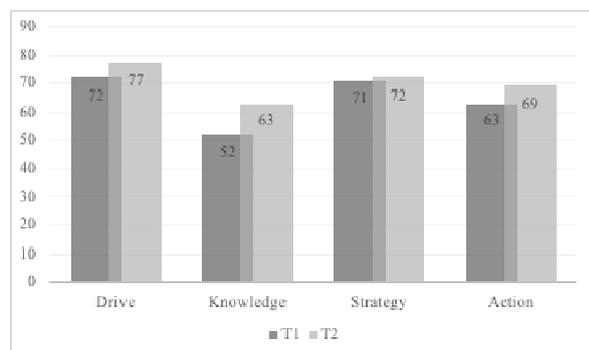


Figure 2. T1/T2 Comparison of self-ratings against worldwide norms

The four dimensions for CQ are shown separately for T1 and T2, which indicate increases for each when compared to the worldwide norms. Table 1 below summarizes comparisons of the T1 and T2 for the self-rated CQ scores, on each of the relevant dimension, for this group of participants.

Table 1. Average T1/T2 comparison for self-rated CQ vs Worldwide Norms

Dimension	Average Scores T1 to T2	% Changed
CQ Drive	72 to 77	7
CQ Knowledge	52 to 63	21
CQ Strategy	71 to 72	1
CQ Action	63 to 69	10

Of note is that although our group's self-measured CQ capabilities increased from T1 to T2, the CQ analysis report placed both measured instances as still remaining within the *moderate* range.

## FINDINGS AND DISCUSSION

The purpose for this investigation was to incorporate a blended learning approach more thoroughly into our framework and measure the effects in terms of CQ increases. Results show that average scores for CQ increased for our group of participants when compared to worldwide norms. Although these increases remain within the *moderate* range, it indicates that our group of participants enhanced their CQ as a result of the intercultural learning course.

The report we obtained through the administration of the E-CQS pointed out that in some cases, average scores can drop because participants have gained a more realistic understanding of their CQ capabilities compared to others. Such a result could nevertheless be taken as a learning development in this area, since it reflects a better self-perceived assessment of personal capacity. In our case, and compared to the worldwide norms, average scores *increased* on all dimensions, but most notably on the CQ Knowledge dimension.

It is important to contrast these findings with other indicators obtained elsewhere, and as pointed out in earlier research work (Roux & Suzuki, 2017; Roux et. al., 2018), there were a number of course elements built into our framework that delivered data for analysis in this regard. Earlier findings, which used formative and summative participant performance, course feedback on various intercultural activities and the measurements for these (Roux et. al., 2018), broadly indicated advances that could be tied positively to CQ developments.

Additional findings based on the feedback and evaluation reports from that iteration of the course

(Roux et. al., 2018) showed effective intercultural learning, in addition to learners' self-reported, increased confidence in areas related to intercultural skill development, critical thinking and digital literacy. Reading these findings together with the current result, we feel encouraged that the course goals were achieved. Moreover, findings appear to support the utility of integrating our framework with the blended learning approach and demonstrates its subsequent potential to provide insights into general, and intercultural learning processes.

## CONCLUSION

The current study reports further findings from a project that aims to develop cultural intelligence (CQ) through the application of instructional design (ID) theory (Roux & Suzuki, 2016, 2017; Roux et. al., 2018). Specifically, we reported on a blended learning approach that investigates how ID methods may support and enhance the cultural intelligence (CQ) of group of undergraduate students at a Japanese university. Findings show notable developments in the self-reported CQ scores of participants when compared to worldwide norms, although these advances still remained within the moderate range when comparing pre- and post-course measures. We are encouraged that the findings appear to provide further support for the efficacy of our framework, course design and instructional methods. Future research work will aim to repeat the current investigation in an effort to replicate the results and refine instructional methods. In doing so, we hope to continue with ongoing efforts to understand the processes underlying intercultural learning and development of CQ, and how it might benefit from the application of online technologies.

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