Crossing boundaries: Curriculum and teaching implications of culturally inclusive online learning

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Abstract

In tertiary contexts, Web-based instruction may be tailored to the needs of a particular cultural group, and recognise the specific learning needs, preferences and styles of learners. At a time when open learning markets are very competitive, many WWW sites are developed with an international audience in mind. The internationalisation of education has led to the development of two distinct types of WWW sites, (i) those made for one particular context and culture, but visited by a global audience, and (ii) those made specifically for cross-cultural participation. An investigation of these sites reveals many different learning features and instructional design paradigms. Sites aiming for cross cultural participation and seeking a bridge to multiculturalism need to take certain design features into consideration, and utilise culturally appropriate forms of instructional design (ID). A critique of current ID approaches shows that many lack the depth and scope to enable them to provide culturally inclusive learning, and it is that proposed that cultural contextualisation is important in the design of learning. At the same time, WWW sites that aim for cultural portability of courseware need to adopt cross-cultural design features that ensure access by culturally diverse learners. This paper offers a framework for culturally inclusive teaching and curriculum that can be applied to online environments. The term ‘inclusive curriculum’ as used in this paper refers to curriculum content, as well as the processes of planning for appropriate teaching, learning and assessment practices. Inclusivity in Web-based learning is concerned with facilitating the best educational outcomes for all students, regardless of characteristics such as ethnicity, language and cultural background.

Theoretical and cross-cultural aspects of WWW design

Making learning resources more accessible and flexible to a wide range of learners is a major concern for universities across Australia. The World Wide Web can attract global audiences to the many sites that can be accessed. But to what extent is the Web increasing cross-cultural understanding and bridging the gap between cultures? Can we assume that the content, interaction and learning experiences afforded by the WWW will have the same relevance and meaning to diverse audiences?

More recently, the portability of software and educational resources has become the subject of inquiry as web-based delivery opens ups broader global markets (Cunningham, 1997). Portability or cross cultural use of educational resources refers to the capacity to use
resources in settings in which they were originally developed. The motivation for portability is economic, educational and strategic. Larger markets for educational products reduce cost and increase profit. Educational motivations are related to the desire to apply student-centered approaches to design and to ensure that materials are relevant to learners. Strategic motivations refer to the issue of ensuring equity of access to learners who are enrolled, regardless of their geographic location.

A great deal of research has been conducted in Europe on the design of educational resources for trans-European delivery. Among the barriers to adoption and uptake of resources as reported by Collis, Parisi & Ligorio (1996) are:

- problems of culture and environment;
- teaching style differences;
- problems relating to different educational values and cultures;
- problems of language and semantics;
- technical problems relating to platforms, operating systems and lack of standard interfaces.

In addition to cultural barriers there are more fundamental questions associated with the instructional design paradigms adopted and their implications for teaching and learning. While it is widely acknowledged that the Internet offers the potential for improved communication, collaboration and transformation of educational delivery, the important questions remain to be answered: *Do we teach in the same way to a multicultural student audience? How do we accommodate learner differences? How can our online environments reach a global audience?* Web tools such as real-time text-based conferencing, asynchronous dialogue and chat rooms, collaborative online writing and dynamic hyperlinks to resources beyond those prescribed offer students unlimited access to information, peer dialogue and support (McLoughlin, 2001). Given the potential, what are the cross-cultural challenges of global networked learning?

**Theoretical aspects of WWW design: Cross cultural dimensions**

As learning is a cultural activity, the design of Web sites is also infused with cultural meaning and with cultural nuances and identity issues, as the instructional designers and developers bring their own viewpoints and perspectives into the design process. Collis & Remmers (1997) have defined two categories of sites that have cross-cultural implications:

1. Category 1: Sites that are made in one context and culture, but visited by other cultures
2. Category 2: Sites designed specifically for cross-cultural participation. (See Figure 1.)
Figure 1: Categories of Web sites

Category 1 Web sites, for example, which are made for a local context and culture, may not be culturally portable, as they are highly contextualised and embedded in the nuances and interaction styles of particular culture and serve the needs of a particular audience. Category 2 sites are those which strive to reach a cross-cultural audience, and serve the needs of an international audience. If category 2 sites are to be developed, there needs to be consideration of a range of instructional design issues so that cross cultural participation and communication is made possible for all participants. The adoption of a culturally sensitive design paradigm is desirable, but design processes and frameworks too are culturally embedded.

Instructional design frameworks: Are they culturally inclusive?

There are many current instructional design models and paradigms, each of which can be interpreted as culturally and socially determined (Branch, 1997). Instructional design models include cognitive, social and pedagogical issues, but may not acknowledge the need for cultural contextuality. Reeves & Reeves (1997, p. 63) for instance, outlines a dozen pedagogical dimensions that can be used to design interactive multimedia tools and learning environments. Among these dimensions is cultural sensitivity which is explained as follows: "Web based instruction should accommodate diverse ethnic and cultural backgrounds among the learners expected to use it." Henderson (1996) has argued that instructional design is about the creation of cultural identity and cannot be culturally neutral. "Instructional design cannot and does not, exist outside of a consideration of culture" (Henderson, 1996, p. 86). How then, can the dimensions of cultural contextuality inform instructional design?

An important part of Henderson's (1996) work has been the identification of several design paradigms, each of which reflects particular world views, and consists of values, pedagogies, inclusions and exclusions that results from the designers own societal context. As instructional designers are instrumental in creating and developing interactive multimedia, courseware and learning environments, they can also influence material and symbolic culture. Among the paradigms identified by Henderson there are three identifiable approaches, all of which are limited with respect to cultural dimensions of learning and pedagogy (see Table 1).
Table 1: Existing ID paradigms and their limitations

<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Definition</th>
<th>Limitations</th>
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<tbody>
<tr>
<td>Inclusive or perspectives</td>
<td>• acknowledges multicultural realities, driven by equity and social justice</td>
<td>• soft multiculturalism</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• inclusion of the exotic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• tokenism</td>
</tr>
<tr>
<td>Inverted curriculum approach</td>
<td>• conceptualises society as unequal</td>
<td>• avoids cognitive needs</td>
</tr>
<tr>
<td></td>
<td>• minority perspectives</td>
<td>• does not support equity in learning outcomes</td>
</tr>
<tr>
<td>Culturally unidimensional</td>
<td>• cultural minorities are invisible</td>
<td>• dominant cultures only are acknowledged</td>
</tr>
<tr>
<td></td>
<td>• culture is presented as homogenous</td>
<td>• culture is represented as peripheral</td>
</tr>
</tbody>
</table>

These can be summarised as follows:

- the inclusive or perspectives approach which imports the social, cultural and historical perspectives of minority groups, but does not challenge the dominant culture and is therefore cosmetic;
- the inverted curriculum approach which attempts to deliberately design an instructional component from the minority perspective but fails to provide the learners with educationally valid experiences as it does not admit them into the mainstream culture;
- the culturally unidimensional approach which excludes or denies cultural diversity and assumes that educational experiences are the same for minority students as they are for others.

Henderson proposes a further instructional design model, which is a multiple cultural model of instructional design. This is characterised by a design approach which endorses multiple cultural realities or zones of development (Vygotsky, 1978). Essentially, this approach is a form of ‘eclectic paradigm’ which entails designing learning resources that allow variability and flexibility while enabling students to learn through interaction with materials that:

- reflect the multicultural realities of society;
- include multiple cultural ways of learning and teaching;
- promote equity of learning outcomes.

Application of the multiple cultural model requires a global or international perspective, as sensitivity to cultural difference and an appreciation of the numerous ways in which culture influences learning. Instructional designers would therefore have to consider the
philosophical and pedagogical underpinning of goals, objectives, content and instructional activities, and incorporate not one, but multiple pedagogies, for example both instructivist and constructivist. The design should also be validated by a member of the minority group or groups to whom the learning materials are addressed, and materials would have to be tested with the target groups during the development phase.

The adoption of the multiple cultural model would require the design team to investigate the pedagogical dimensions of the cultures they are providing resources for, and be aware of the multiple ways in which each culture could interpret instruction. Some questions that would require answers are:

- What kind of learning environment is most familiar to the students?
- How does the cultural background of these students influence their use and view of time?
- How do students conceive the role of the teacher?
- What kind of relationship do students want with a teacher?
- What kinds of assessment tasks will be fair and unbiased?
- What rewards and forms of feedback will be most motivating for these students?
- Is the locus of control congruent with these students’ own sense of personal control?
- What cognitive styles characterise the target group?

Reeves & Reeves (1997) also emphasise that greater challenges may arise when the core pedagogical values in one culture are culturally inappropriate in another, for example the expectation that students will question knowledge, or the teacher. Collis et al (1997) similarly conclude that there is little extant research on instructional design for cross-cultural Web site development. It may be concluded that not enough is known about the ramifications of cultural inclusivity for cognitive design of learning resources and that further research is needed. Amore pragmatic approach to the design of culturally inclusive sites is proposed. This entails drawing on current knowledge of factors that influence learning and communication, and then generating checklists for designers that minimise cultural alienation and misunderstanding, while promoting use of the Web for cross-cultural teaching.

**Cultural differences and technology mediated learning**

In Europe, there has been a great deal of research and development conducted to identify barriers to the uptake of software and educational products that are designed in one context and used in another. The accumulated evidence from this research has led to the creation of a resource database to identify cultural barriers and design guidelines to portability of software and educational resources (Collis, 1997). These are as categorised as cultural differences with respects to:

- communication and interaction;
- language;
• content; and

• representational form.

Collis (1997) has developed guidelines for the design of cross-cultural participation via communications technologies, and for Web sites. The general conclusion reached is that the less structured or didactic the program the more useable it is in other contexts. However, such explorative forms of learning tools and multimedia are complex to design, yet the solution seems to be to achieve a balance between structured and semi-structured software and materials. Some of the guidelines recommended are as follows:

**Language and communication**: Verbal communication refers to both spoken and written language, not only the words, but the nuances of words as well. Communication issues are major challenges to Web site designers. Language is the most obvious obstacle for cross-cultural instruction. But differences in writing conventions (style, format, content, and organisation) between Web designers and their audience can also often lead to poor communication. Some cultures take offence at brief exchanges using short sentences or declarative language. They may require more polite or more indirect interactions. Direct or corrective feedback may similarly embarrass some users. To be truly effective, Web designers must be willing to adapt their materials to other cultural and linguistic conventions. Hites (1996) makes several recommendations for facilitating cross-cultural verbal communication:

1. Keep language simple and active.

2. Use consistent terminology

3. Reduce or totally avoid the use of jargon, idioms, and acronyms.

4. Define terms and provide glossaries.

5. Use relevant, specific examples familiar to the user.

6. Explain concepts using multiple examples.

7. Use multiple media: Using multimedia to deliver the message through multiple senses can be an extremely effective way to reduce misunderstandings.

8. Develop and field-test the materials with representatives of the cultures for which it is written.

**Communication and interaction**: Web designers must be sensitive to the differences in interaction styles and whether the communication becomes a burden to the participant. Design must therefore cater for differences in:

1. learning styles and task orientations;

2. levels of formality expected;

3. cultural constraints on who initiates and moderates discussion.
Content: The content may be culture-dependent, and require substantial cross-cultural integration, as in teaching a language. On the other hand, the content may be culture-transcendent, as in the teaching of highly specialised professional courses (e.g., programming languages). Signaling the level of culture-saturation in the Web site makes content more accessible to a wider audience. In addition, topics that represent and explore multiple cultural differences in perspectives should be included in order to avoid the site being attached to a particular worldview.

Representational form: Language is not the only communication-related concern. Designers need to bear in mind that ninety percent of communication is non-verbal and is conveyed through visual means such as gestures, proxemics, and images. We frequently use directional placement, icons, graphics, colour and white space in textual communication. These visual elements generally do not easily transfer across cultures. For example, navigational images and text grouping intended to indicate the directional flow of information may confuse non-Western students. Several languages are traditionally written vertically, and read from right to left. Thus, a directional arrow placed at the bottom right and pointing right for the next page may be counter intuitive to them. Likewise placing important information in the top left-hand section of a page may not be recognised by people in Eastern cultures as a cognitive organiser. Similar problems occur when using images and icons to convey meaning. Cultures differ according to the to amount of visual information they prefer. Icons are the visual language of a culture and are drawn from items people commonly use and recognise. An item readily identified in one culture however, may be totally unknown in another.

Adopting cross-cultural pedagogies: The cross-cultural teaching ladder

From the perspective of the student learning experience, Biggs (1999) notes that international students may experience three kinds of problems: socio-cultural adjustment, language issues and teaching/learning issues relating to different expectations and perspectives on learning. Among the latter, a number of important findings have emerged in the literature surrounding the stereotyping of international students’ capacity for learning and academic achievement (Chalmers & Volet 1997; Volet & Ang 1998). International students are often perceived to be too teacher dependent, lacking in independent study skills, and tending to adopt rote learning strategies. However, the research indicates that international students often outperform their peers academically and that such conceptions may be misguided (Kember, 2000).

In addressing teaching and assessment for cultural diversity, the metaphor of a cross-cultural teaching ladder, as shown in figure 2 is a useful conceptual metaphor that avoids stereotyping and deficit driven teaching. Adopted from Biggs (1999) the cross-cultural ladder allows us to contrast traditional and cross-cultural approaches to teaching. The bottom rung starts with a focus on student difference, which is not necessarily good practice. In a cross-cultural teaching context, this might mean teaching students by focusing on differences and by attempting processes that might be termed ‘assimilationist’, that is, teachers may treat all students as homogeneous and hide cultural differences. At the second stage, teaching moves into accommodation, wherein the teacher has adjusted and tries to adopt strategies to match these cultural differences. At level 2, the focus is on teaching rather than on student learning, and on using a range of teaching styles to suit student differences. At the top rung, the focus is on extending students’ cognitive abilities, and the focus is on learning. The ladder narrows toward the top, where the educational context converges with the cultural needs of students, and good teaching, with a focus on learning, emerges.
The benefits of the model are that it conceptualises effective teaching as having a focus on student learning, rather than an emphasis on teacher behaviour (McLoughlin, 2001). In Web-based environments, the ladder suggests that the educational context must meet learning needs and at the same time integrate cultural understanding with pedagogy.

**Focus on learning, not difference**

The ladder presents only part of the picture of how successful teaching occurs, but the key element is that it draws attention to promoting learning rather than dwelling on cultural differences, or becoming preoccupied with teacher activity. Effective cross-cultural pedagogy would require that teachers consider and reflect on these questions to inform pedagogy:

- What kind of learning environment is most familiar to my students?
- How do I support transition to an online environment?
- How does the cultural background of the learner influence their view of learning tasks?
- How do students conceive of their role and that of the teacher?
- What kinds of assessment tasks best support the learning process?
- What forms of feedback will be most motivating for these students?
- How can the technology support communication and dialogue that is supportive of diverse learning needs?

As teachers move into the era of global education, they need to learn to cope with difference, to foster dialogue and communication across national boundaries and to address differences in learning styles and expectations (Mcloughlin, 1999). As the learning environment becomes more flexible, pedagogies too need to become more pluralistic. The cross-cultural teaching ladder illustrates less effective and more effective approaches to coping with difference, but does not cover the complex landscape of teaching a diverse student population. It does however provide a useful starting point for reflective teachers.
Applying inclusive practices to curriculum design

In terms of the holistic process of cross-cultural teaching, task and assessment design, how can teachers ensure that they apply culturally inclusive principles across a course of study? Often there is a mismatch between what students see as the main focus of learning, and what teachers see as their roles. This principle applies to all students, regardless of cultural backgrounds. For this reason, students may not always see the connection between learning objectives, assessment and outcomes and may develop surface approaches to learning. For students, assessment is the primary concern, and determines the route they will take through the learning materials and the strategies they will adopt. Students will define learning outcomes according to the types of assessment tasks they complete. If there is a match between assessment tasks and objectives, the student will learn what is intended and we have constructive alignment (Biggs 1999).

Examples of constructive alignment applied to online teaching

In order to achieve constructive alignment, it is proposed that designers map out their intended curriculum goals, learning activities and the tools they intend to use. Table 2 provides an example of how this might be applied in the design of culturally appropriate online learning. In designing and planning for cross-cultural education, the degree of cultural inclusivity is depicted as a continuum of learning activities at three levels. Level one represents a low level of alignment between task, assessment and use of Web tools. At level three, effective alignment ensures that teaching meets cross-cultural needs and that Web tools are used to create an online community of learners, supported by effective pedagogy.

The use of an aligned design process ensures that there is consistency between objectives, learning activities and assessment. In applying the constructivist alignment model, teachers can apply constructivist and socio-cultural theories of learning and the notion alignment to create an environment for cultural inclusivity. Exemplars of tasks are given in table 2. Thus, the aligned framework for design ensures compatibility between all aspects of the learning process.

Table 2: Degrees of cultural inclusivity in Web-based learning

<table>
<thead>
<tr>
<th>Degree of inclusivity</th>
<th>Examples of alignment</th>
<th>Web tools and pedagogies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low degree of cultural inclusivity</td>
<td><strong>Level 1 - Low level of cultural inclusivity in teaching and learning</strong></td>
<td>Use of online teaching as delivery media, with few opportunities for collaborative projects and dialogue. Pedagogy is competitive not collaborative.</td>
</tr>
<tr>
<td></td>
<td>Online resources which recognise student differences without recognising differences in strategies, approaches and learning differences. Offers no social interaction of dialogue. Learning is information transmission or &quot;shovelware&quot;.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assessment is summative and</td>
<td></td>
</tr>
<tr>
<td>High degree of cultural inclusivity</td>
<td>Low level of constructive alignment</td>
<td>Moderate level of constructive alignment</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td><strong>Focuses on products, not processes.</strong></td>
<td><strong>Prepackaged instructional requirements and individualised learning predominate.</strong></td>
<td><strong>Level 2 – Medium level of cultural inclusivity in teaching and learning</strong></td>
</tr>
<tr>
<td><strong>Recognises that learners have different strategies and so offers choice in learning tasks and adaptation of methods to accommodate students who are different. Does not include culturally inclusive assessment practices and focuses excessively on teaching approaches rather than on learning.</strong></td>
<td><strong>Provision of learning activities that afford choice and self-direction, with some opportunities for comparison of perspectives and role taking. Pedagogy moves towards resource-based learning.</strong></td>
<td><strong>Recognises that while there are differences among students, their learning needs are best served by a focus on designing constructivist learning activities, recognising that:</strong></td>
</tr>
<tr>
<td>- students may adopt different learning approaches and have different levels of prior knowledge</td>
<td>- Use of conferencing technologies to create knowledge building community, or community of learners. Online tools connect learners in an extended classroom where they are exposed to differences. Pedagogy is pluralistic and attempts to integrate curriculum with relevant learning experiences and authentic assessment. Knowledge is constructed through interaction with peers, community and experts. Multiple perspectives are valued and the virtual</td>
<td>- the cultural differences and perspectives that students bring to learning are assets, not liabilities</td>
</tr>
<tr>
<td>- setting high expectations and challenges for all students creates a motivating climate</td>
<td></td>
<td>- assessment should be authentic, and include diagnostic assessment, formative assessment and outcome</td>
</tr>
</tbody>
</table>
assessment.

*High level of constructive alignment between learning activities, pedagogy and use of Web tools.*

...classroom becomes the site of a global learning experience.

**Conclusion**

While the WWW may be leading to an increase in cross-cultural communication and interaction, there are many design issues that need to be addressed in order to ensure culturally inclusive Web sites. Teachers and designers need to incorporate cultural understandings of learning and curriculum into the design of learning environments. Educators also need to be aware of how culture influences learning and perception, interaction, communication and interpretation of visual information. Pedagogic guidelines may provide a workable solution, but they need to be complemented by an awareness and respect for inclusivity and cultural diversity.

**References**


