

Designing Instruction for developing Cultural Intelligence (CQ) Online: Preliminary explorations into experiential, intercultural classroom learning

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The use and expansion of digital learning has critically increased the demand for educational materials that are culturally sensitive and adaptive to a global learner audience. As part of a larger project to design instruction that supports the development of cultural intelligence (CQ), this study reports initial observations from a preliminary workshop conducted at a Japanese university. Four goals were identified to head off the project: (1) to design a workshop that draws on theory from the relevant fields; (2) to conduct an audience and data analysis based on the workshop feedback; (3) to consider if, and how, the relevant theory could be applied to support CQ development; and (4) to initiate a conversation about the adaptation potential of these methods and materials for online use. Although a more exhaustive investigation is needed, initial results indicate a fair degree of success with the first three goals. Further impressions and concerns from the feedback data are discussed in relation to realizing a similar workshop online.

Keywords: *instructional design & technology; cultural intelligence; experiential learning; Japan*

INTRODUCTION

The internationalization of teaching and learning through the internet continues to expand as technologies increase in scope and sophistication. Likewise, the rise and spread of the global knowledge economy continues to impact on traditions of learning and the cultures they are intertwined with. While the technological impact on learning systems are often clearly seen, their impact on the cultural systems that inform them, as well as the diverse learner groups they represent, are very subtle and often remain hidden. In some cases, they have in fact been labelled as ‘culturally blind’, and associated with some negative effect (Henderson, 2007, p. 132).

Research in the field of Instructional Design and Technology (ID&T) suggests that cultural considerations in the digital design and delivery of learning remain sparse, or at least, underreported. Authors point out, for instance, that the cultural competence of ID&T professionals themselves, and the subtle influence that this competency exerts on educational design and materials would benefit from more research (Parrish & Linder-VanBerschoot, 2010; Bentley et al., 2005; Clem, 2004). They also submit that the scope and extent of online methods and materials, as well as the models used, require much further investigation before its variable impact on the educational pathways of learners can be fully understood (Thomas et al., 2002; Clem, 2004; Bentley et al., 2005; Rogers et al., 2007; Parrish & Linder-VanBerschoot, 2010; Suzuki & Nemoto, 2012). Taking a critical stance, Henderson (2007) argues that the use of cosmetic, tokenistic and stereotypical devices remain prevalent in e-learning resources and asserts that many ID models remain inadequate in fully addressing cultural diversity among learners. Her critical analysis demonstrates that these inadequacies has a negative bearing on the realization of equitable learning outcomes, acquiring academic credentials, and ultimately, access to employment.

Given these criticisms, it seems that a reconsideration of the cultural aspects involved in ID&T is warranted. This view is also supported in an earlier study by Thomas et al. (2002), who used the ADDIE model to argue that designers can successfully utilize constructivist approaches to understand learners' cultural differences, thereby safeguarding against injecting a cultural bias in the design process. For the present purpose, the study by Thomas et al. (2002) provides a valuable suggestion: by taking a step back into the 'traditional classroom', the cultural aspects of learners - and their learning - could be reconsidered and used to reinvigorate the design of development of culturally relevant materials and systems.

Cultural theories and concepts can be found across many disciplines however, sometimes lacking in application power needed in daily educational practice. Fairly recent developments in the fields of intercultural communication and management theory has introduced the concept of *cultural intelligence (CQ)* (Early & Ang, 2003). This notion refers to an individual's capability to function effectively in situations characterized by cultural diversity (Ang, Van Dyne & Tan, 2011). It is conceived of as a set of four capabilities that describe the ease and efficiency with which some individuals are able to adapt their views and behaviours cross-culturally. Having CQ means utilizing four complementary factors of personal intelligence: metacognitive, cognitive, motivational, and behavioural skills to navigate the socio-cultural environment.

Referring back to the earlier contention that a cultural 'blindness' might be present in the e-learning and -teaching systems of today (Henderson, 2007), the concept of CQ is introduced here as a potential avenue for re-thinking the capacities of instructional designers and their learners. In terms of a larger frame from which the present exploration takes its focus, CQ theory might thus offer a way for ID&T to infuse design principles from a *culturally intelligent* perspective. Likewise, and conversely, the principles and models of ID&T might be employed to cultivate and support the development of CQ.

To explore the feasibility of the application of these ideas, the current project consequently formulated four goals: (1) to design a workshop that draws on a synthesis of theory from the fields of ID&T and CQ for a multicultural audience; (2) to conduct the workshop and gather feedback for audience and data analysis purposes; (3) to consider whether, and how, the relevant theory could be successfully applied to support the development of CQ; and finally, (4) to initiate a conversation about the adaptation potential of these methods and materials for future online use to support the development of CQ in learner groups.

Rather than a once-off event, the workshop is thus envisaged as a series and thus treated as work-in-progress. As a guiding framework, the intended series utilizes experiential learning theory, which defines learning as 'the process whereby knowledge is created through the transformation of experience...' (Kolb, 1984, p. 41). The link to constructivist theory and the socio-cultural production of knowledge should thus be clear, providing a firm bedrock for investigating the development of cultural intelligence (CQ). The present paper reports on the inception of this process and the first workshop.

RESEARCH DESIGN and METHODS

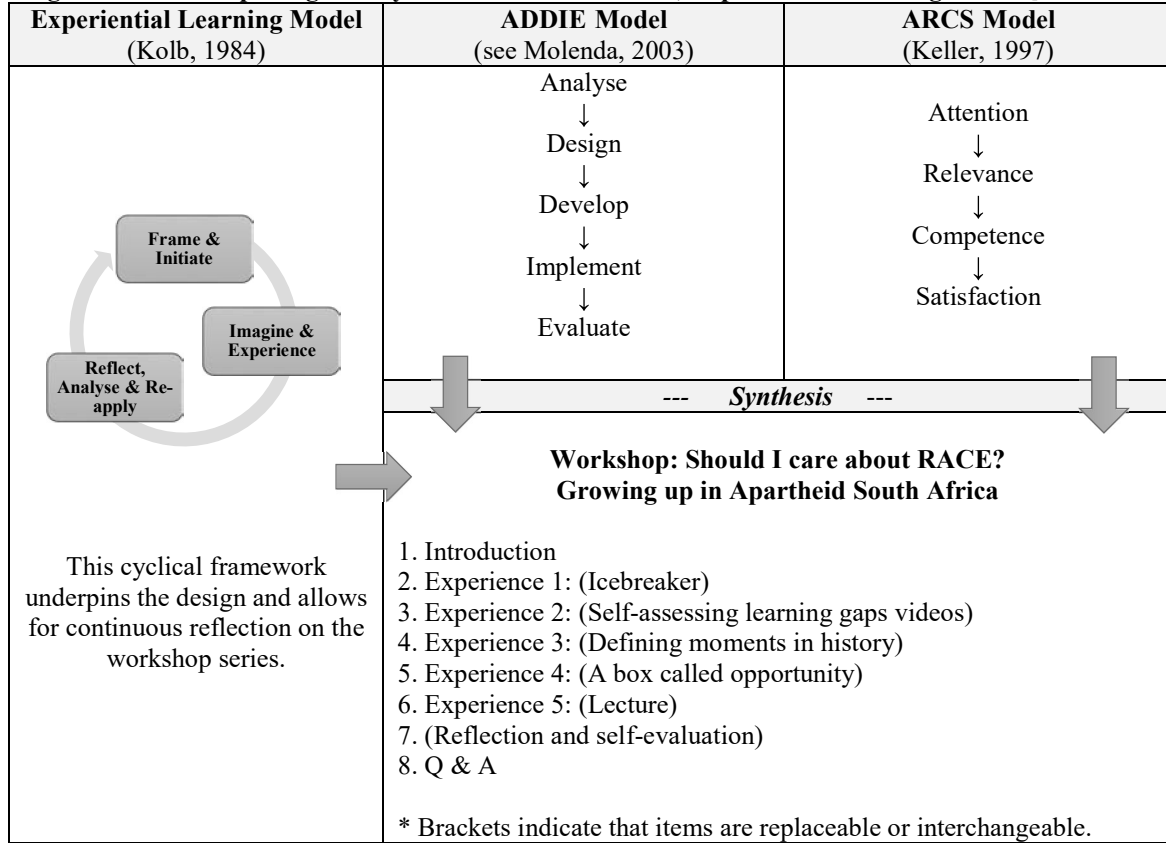
To increase internationalization at Japanese universities, institutions have been tasked with developing a so-called 'global mindset' in students (MEXT, 2011). To incorporate this policy, my current university requires students to take courses in 'intercultural communication' (or something similar) that is usually presented in English and are open to students of all faculties. For the present purpose, a multinational group of students from several faculties attended an open lecture/workshop that explored racism during the apartheid era in South Africa.

In keeping with the four goals outlined earlier, the first step was to design a workshop template that incorporated the ADDIE model (see Molenda, 2003), the ARCS model (Keller, 1997, 2000) and the Experiential Learning model (Kolb, 1984; Kolb et al., 2000). A juxtaposition of these models (figure 1) provided the foundation for the synthesis of compatible ideas across the models. To incorporate the cultural aspects for the sake of CQ development, learning materials featuring topical content (in this case, racism) was explicitly designed for experience-centred learning.

To guide the workshop's theme and progression, and collect data for the audience analysis (the 2nd goal), a set of paper-based materials was designed to include the following sections: a) consent form; b) biographical data; c) an icebreaker; d) a self-reflection rating scale to investigate learning preferences and to raise cultural awareness (conducted pre- and post-workshop, see appendix 1); e) three forms to investigate and assist experiential learning; and f) a final evaluation. The investigator created a Google

form (post-workshop) to record and analyse the paper-based data. This process of data input and analysis gave insights for the 3rd and 4th goals.

Figure 1: Workshop design - A synthesis of ID&T models, Experiential Learning and CQ content



RESULTS and DISCUSSION

The 90-minute workshop had 47 participants from five faculties, ranging from freshman to post-graduates. Although a multicultural audience, 68% of participants were Japanese, with the other majority from Thailand and Korea. A further three south-east Asian countries were represented, with a marginal proportion identifying as European. Female students were in the majority (73%). In reporting on language abilities, most foreign students gave English as a second option, while the majority of Japanese students gave none. The final evaluation forms indicated that a small number of participants experienced language difficulties (mostly with understanding instruction), which was evident during the workshop, but also emerged in answering the surveys. The presence of multilingual group members appeared to be very helpful in supporting these isolated cases however, which could be seen as a distinct advantage of group-based interactive workshops.

Turning to the first goal of this study, namely to attempt a synthesis of relevant ideas from ID&T theory for investigative purposes, it should be noted that the stages (or cycles) of the ADDIE, ARCS and Experiential learning models have a great deal in common. These models can be seen to overlap or link up in certain ways that can assist the designer in creating links to support the desired topical content (in this case intercultural learning). Using the ADDIE model for instance, the *design*→*develop*→*implement*-sequence ties comfortably with the *competency building* component of the ARCS model if a stepping stone is provided in the form of relevant learning content. To illustrate: *designing*, *developing* and *implementing* (following ADDIE) a culturally informative *learning moment* (experiential learning) can directly impact *cognition* and *behaviour* (in CQ terminology) to effect *competency building* (using ARCS terminology), thus supporting the development of *cultural intelligence*.

To reiterate the process of synthesis as the first goal of this exploration, the preceding description should demonstrate how the models in question and some of the concepts embedded in them could be synthesised or woven together to create a foundation for developing CQ in learner groups. Looking at another example that was implemented in the workshop, the designer could also introduce repeating cycles of task *implementation* (ADDIE) to build *competency* (in ARCS), thus effecting *motivation* and *behaviour* (in the CQ paradigm) to bolster *satisfactory* learning outcomes (in ARCS).

Briefly summarizing in terms of experiential learning then, the workshop contained several content driven (i.e. cultural learning) ‘experiences’. These learning moments sought not only to disseminate cultural knowledge and information, but in terms of activation, also relied on the sequencing of tasks and goals and the breakdown of skills as outlined in the ADDIE and ARCS models. Judging from the workshop experience, and participants’ final evaluation, the response to these learning experiences were overwhelmingly positive, with more than two-thirds of the audience giving each of the five activities a 4-5 score on a 5-point scale. Although these results are very encouraging, their true personal impact – and of course, how it supports individual participants’ CQ development – would be better assessed through qualitative means, which was outside the present scope.

It should be noted that CQ is a fairly new, but very fast growing area of interest that has already delivered a sizeable research literature (Ang et al., 2011). To get a sense of participants’ engagement with cultural learning that ties into this concept (at least superficially), I relied on the feedback from five self-reflective questions (Appendix 1, Questions 5-10). These questions were designed to tap some of the knowledge, information and experience of participants in relation to the workshop contents and process. It was also an additional way of obtaining an audience analysis in the ADDIE framework, as advocated by Thomas et al. (2003). A very cursory analysis of the data shows that post-workshop self-assessment ratings changed markedly (in comparison to pre-workshop self-ratings) on all five of the questions related to conceptualization of cultural elements in the workshop.

Although not presented for detailed analysis here, these shifts in self-assessed audience opinion occurred both in upward and downward directions, which seems to indicate very active levels of engagement with the contents and process of the workshop. This could point to a level of readiness for cognitive and behavioural shifts to occur, which CQ methodology recognizes as a *metacognitive and/or cognitive* display of cultural intelligence. To offer further support for the perceived high levels of audience engagement, participants significantly increased their scores on two short quizzes offered during the workshop. As a brief indication for supporting the development of CQ, it seems that preliminary findings from the audience feedback demonstrate a transfer of cultural knowledge and experience, coupled with a raised awareness that would help set such a process in motion, or help sustain its continuation.

The third goal, which was also aimed at analysing the audience, specifically addressed the learning preferences of participants through a self-assessment method (appendix 1, questions 1-4). Although the question contents are not presented for analysis here, broad shifts in participant opinion were also observed for the questions that contained an interactive element (questions 2-4), i.e. pertaining to a group, the teacher or a device. This is in contrast to opinions about self-study (appendix question 1), where virtually no change was observed in pre- to post-workshop opinions. A potential finding here is that fluctuation in learning preferences could have been influenced by content and presentation, although it is widely held that these preferences appear to remain largely constant for individuals during the course of their academic life. For the present purpose, and in terms of understanding the audience, it is noteworthy to comment that they were exposed to a number of learning modalities (self-study, group learning, lecture, forms of technology), that triggered fairly high levels of engagement and achieved a measureable (and largely positive) result. With regards to the audience analysis then, the methods and materials could be considered fairly successful in terms of attending to the first three goals of this exploration.

The fourth goal for this exploration was to invite a conversation about the adaptation potential of the methods and materials used here for future online use. First, a comment about the general procedures. Given that the workshop materials were paper based, I was obliged to enter the written data electronically after completion of the workshop. This proved to be quite instructive, as I had to reconsider each element for potential online adaptation, as well as a means for future electronic data collection. The paper-based self-assessment and survey materials were very easily convertible to survey-type forms, which is also

ideal for future data collection, with the additional advantage of being accessible on smart devices. Furthermore, the methodical process that is engendered through applying the steps of the ADDIE, ARCS and Experiential learning models was extremely useful as a sequential procedure. As an approach that proved successful in the classroom, and which followed up well in transferring the set of paper materials to digital versions, the procedure itself should serve equally well in online formats, since it concerns the overall framework of the design.

The key question to consider here then, is how to 'translate' or convert the real-time elements of the experiential learning activities into an online learning environment. Cultural knowledge and information are easily accessed through readings, videos and recorded lectures, and can also be easily evaluated through virtual quizzes. A learner working online could be easily guided through such activities. It is however, the unique interaction patterns that are created among a multicultural group of learners and instructors in a 'real classroom' and during a shared experience that demands a different approach. The process that is activated through and by the lived experience, a so-called 'participative moment' - where new knowledge is created through an interpersonal event - to my mind, still remains elusive in online environments. This remains a challenging hurdle, which is further complicated by the fact that online learners are still largely hamstrung by their language ability during the online learning process, which often still rely mainly on expressive skills in writing, despite increasing use of spoken events, such as webinars, conference calling and virtual meetings. At present, ideas for creating experiential learning events online include simulations and games that would encourage participation and initiate a participative intercultural process that could assist CQ development and learning. Alongside the development and refinement of the workshop series, future development will increasingly be focused in this area.

CONCLUSION

Designing instruction for the development of cultural intelligence in online learning would benefit from further exploration as indicated by the literature and preliminary findings reported here. The application of the ARCS and ADDIE models showed that they are eminently compatible and complemented one another when used within a larger framework of the experiential learning model. In addition, by harnessing the procedural strengths of these models and applying it to cultural learning contents, it was possible to construct a foundation that would support the potential development of CQ in a multicultural group. The reported high levels of audience engagement with the workshop contents and process, as well as with the learning methods and means, support the design that was created and indicate that these elements could be woven together in a favourable learning environment for the development of CQ. The adaptation of experiential learning activities for CQ development in online environments emerged as a central challenge here, and suggestions for future exploration will be welcomed.

REFERENCES

- Ang, S., Van Dyne, L., & Tan, M. L. (2011). Cultural intelligence. *The Cambridge Handbook on Intelligence*. Cambridge, Cambridge University Press.
- Bentley, J. P. H., Tinney, M. V., & Chia, B. H. (2005). Intercultural Internet-based learning: Know your audience and what it values. *Educational Technology Research and Development*, 53(2), 117–127.
- Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Palo Alto, CA: Stanford University Press.
- Clem, F. A. (2004). Culture and Motivation in Online Learning Environments. *Contexts*, 183–192.
- Henderson, L. (2006). Theorizing a multiple cultures instructional design model for e-learning and e-teaching. In A. Edmundson (Ed.), *Globalized E-Learning Cultural Challenges* (pp. 130–153). Idea Group Inc. (IGI).
- Japanese Ministry of Education, Culture, Sports, Science, and Technology (MEXT) (2011). *Five proposals and specific measures for developing proficiency in English for international communication*. Retrieved from <http://www.mext.go.jp/english/>
- Keller, J. M. (1997). Motivational Design and Multimedia: Beyond the Novelty Effect. *Strategic Human Resource Development Review*, 1(1), 188-203.

Keller, J.M. (2000). How to integrate learner motivation planning into lesson planning: The ARCS model approach. *VII Seminario, Santiago, Cuba*, 1–13.

Kolb, D.A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kolb, D.A., Boyatzis, R. E., & Mainemelis, C. (2000). Experiential Learning Theory: Previous Research and New Directions. *Perspectives on Thinking Learning and Cognitive Styles*, 1(216), 227–247.

Molenda, M. (2003). In search of the elusive ADDIE model. *Performance Improvement*, 42(5), 34-36.

Parrish, P., & Linder-Vanberschot, J. A. (2010). Challenges of Multicultural Instruction: Addressing the Challenges of Multicultural Instruction. *International Review of Research in Open and Distance Learning*, 11(2), 1–19.

Rogers, P. C., Graham, C. R., & Mayes, C. T. (2007). Cultural competence and instructional design: Exploration research into the delivery of online instruction cross-culturally. *Educational Technology Research and Development*, 55(2), 197–217.

Suzuki, K. and Nemoto, J. (2012). Cultural and social frameworks of instructional design. *Proceedings of the 10th International Conference for Media in Education, Beijing*.

Thomas, M., Mitchell, M., & Joseph, R. (2002). A cultural embrace. *TechTrends*, 46(2).

APPENDIX

Self-reflection form: Please circle your opinion on a scale from 1-5 (Disagree - Agree):

		D				A
1	I learn best by myself, quietly reading or studying	1	2	3	4	5
2	I learn best in a small group, studying and talking	1	2	3	4	5
3	I learn best when a teacher talks and explains in a lecture	1	2	3	4	5
4	I learn best when I can use technology (PC, smart device) to write, watch and search for answers	1	2	3	4	5
5	I enjoy interacting with people from different cultures	1	2	3	4	5
6	I know what 'racism' means	1	2	3	4	5
7	I enjoy living or travelling in places or cultures that I don't know	1	2	3	4	5
8	It is not important to me what race people belong to	1	2	3	4	5
9	Interacting with people from a different culture or race is stressful	1	2	3	4	5
10	Races of the world live apart for natural reasons	1	2	3	4	5