

Intercultural competence for future leaders of educational technology and its evaluation

Niki Davis

Iowa State University Center for Technology in Learning and Teaching, USA

Institute of Education, University of London, UK

nedavis@iastate.edu

Mi Ok Cho

Iowa State University Center for Technology in Learning and Teaching, USA

Institute for Excellence in Learning and Technology, South Korea

<mailto:miok@iastate.edu>

Summary

Demands of globalization today continue to increase pressure for the education of global citizens who preserve the variety and vitality of life. Our transatlantic project has been developing a shared community of graduate students and faculty experts in educational technology across six universities. Evidence of the development of intercultural competence was analyzed from artifacts, self-report, interviews, and surveys. The findings showed that students gained intercultural competence in professional and personal spheres, with openness and flexibility that include acceptance, adaptability, and multiple perspectives. Applications of educational technology served as a bridge to introduce new cultures, knowledge and people to students.

Keywords

intercultural competence; educational technology; doctoral education; evaluation

*How shall I talk of the sea to the frog,
If it has never left his pond?
How shall I talk of the frost to the bird of the summerland,
If it has never left the land of its birth?
How shall I talk of life with the sage,
If he is prisoner of his doctrine?
- Chung Tsu, 4th Century B.C. -*

Introduction

Prompted by technology in the 21st century, economic pressures are shrinking space, time, the variety of life styles, and cultural variation into a networked global society. Demands of globalization today continue to increase pressure on educators and educational leaders to change curriculum and learning in order to educate our children to become global citizens who preserve the variety and vitality of life. Leaders of educational multimedia design and applications have a special role in the shared leadership necessary for this change in education as emphasized by recent calls for cultural studies in instructional design (Rose, 2005).

There are many aspects of becoming a global citizen, and one of the most important areas of becoming a global citizen is an awareness and understanding of the variety and relevance of all cultures. In addition, there is an increasing need for intercultural competence to be able to survive in a networked global society. The issue of teaching and acquiring intercultural competence is becoming a major concern in schools, in teacher education (Leeman & Ledoux, 2003), and therefore in the preparation of future faculty and designers of multimedia enhanced curricula.

Interculturalized education requires critical understanding of connections among the each educator's self, school, home, and culture, and it has to deal with sociopolitical realities about ethnic and cultural diversity within society and schools (Nieto, 2000). Thus, in order to prepare the next generation to be confident in diverse cultures, educators need to gain intercultural competencies that will allow them to be actively involved in preparation of interculturalized curricula and teaching. Moreover, the design and application of technology to support and model intercultural education becomes a critical issue in the increasingly digitized society of the 21st century.

In response to this demand, the [*International Leadership in Educational Technology \(ILET\) project*](#) was selected by funding agencies in Europe and the USA in 2001 to create a model intercultural learning environment for doctoral programs preparing future leaders of educational technology. The ILET project aims to create a transatlantic learning community for graduate students in six different universities: three from the European and three from the USA. The six universities are Iowa State University (US lead), University of Florida, University of Virginia, Institution of Education in the University of London (European lead), Aalborg University in Denmark, and University of Barcelona in

Spain. The ILET project emphasizes democratic collaboration of faculty and students across all locations. This innovative approach provides a framework for personalized study abroad with internships and intercultural experiences mediated by technology. Collaboration is key to the success of the model, since six different universities are involved. Doctoral students are supported to negotiate with one or more of universities to enhance their program of study. They use websites, emails and other technologies to negotiate internships and study experiences with partner universities. In this process, faculty and students become sensitive to the wide variety of academic environments and cultures. The ILET project has also blended technologies into doctoral program to create a virtual intercultural learning environment among the six transatlantic universities in annual online reading group, summer academy for short-term intercultural academic experiences, and ongoing long-term internship abroad. These will be illustrated with evaluation evidence later.

In common with many educational technologists our approach originated in a problem solving, scientific technical view. Since 2001 our view has undergone significant redevelopment to incorporate more historical-critical evidence and sociological and political perspectives. [Davis, Cho and Hagenson \(2005\)](#) describe these three complementary theoretical perspectives and illustrate them with examples that apply educational multimedia and other technologies in teacher education.

This paper provides our current understanding and evaluation of the development of intercultural competence, including the role of technology to accelerate the development of that competence in programs that prepare future leaders of educational technology. The first section introduces a theoretical framework for intercultural competence before describing in detail the two main components of intercultural competence conceived by the ILET project, namely openness and flexibility. The ILET project has applied three strategies to accelerate the development of intercultural competence. In increasing order of technology mediation, but decreasing order of cultural immersion, the three strategies are: a sojourn abroad, a Summer Academy, and an online Reading Group. A description of these strategies follows the theoretical framework before evidence of the development of intercultural competence is presented.

Theoretical framework for intercultural competence

Culture has tremendous influences on the way people think, perceive, communicate, learn, teach, and use technology. Although culture can be perceived in almost everything humans make, most people are not aware of how cultures affect their social behavior and attitudes. Therefore, the best way to learn about another culture is to live in that culture since human beings form culture and develop it while they live together.

Culture has been identified in many different ways. Among intercultural communication researchers, culture has been viewed as a system of knowledge that allows people to know how to communicate with others from a different culture and how to interpret their behaviors (Gudykunst, 2004; Hall, 1959). In general, culture has been defined as shared

interpretations about beliefs, values, and norms which affect the behaviors of people (Hook, 2003; Lustig & Koester, 1999; Adams, 1995). As this broad definition of culture implies, diverse cultures exist within every nation and worldwide. Indeed, a healthy variety of cultures worldwide are likely to be necessary to preserve the variety of life and the vitality of our species.

In order to survive today's complex world, people need to understand different cultures. Understanding different cultures helps people adjust to unfamiliar environments in which they meet, work and live with other people who have different cultures. Adjustment and positive attitudes toward different cultures prompts people to take active roles in the diverse society. Therefore, acquisition of intercultural competence, which is the capacity to change one's knowledge, attitudes, and behaviors so as to be open and flexible to other cultures, has become a critical issue for individuals to survive in the globalized society of the 21st century.

Studies on intercultural competence have been done in many different areas such as cross-cultural adaptation (Kim, 2002), intercultural effectiveness (Cui & Van Den Berg, 1991), cultural shock, and intercultural communication competence (Wiseman, 2002). Since studies on intercultural competence have had different emphases, the concept of intercultural competency has also been interpreted with different focus such as cross-cultural effectiveness (Kealey, 1989), cultural adjustment (Benson, 1978), cultural communication effectiveness (Ruben, 1987), and intercultural communication competence (Kim, 1991; Gudykunst & Kim, 1997). Most of these definitions have been interpreted based on intercultural experiences or learning. The length of intercultural experiences in most studies was at least a month. The ILET project has included intercultural experiences without immersion, and we are therefore cautious in our interpretation of this literature in our context. Therefore we sought an alternative view.

Some scholars define intercultural competency as a process rather than an outcome of study or experience. Taylor (1994) defines intercultural competency as a transformative process whereby the stranger develops adaptive capacity, altering his/her perspective to effectively understand and accommodate the demands of the host culture. Intercultural competency is not seen as the result of something, but as an on-going process of the individual's internal mental system. Taylor's definition of intercultural competency helps us interpret results of the ILET project, since most students have mentioned that the project helped them broaden and deepen their view of academic work and understanding of other cultures. Although the outcome of one cultural experience is unlikely to be manifested, it can be embedded in an individual's knowledge and attitude in a way that will gradually help them become more open and flexible with unfamiliar cultures. Therefore, intercultural competency in the ILET project can be interpreted as an on-going transformational learning process.

An interculturally competent person shows affective, behavioral, and cognitive abilities, such as openness, empathy, adaptive motivation, perspective taking, behavioral flexibility, and person-centered communication. Thus, intercultural competency can be defined as transformation of learning into desired attitudes, and a growth process where an individual's existing knowledge about culture is evolving to intercultural knowledge,

attitude, and behavior. This learning and growth process permits an individual to integrate intercultural perspectives into his/her high level of cognitive schema. An open mind is key to an intercultural learning process, since it allows an individual to accept a new situation in a positive way and to adapt different culture into his/her existing schema. In this way, old attitudes, behavior, and cognition toward strange culture(s) are gradually transformed into a new perception of intercultural, and the individual becomes more a flexible.

Major Components of Intercultural Competence in the ILET Context

Becoming an intercultural educator means first becoming a person that has intercultural competence. An educator in a global society needs to develop a multicultural perspective for teaching and learning (Nieto, 2000) in various school environments since culture is perceived as being shaped by living experiences and institutional forms organized around diverse elements of struggle and domination (Gay, 2003). U.S. and European school environments are becoming increasingly intercultural, and teachers are challenged to teach students who have diverse cultural backgrounds, sometimes with more than twenty home languages (Gay, 2003; Brown & Davis, 2004). In response to this challenge, many colleges and universities include 'knowledge of other culture' as a component of liberal education (Hopkins, 1999). UNESCO (1998) also points out that quality in higher education depends on a multi-dimensional concept, in that curricula in higher education need to be recast so as to go beyond simple cognitive mastery of disciplines and include competencies for communication, creative and critical analysis, independent thinking, and team work in intercultural contexts. Thus, competent educators and educational leaders reflect on their own intercultural beliefs, experiences, and behaviors and continue to develop professional competence and confidence in intercultural education in order to prepare students to become interculturally competent global citizens.

The goal of the ILET project is to provide a model program to support the development of intercultural competence with a combination of technology-based approach and real-life experiences for future leaders of educational technology. In the ILET context, intercultural competence has been viewed as a transformational learning process, which helps students become open-minded to the variety of approaches among partner institutions. Openness to other cultures helps students become flexible in adapting and respecting intercultural learning environments and collaborate for learning and research among different institutions.

Openness

Openness and Flexibility are notable intercultural traits that many theorists include in the intercultural competency (Williams, 2005). An open-minded person tends to have cognitive flexibility in adapting new ideas and willingness to change. He or she is more likely to tolerate ambiguity of an unfamiliar situation. Openness contains several characteristics. The openness refers one's attitudes to new thinking. An open-minded person is receptive to different ideas and seeks to extend understanding of new and unfamiliar fields. Thus, open-minded people are willing to transform themselves in an

intercultural learning environment are exposes them to different ideas and approaches which are novel (Jacques, 1990; Schneider & Barsoux, 2003).

Openness also refers to welcoming strangers. An open-minded person usually initiates new contact in a new situation and builds friendly relationships with new people who have different experiences, perceptions, and values. He or she does not defend himself or herself from other people who have different cultural backgrounds (Gudykunst, 2004; Kealey, 1996).

Another characteristic of openness refers to acceptance. An open-minded person tolerates different cultures and positively accepts culture that is different from their own. Such a person takes an active role in an unfamiliar environment that may be in conflict with a personal sense of the best practice or etiquette (Bennett, 1993; Kelly & Mayers, 1995; Wiseman, Hammer, & Nishida, 1989). Openness as a component of intercultural competency is critical in academic research, because it permits learners to broaden research interests. A scholar with an open mind continuously seeks new ideas and reflects on implications as they learn. This learning process helps people survive and become sensitive leaders in diverse situations.

Flexibility

A flexible attitude permits individuals to adapt to diverse social and cultural situations. Flexibility helps people mutually adapt to one other's behavior appropriately (Ting-Toomey, 1999). Through practice, people become flexible by observing and reacting to others' behaviors. Thus, flexible behavior leads to adaptability so that people perceive themselves as competent in other cultures (Cupach & Imahori, 1993; Gudykunst, 2004; Kealey, 1996). People who have flexibility are willing to learn with a wide range of different behavior patterns. They are ready to explore different ways of behaving to find out acceptable, relevant, and successful behaviors.

Flexibility also helps people avoid coming to quick and judgmental or stereotypical conclusions about a new culture and the people they encounter. Flexible people are non-judgmental about different cultural norms. Instead, they ask questions about different people's experiences and try to utilize their experiences. In this way they modify their stereotypes about other culture and behaviors (Bennett, 1993; Ratiu, 1983). Flexible individuals easily suspend and modify their existing cultural ways in order to learn and accommodate new cultural ways. They find ways to manage the dynamics of cultural differences and unfamiliarity, and are able to reduce cultural shocks (Kim, 1991).

A characteristic of flexibility also relates to learning a different language(s). They understand the same words can have different meaning in a different culture. Learning language in the intercultural context includes not just understanding of vocabulary, but also developing understanding of the meaning of the language in a different culture. Words and meaning are linked to a cultural context. Language and cultural patterns change over time and vary according to situations where the language is used. To become effective, the intercultural person develops flexibility which facilitates the drawing of key expressions and words from the languages of the intercultural contexts in order to build trust and show respect (Gudykunst, 2004; Schneider & Barsoux , 2003).

As discussed above, both flexibility and openness are characterized by accepting other ways of doing things, avoiding stereotypes of judgments, and respecting different perspectives (Brislin & Yoshida, 1994). People with these intercultural competencies enjoy interacting with other people who think differently, and spending time in new and unfamiliar surroundings. Flexibility and openness help educators better serve students with diverse backgrounds in a globally-networked society. These qualities also help students learn better in an intercultural learning environment. To better serve a learning community, educational institutions need to help educators develop flexibility and openness to culturally diverse environments. These competencies help educators reflect on, and become critically conscious about, their own intercultural beliefs, experiences, and behaviors and develop professional competence and confidence in an intercultural learning environment.

The increasing use of technology in the 21st century brings challenges and new opportunities for the development of intercultural competence. Challenges include the reduction of the bandwidth when communication is mediated through technology. For example, broadband video conferencing obscures differences in culture and context. In addition, unless carefully managed, a videoconference reduces or eliminates opportunities to ask questions that support openness and flexibility. At the same time, technology-mediated communication permits more learners to engage with people in other cultures, and there is strong evidence that the use of communication technologies, starting with the telephone, have increased travel and sojourns abroad.

Strategies to facilitate the development of intercultural competence

“Given the recognized ability of technology to transcend many of the traditional barriers of both space and time, the marriage of international education and informational technologies would seem a natural union, providing educators with opportunities for collaboration with colleagues and access to resources never before available.” (Philson, 1998)

The ‘International Leadership in Educational Technology’ (ILET) project has brought together research students, faculty and staff to create an international and intercultural research and development community in educational technology within and beyond our six universities; three in Europe and three in the United States as listed earlier. The idea of membership of and immersion in a community of researchers is central to both the European and North American notions of doctoral level study (Brown & Dowling, 1998). A major motivation for this project was the recognition that researchers and leaders in the use of educational technology are working in contexts that are increasingly culturally diverse, but have done little to prepare them for this. The extent of this community is worldwide with the use of synchronous and asynchronous communication technologies, such as email, video and text conferencing, and virtual learning environments, plus the dissemination of research via the web. However, engagement in this globally connected, but spatially and temporally-distanced community with none of the immediate existential communicative imperatives of physical immersion could be from a culturally fixed and non-reflexive position. Thus the challenge facing the six participating universities was

how to create contexts for intercultural interchange and interaction in which reflection on the very processes of this engagement is facilitated, and the implications are critically considered. Our aim is for all involved to be able to engage in intercultural interactions in academic and professional contexts with greater openness and flexibility, and to relate this to the development of knowledge and practice in their chosen scholarly programs.

Developing collaborative strategies across six universities' doctoral programs has been challenging. Although the three research universities in the US nominally share the same academic organizational structure, there are significant cultural differences and approaches that challenged many early plans. Such differences were expected on the European side, and this was most obvious with the involvement of languages other than English, namely Spanish and Catalan in the University of Barcelona and Danish in Aalborg University. Faculty found it necessary to significantly increase their intercultural competence in order to work together. An important principle has been respect for each individual's culture and that of each university, which have been reified into formal Memoranda of Understanding. All partners have contributed valuable expertise, effort and challenges.

The international collaboration and commitment has been extraordinary on many occasions, and the following brief descriptions of the applications of technology may provide only a glimpse. The incorporation of intercultural dimensions into programs that do not traditionally include any cultural or language dimension is particularly challenging. The three major strategies that have been developed to fit within all six universities' organizational cultures are now briefly described. Table 1 provides figures of students, faculty, and staff who have formally participated. Many more have participated through interactions with traveling scholars and other events.

<i>Academic year / Strategy</i>	<i>2002/3</i>	<i>2003/4</i>	<i>2004/5 estimated</i>	<i>Total</i>
Sojourn abroad (scholar/intern)	3	10	15	28
Summer Academy (intensive course)	18	21	25	64
Reading Group	40	45	47	132
Faculty and staff sojourn abroad	11	9	5	26
Total	73	85	92	250

Table 1. Actual and estimated participation in the three main strategies to facilitate development of intercultural competence over the three years of the ILET project.

Our sponsors' EC-US funding initiative to develop post-secondary education has considerable experience in promoting study abroad for a semester. Their view of the process is reflected in seminal publications such as Mestinghauser (1998). However, our project has required further significant adaptation to match the needs of mature doctoral students, who carry significant responsibilities both personally and professionally. For example, only about one quarter of the graduate students who will have interned abroad

by October 2005 negotiated a semester-long experience. Other arrangements included a year as adjunct faculty and multiple visits of less than one month. Most students have blended in strategic use of communication technologies to extend their experience.

It should also be noted that interns both at home and abroad have been collaborative designers of our strategies and curriculum materials. For example, Hugh Crumley interned in the International Center of his home, University of Virginia, and also supported the conceptualization of Virtual Danish when interning abroad in the University of Aalborg with Hans Goetze. A brief faculty mentored preliminary visit abroad has also proved effective; the student reflected in her report: “This was my first trip overseas and I found the [weeklong] experience both a rich and exciting one. ... these dialogues honed my research area for my dissertation – the use of commercial games in K-12 classroom settings and how to work with preservice teachers to integrate technology effectively [an underdeveloped area in my home university]. Secondly traveling with my supervising professor and ILET sponsor gave me [confidence to take this risk].” The evaluation evidence discussed in a later section of this paper considers one case detail.

A second strategy successfully developed an annual international Summer Academy (an intensive course) in one of the partner universities. The faculty negotiated a location and dates for the annual academy and a program for 6-10 days developed to bring the community from all six locations physically together, often leveraging one or more local academic events. The first academy took place in London in June 2002 with a workshop on digital story telling, numerous expert seminars, a one-day national educational technology conference, and ended with integration into the Institute of Education summer doctoral conference. Rex Heer’s report of this academy is published on the ILET web site accompanied by a charming digital story ‘Mind the gap’, and can be accessed at <http://www.public.iastate.edu/%7Erex/London/londongaps.html>. According to need, cultural orientation was facilitated by a pre-departure course that used a web-based learning environment and the Internet. These preparations were designed to promote autonomy so that these mature adults would feel able to travel again in future with less support and stimulation. Communication in a managed learning environment (ISU’s WebCT on this occasion) was also blended into the summer academy to facilitate participants’ ongoing discussion and collaborative work.

Most students who participated in the Summer Academy also started intercultural learning through online ILET Reading Group. It proved more challenging than expected to design a course that fits with all six doctoral programs because of the disparity of organizational cultures and languages. Courses are commonplace in US doctoral programs, both semester-long courses and more intensive experiences. However, doctoral students in Europe study few formal courses and most are proscribed. Additional courses are seen as distracting for their dissertation work. Therefore, the third and most flexible strategy was a fall online Reading Group which was modeled on a strategy in use in London and incorporated into courses in US universities. Topics were chosen carefully to attract students with support for research processes or dissertation interests and to make good use of the complementary expertise spread across the six doctoral programs at a

time of year when students and faculty are on campus. This flexible strategy has proved successful, and the project has settled into an annual reading group for the month of October. For example, in October 2003, Niki Davis and Elsebeth Sorensen collaborated to facilitate a reading group focusing on e-portfolios in which Elsebeth is recognized as an international expert (see, for example, her award-winning paper Sorensen and Takle, 2002) and Niki as a university-wide expert leading a multidisciplinary project (Sheppard et al, 2005). The readings and assignments were provided through the ILET project's international website and complemented with a web-based discussion group. (See http://www.public.iastate.edu/~ilet/students_files/student_ac_program.html.)

The ILET project has used these strategies to support the development of intercultural competence among all participants. In addition, several communities of practice have formed among the students to promote shared expertise, including collaborative construction of reified knowledge in papers about the ILET experience. Email is used most widely. One such collaboration and product was the very successful round table and paper submitted in fall 2003 by Hagenon, Nilakanta, Fraser, Fernandez, Nyvang, Ellis, and Davis (2004), plus the participation by over 20 people in the round table during the annual conference of the Society of Information Technology in Teacher Education in March 2004 in New Mexico.

Evaluation of intercultural competence

Leaders of the project have a deep understanding of scientifically-based research and evaluation of technology-related professional and organizational development. For example, Davis and Thompson's (2005) international review of the evaluation of technology-related professional development for the US department of education builds upon previous international collaborative work that emphasized that multiple perspectives are necessary in evaluation just as they are in education (Davis, Hawkes, Heineke, & Veen, 2001). Multiple sources and perspectives from evidence gathered with carefully constructed instruments over several years are recommended. These recommendations have been tempered by the resources and timeline of this project. The construction of several survey instruments, semi-structured interviews have been complemented with the collection of artifacts and observations. The project has also reviewed the literature on the evaluation of intercultural competence.

Proving the value of study abroad is known to be challenging. Even though there are many individual stories of sojourners' life-changing experiences, especially at the end of a career, short-term benefits are particularly difficult to quantify. There have been several methods of collecting data to measure intercultural competence and learning. Lukinsky (1990) used personal diaries to measure intercultural competency. Dominice (1990) applied a self-report form of learning history to collect data. Both of the methods focused on reflection in student-generated text in which student's reflections were descriptive, open-ended, and hard to quantify. Seelye's (1991) multiple-choice questionnaire to measure intercultural competency was discontinued due to low reliability. Bryram and Morgan (1994) attempted to measure intercultural knowledge,

empathy, and behavior with the use of interview, survey, and written reports. Jacobson, et. al. (1999) developed a portfolio to measure intercultural competency and focused on the degree of personal interaction with people of the target culture. Ingulsrud, et. al. (2002) also adapted a portfolio assessment method to measure intercultural competency. The use of student portfolios for assessment of intercultural competency seems relevant, since it is collection of student work that should also stimulate reflexive practice. Portfolios can provide researchers a view of a student's on-going growth in their academic and personal life as well as a more holistic view. However, portfolio assessment is considered by many to be lacking in objectivity and is unlikely to continue over years.

The ILET project was unable to require additional requirements of portfolio construction within all the programs. Therefore, individual artifacts, self-reports, email interviews, face-to-face interviews, and survey questionnaires have been used to collect data. Analyses produced descriptive statistics related to participation and illustrations of the two key factors identified earlier, namely openness and flexibility. Table 1 provides summative results showing evidence of increasing participation over the first three years of the project. The result of the data analysis clearly shows that the ILET project has impacted many students' intercultural perspectives. The use of technology in the ILET project increased interaction among participants from six universities. Findings vary across the three strategies. Most benefit came with longer study abroad, but this was limited to few students from each of the six universities (20); and the least benefit was to participants in online reading groups, with over 130 participants. As will be seen in the illustrations given later, there is a significant interaction between the three strategies because the online reading group is also an important mechanism to recruit students to overcome the logistical and financial challenges of a sojourn abroad. The findings will now be presented in more detail before we discuss the role of technologies to facilitate our intercultural doctoral community.

Findings from the ILET online Reading Group

Online reading group data indicated that the virtual learning environment did not enhance students' academic performance directly. However, online reading group did help students find academic and research interests in other academic culture. It also helped students find other scholars for a collaborative research. Students used online reading group as an initial introduction to ILET students and institution. Online reading group provided a cyber intercultural community where students meet a lot of people and get to know them. It was like eating at a buffet in that students did not make friends quickly, but they met a lot of people from different cultures and academic backgrounds. The online reading group environment broadened most students' research interests and positively opened their minds to new ideas, discussion, and knowledge. Students indicated that since the reading group community has no particular academic expectation such as writing a thesis or doing a project, they felt comfortable meeting new people in a new environment and exploring new perspectives. However, they felt that if they did not follow up, they would be unlikely to benefit from that potential.

Through the online reading group, students began to sense the variety of ways in which people think. The communication was crisp because the reading group environment was fully text-based and the language was dense. Therefore, although cultural differences did emerge, it was hard to get a sense of where each participant came from (both academically and personally). This challenging situation prompted students to become more flexible to unfamiliar situations and be open to new people and their ways of thinking and expressing themselves. Gibson et al (2003) discuss the need for an overt strategy through which participants are required to introduce their context and to direct their messages to the contexts that had been introduced by other participants. Intercultural communication practice will be made more explicit in future.

Participants in the online reading group did indicate that email and internet chatting was also used to help them understand other cultures and people better. Some students started to develop international friendships and exchanged new knowledge or research ideas via email or internet chatting. This learning process helped them reduce cultural shocks when they experienced a new academic community and culture through the Summer Academy.

Findings from short-term study abroad: the Summer Academy

Analysis of the evidence from a sample of over 39 students who attended one of the first two Summer Academies found widespread evidence of the development of intercultural competence within academic cultural contexts and wider cultural contexts of living an everyday life. The strongest evidence of development of intercultural competence came with the least previous experience of foreign travel. All students reported benefits, and students who had previously lived in a foreign culture brought that framework into play with ease.

In relation to the development of intercultural competence in the academic culture, students who participated in the Summer Academy indicated that the Academy exposed them to a diversity of perspectives in research areas and, in doing so, broadened and deepened their understanding of academic interests. Self improvement was evident and students came to a better understanding of their scholarship focus. The Academy helped them open their mind to new research areas and to accept similarities and differences among institutions. Many students were able to advance their scholarship and become more motivated in their academic studies. Natalie Johnson concluded: "I have learned how to adapt and benefit from knowledge and skills of international experts with varying styles." (2004, <http://www.public.iastate.edu/%7Erex/Natalie/summeracademy.htm>). Students also gained new perspectives on educational technology issues and developed ideas on how different technologies could be used for educational activities. They also better understood that tremendous international learning resources were available. In addition, nonnative speakers of English became aware of the need to develop language skills and more aware of the varieties of English. Nonnative speakers of English improved their English language skills with support from peers and the immersion in the language.

As for the lived cultural experience, most participants reported that they experienced friendliness and willingness to help while working with new people. They gained a great sense of self-confidence in an unfamiliar culture and respect for different cultures. They reported that they appreciated diversity of people, smells, food, music, fashion, and language. Through their intercultural learning experience, they also enhanced creativity, positive feeling to a new situation, patience, and respect for other cultures. Along with these experiences, they adapted and practiced different thought patterns and behavior. The Academy helped students become adjusted to social activities in a different culture and to feel comfortable with meeting strangers and making friends.

This experience of a different culture enabled students to connect themselves with a different culture and open their eyes to the new world. They also came to a better understanding of their home culture by experiencing a foreign culture. For example, Rex Heer noted that “Andrew Brown [the UK project leader] helped us to coalesce and reflect on what we were learning about similarities and differences in systems and approaches in the U.K. and the U.S.” (Heer, 2004, <http://www.public.iastate.edu/%7Erex/London/>). As planned, these cultural experiences helped students develop toleration of other people, different styles of communication, and customs. Students became more accepting of the differences and diversity that surround them. They tried to avoid pre-judging other people in other cultures and began to adapt good behavior and manners. The Academy helped them learn to be patient and treat others with respect. One student reflected on his growth of understanding from the Academy and his home program: “Almost everything I did in London was ‘cultural.’” He reflected that previously he might have limited his categorization of a cultural experience to his visit to the National Gallery in London.

A case study of a semester sojourn abroad

Around 20 students interned abroad, often following experiences in online Reading Group and/or a Summer Academy. In relation to the academic experience, participants sojourning abroad indicated that the ILET project helped them broaden their knowledge on research and educational technology. Through the sojourning, they were able to refine dissertation topics and research areas. They gained knowledge on collaborative learning in intercultural communities. This knowledge helped them view their interaction with others as a collaborative intercultural learning process. The academic experience helped students develop multiple perspectives on research areas through work with another country’s students. Participating students provided a wealth of reflections and artifacts for analysis. Each longer term experience was unique having been carefully negotiated between the student and his or her mentors at the home, and international institutions and a formal contract was drawn up and signed. Therefore, one case study of a very rich internship experience is provided below as an illustration of the value of interning abroad and also retaining collaborations and responsibilities at home. This multinational work style was made possible by technology.

Rema Nilakanta is a doctoral student at Iowa State University (ISU). She participated in the ILET project from the beginning. She designed and developed the ILET web site. She

participated in the ILET on-line reading groups and served as a mentor to ILET visiting scholars. Following these, she studied abroad at Aalborg University in Denmark for four months in fall 2004 accompanied by her 15-year-old daughter. Her ethnic background is Indian and she moved to the US with her family and got a Masters degree from a US university. Her first degree focused on German language and culture, so she recognized early on the importance of language in gaining intercultural competence. She did not know Danish before she decided to study in Denmark and she was aware this could be her biggest challenge. Her choice to study at Aalborg University was mainly determined by the need for furthering her knowledge on participatory systems design, a design tradition that was pioneered by Scandinavian system designers, and she found that expertise this design methodology was available at the host university. In addition, she had become acquainted with a couple of ILET scholars from Aalborg University during their sojourn at ISU and had found that she shared common research interests with them. Rema had not originally planned to intern abroad due to family commitments. However, her increasing collaboration with the ILET community of practice resulted in her studying abroad two years later with her daughter and she was able to visit all three European partner universities. As an intern teacher educator and visiting scholar in Denmark, Rema used web-based technologies including email, chat, videoconference to stay in touch with family and friends and to continue to work for Iowa State University from a distance. Before, during, and after her sojourn in Denmark, Rema has also supported several offerings of an Aalborg University course mediated through these technologies and managed learning environments (Virtual U). This course included study of these learning environments, including an e-portfolio project (eDoc is described in Hassall et al, 2005), the collaborative democratic design of which is the focus of her own dissertation (Nilakanta, forthcoming).

On her return to Iowa State University Rema was interviewed about the development of her intercultural competence by the second author. Rema appreciated that participation in the ILET project enhanced and validated her learning and she thinks it helped develop her professionally. Her self-reflection on the ILET project indicated that the project opened a new academic career for her and helped her become highly flexible and open to many cultures.

Rema's experiences can be classified as personal and academic, respectively. But they both show evidence of transformation. On a personal level Rema initially felt ill at ease by the social and political processes typical of a welfare state. The large presence of the government in all facets of an individual's life was disempowering. However, with time, Rema was able to appreciate the sense of security Danish citizens enjoyed under a welfare state system. Similarly, her lack of knowledge of the Danish language created in her a sense of inadequacy. She felt there seemed to be a general expectation among the Danes that all people in Denmark should know Danish. She found this discomforting. She felt like a minority twice over – first as a non-White in a predominantly White community and second as a non-Danish speaker in a largely Danish-speaking world. Gradually, with lessons in Danish and interactions with Danes, her discomfort eased. She saw the Danes as reserved but warm people who loved tradition and family. She grew to appreciate their traditions and sentiments. By the time she finished her sojourn, she felt

quite comfortable living in a different country. She was able to read and write Danish and felt comfortable with the language. She was able to get around comfortably and had developed many friendships.

On the academic level, Rema found herself a part of a community of practice characterized by a shared interest in the design of educational technology. Her membership to this community happened gradually and was facilitated in various ways. Firstly, Rema shared an office with people who shared her interest in software design. Interacting with her office mates made her aware of their professional activities and other interests. Secondly, Rema attended seminars for Ph.D. students that were held periodically. Here she got to know other Ph.D. students in her program from the host university as well as surrounding schools. She was able to interact with experts in her field and was able to share with them her expertise. Thirdly, Rema made presentations of her research work and was able to get constructive feedback. She was successful in developing a peer-mentoring relationship with one of her office mates. Fourthly, Rema's research work helped her collaborate with other students as well as faculty members at Aalborg University. In fact, these collaborations have resulted in a publication. She plans to continue collaborating with them and is open to new opportunities.

The ILET project helped Rema interact with people with different views, customs, and ways of thinking. She found an understanding of different cultures could compliment her own culture. The sojourn also gave her a deeper understanding of doctoral research. Although living in a country she did not know was a novel and challenging learning experience for her, the new academic practices did not deter her as much as not knowing the language. Rema realized that studying abroad was different from an internship in another U.S. institution. In Denmark, she experienced an educational system quite different from that of the U.S. She saw the impact a welfare state perspective has on education. Her experience of the 'native' viewpoint helped her understand the reason why this academic culture has been able to flourish in Denmark.

Rema gained a great deal of confidence in dealing with a different culture both academically and personally. She broadened her perspective of the world. She came to the realization that collaboration among institutions is imperative because it can enrich learning in today's global world. She reflected that openness – open to a new academic world – and flexibility to accept and adapt to different living cultures are crucial intercultural competencies for educators in order to become competent leaders.

Many students, including Rema, commented on the value of the international networking both immediately and in the long term. For example, Tom Nyvang reflected: My experiences "broadened my academic horizons; I gained new perspectives and exposure to upper level education in a foreign country. I was able to establish contacts with professors and students in different countries, which hopefully will provide me with future partners and opportunities for collaboration." (Nyvang, 2004)

Discussion

Artifacts, anecdotal data, survey data, and interview data collected from ILET students and faculty have demonstrated that the ILET project provided an intercultural learning environment that helped students gain some degree of intercultural competence; particularly openness to a new academic area and culture and flexibility to accept and adapt new knowledge, customs, and cultural values. The ILET project also provided a unique opportunity for doctoral students to study in a personalized doctoral program suited to their academic interests and to experience different cultures. The findings show that collaboration of six universities with their academic programs did blend to create an intercultural learning environment. There is also evidence that educational technology can support and enhance an intercultural learning, with increasing participation each year (see Table 1).

Each of the three strategies developed by the ILET project had several roles and worked together synergistically to create and maintain the transatlantic community of scholars across the six doctoral programs. Tom Nyvang, studying in Aalborg University, who experienced online reading groups and spent a semester interning in Iowa State University reflected on this synergy and his agency within the community by drawing upon Wenger's (1999) theory of communities of practice:

“In Etienne Wenger's words (1999) I was part of a community of practice in which learning is characterized by the duality of participation and reification (in a broad sense). In that respect it is fair to say that I was learning in a community of practice. Both participation and reification took different forms in the activities as [an intern research assistant, student in a seminar course, collaborative writing of an academic paper, and as member of the ILET Reading Group]. In retrospect I think that these different modes of participation complemented each other. In some cases I was deeply embedded in collaboration on a specific subject (eDoc project, joint papers) and in other cases I was engaged in a looser collaboration (technology seminar) in a larger community. ... it also improved my network in Europe. I helped a group of students from Aalborg that wanted to visit Barcelona in Spain to find relevant contacts in the ILET partner university in Barcelona University. ... today research and higher education are in many ways international. It thus may be very useful to be part of an international community even prior to finishing our Ph.Ds.” (Nyvang, 2004)

The online Reading Group community helped students to start and support on-going intercultural learning. It appears to have supported the development of openness but stopped short of supporting flexibility Participation appears to have reduced cultural shock, and with further experience supported students to become familiar with new people. In that sense, the technology can make a bridge for a cyber friendship that later developed into a real life friendship among different nations. Moreover, the online reading group helped students gain access to a wider range of knowledge and research topics as well as experts who could support their research. Educational technology thus facilitated an intercultural learning environment in this ILET strategy. Evidence from the Summer Academy and a long-term study abroad provides richer evidence of students' on-going intercultural learning process. The ILET project

definitely served as a vehicle for students to gain intercultural competencies. Working in an intercultural learning environment, students were motivated and stimulated to explore unfamiliar academic areas and cultures. It seems that the ILET project fulfilled its vision of providing an intercultural learning environment for future educators, faculties, and educational leaders to become interculturally competent in a digitally networked global society.

However the evidence has several weaknesses. First, the data could not be quantified in order to generalize the outcome and the samples are somewhat opportunistic at present. A more comprehensive data set will be gathered this year. In addition, ILET students were monitored before they had time to reflect over the long period. Therefore data may result from student's excitement, or the opposite. Depression due to reverse culture shock is documented in the literature. Indeed, one student noted in his report of the Summer Academy in 2003: "On my return to the United States I initially had a less positive view of my experience in London than I do today. The main reason for this is that, while I expected to have a particular experience, what actually occurred did not match my expectation. At first I was somewhat dejected." His reflections go on to show that he has continued to develop his intercultural openness and flexibility and he has recently requested to join the Summer Academy in 2005, despite having graduated a year ago. Therefore the project plans to follow up evaluation of the impact of the ILET project students for several years and it will encourage alumni to continue their engagement.

Recommendation for the future

The theoretical section of this paper argued that intercultural competence is part of a learning process. It is a transformation process for learning and growth in which students develop new perceptions on culture. Thus intercultural competence is a learning process in which students gain awareness of different culture, become sensitive to other culture, and have flexibility and openness in their academic culture.

Promoting of participation in the ILET strategies has been challenging, particularly for a longer term sojourners. Most doctoral students have their own professional and family responsibilities, so it is hard for them to make arrangements to be apart and to afford the extra finance. In order to motivate more students to participate in future, the project aims to provide strong and reliable evidence that the strategies developed by the project benefit doctoral education. Evidence of positive impact is also important for sustainability once grant funding expires and to spread the strategies into other programs.

Most of our measurement of intercultural competency in the ILET project has been conducted using individuals' reports, comments, interviews, and surveys. Although these methods can be subjective, the methods have been used commonly in the area of intercultural research. More rigorous scientifically-based evidence with multiple sources of data will require further development of instruments and related methodologies to research intercultural competence.

Further work is also required to find ways of using technology to enhance the lived experience and to accelerate the development of intercultural competence in a shorter time span, as well as to prolong engagement in our intercultural doctoral community.

Students and faculty have also requested that our community widen the transatlantic cultural context to include more of the world and to take a more critically multicultural approach with an emancipatory vision. This is discussed in Davis, Cho and Hagenon (2005). The democratic nature of the doctoral community designed by all participants (faculty, staff and students) provides limited evidence that our next generation of leaders of educational technology is starting to emerge as envisioned. Some students have recognized the importance of leadership and added it to their scholarship. For example, one ILET sojourner Tom Nyvang (2003), reflected that in Denmark “leadership is less visible, but writing this paper has reminded me how important leadership is to the sustainability of ICT integration in my case too. From a more general perspective, it has also reminded me of the leadership element in ILET and stressed the importance of it.” Therefore, a major recommendation for the improvement of ILET strategies is to be more explicit in our expectations for openness, flexibility and shared leadership among all participants in our transatlantic doctoral community, as well as to extend our cultural and theoretical perspectives beyond the historically dominant European cultures.

Acknowledgements

The contents of this article were developed under a grant from the Fund for the Improvement for Post Secondary Education (FIPSE), U.S. Department of Education and the European Commission DG XIII. However, these contents do not necessarily represent policy of the Department of Education and you should not assume endorsement by the Federal Government or the European Commission. Particular thanks to ILET university coordinators and their students, especially Andrew Brown, Rema Nilakanta, Lara Hagenon, Kristine Ellis, Tom Nyvang, Rex Heer, and Natalie Johnson.

Bibliography

- Adams, D. L. (1995). *Health issues for women of color: A cultural diversity perspective*. Sage, Thousand Oaks, CA.
- Bennett, M. J. (1993). Towards ethnorelativism: a developmental model of intercultural sensitivity. In R. M. Paige (Ed.), *Education for the Intercultural Experience* (pp. 21-71). Yarmouth, ME: Intercultural Press.
- Benson, P. G. (1978). Measuring cross-cultural adjustment: The problem of criteria. *International Journal of intercultural Relations*, 2, pp. 21-37.
- Brislin, R.W., & Yoshida, T. (1994). *Intercultural communication training: An introduction*. Thousand Oaks, CA: Sage.
- Brown A. & Davis N.E. (Eds.) (2004). *Digital technology, communities and education. World Yearbook in Education 2004*. London: Routledge.

- Byram, M., & Morgan, C. (1994). *Teaching and learning language and culture*. Clevedon, UK: Multilingual Matters.
- Cui, G., & Van Den Berg, S. (1991) Testing the construct validity of intercultural effectiveness. *International Journal of Intercultural Relations*, 15, pp. 227-241.
- Cupach, W.R., & Imahori, T. (1993). Identity management theory. In R. L. Wiseman & J. Koester (Eds.), *Intercultural Communication Competence* (pp.112-131). Newbury Park, CA: Sage.
- Davis N.E., Brown A. and Ferdig R. (2005). Developing international leadership in educational technology. In Nicholson P., Thompson, B.J., Ruohonen, M, & Multisilta, J. (eds) *E-training Practices for Professional Organizations*. Boston/Dortrecht/London: Kluwer Academic Publishers. pp247-254
- Davis N.E, Hawkes M, Heineke W., & Veen W. (2001) Multiple perspectives on evaluation of new technology in education and teacher education. In Heineke W & Blaise L. (Eds.) *Methods of evaluating technology*. Information Age Publishing.
- Davis, N.E. with Cho, M.O., & Hagenson, L. (2005). Intercultural competence and the role of technology in teacher education. Editorial *Contemporary Issues in Technology and Teacher Education* [Online serial], 4(4). Available: <http://www.citejournal.org/vol4/iss4/editorial/article1.cfm>
- Davis N E, and Thompson, A. (2005). The Evaluation of Technology-Related Professional Development, Symposium and paper. In Crawford, C., Price, J., Weber R. & Willis, D.A. (Eds.) *Society for Information Technology & Teacher Education International Conference Annual*. Association for the Advancement of Computing in Education: Charlottesville, VA.
- Dominice, P. F. (1990). Composing education biographies: Group reflection through life histories. In J. Mezirow (Ed.), *Fostering Critical Reflection in Adulthood* (pp. 194-212). San Francisco, CA: Jossey Bass.
- Gay, G. (2003) Introduction: Planting seeds to harvest fruits. In G. Gay (Ed.), *Becoming Multicultural Educators: Personal Journey Toward Professional Agency* (pp. 1-16). San Fransisco, CA: Jossey-Bass.
- Gibson, I.W., Schiller, J. Turk, R. & Patterson, J. (2003) International online learning communities: Expanding the learning and technology horizons of new school leaders. In Crawford, C., Davis N.E, Price, J., Weber R. & Willis, D.A. (Eds.) *Society for Information Technology & Teacher Education International Conference Annual*. Association for the Advancement of Computing in Education: Charlottesville, VA.

- Gousseva, J. (1998). Crossing cultural and spatial boundaries: A cybercomposition experience. *The Internet TESL Journal*, 1(11). Retrieved February 23, 2005, from <http://www.aitech.ac.jp/~iteslj/Articles/Gousseva-CyberComp.html>
- Gudykunst, W.B.(2004) *Bridging Differences: Effective intergroup communication (4th ed)*, Sage, Thousand Oaks, CA.
- Gudykunst, W.B., & Kim, Y. Y. (1997). *Communicating with Strangers: An approach to intercultural communication (3rd ed.)*. New York, NY: McGraw-Hill.
- Taylor, E. W. (1994) Intercultural competency: A transformative learning process, *Adult Education Quarterly*, 44(3), pp. 154-174.
- Hall, E.T. (1976). *Beyond culture*, Doubleday, New York.
- Hagenson, L., Nilakanta, R., Fraser, J., Lopez, O., Nyvang, T., Ellis, K., & Davis N.E. (2004) ILET: An intercultural learning experience in educational technology. In Ferdig, R., Crawford, C., Carlsen, R., Davis, N.E., Price, J., Weber R. & Willis, D.A. (Eds.) *Society for Information Technology & Teacher Education International Conference Annual*. Association for the Advancement of Computing in Education: Charlottesville, VA.
- Hassall, L., Nilakanta, R., Sheppard, M., Wang, Y. (2005) eDoc: Innovation in electronic portfolio design and development. In Crawford, C., Carlsen, R., Gibson, I., McFerrin, K., Price, J., Weber R. & Willis, D.A. (Eds.)
- Hook, J. (2003). *Working across cultures*. Stanford, CA: Stanford University Press
- Hopkins, J. R. (1999). Studying abroad as a form of experiential education. *Liberal Education*, 85(Summer), pp. 36-41.
- Ingulsrud, J. E., Kai, K., Kadowaki, S., Kurobane, S., & Shiobara, M. (2002). The assessment of cross-cultural experience: measuring awareness through critical text analysis. *International Journal of Intercultural Relations*, 26, 473-491.
- Jacobson, W., Sleicher, D., & Maureen, B. (1999). Portfolio assessment of intercultural competence. *Journal of Intercultural Relations*, 23(3), 467-492.
- Jaques, E. (1990). In praise of hierarchy. *Harvard Business Review*, January-February, pp. 127-133.
- Kealey, D. J. (1989) A study of cross-cultural effectiveness: Theoretical issues, practical applications. *International Journal of Intercultural Relations*, 13, pp. 387-428.

- Kealey, D. J. (1996). The challenge of cultural personnel selection. In D. Landis & R.S. Bhagat (2nd Eds.), *The handbook of Intercultural Training* (pp. 81-105). Thousand Oaks, CA: Sage.
- Kelley, C., & Myers, J. (1995). Cross-cultural adaptability inventory. Minnesota, MN: NCS Assessments.
- Kim, Y. Y. (1991). Intercultural communication competence. In S. Ting-Toomey & F. Korzenny (Eds.), *Cross-cultural Interpersonal Communication* (pp. 259-275). Newberry Park, CA: Sage.
- Kim, Y. Y. (2002). Adapting to an unfamiliar culture: An interdisciplinary overview. In W. B. Gudykunst & B. Mody (2nd Eds.), *International and Intercultural Communication* (pp. 259-273). Thousand Oaks, CA: Sage.
- Leeman, Y. & Ledoux, G. (2003). Preparing teachers for intercultural education. *Teaching Education*, 13(3), 279-292.
- Lukinsky, J. (1990). Reflective withdrawal through journal writing. In J. Mezirow (Ed.), *Fostering Critical Reflection in Adulthood* (pp. 213-234). San Francisco, CA: Jossey Bass.
- Lustig, M.W., & Koester, J.(1999). *Intercultural Competence: Interpersonal communication across cultures (3rd ed)*, Longman ,New York, NY.
- Merryfield, M. (2003). Like a veil: Cross-cultural experiential learning online. *Contemporary Issues in Technology and Teacher Education* [Online serial], 3(2). Available: <http://www.citejournal.org/vol3/iss2/socialstudies/article1.cfm>
- Mestenhauser, J. & Ellingboe B. (Eds.) (1998). Reforming the Higher Education Curriculum. Internationalizing the Campus. Phoenix, Arizona: The Oryx Press.
- Nieto, S. (2000). *Affirming Diversity: The sociopolitical context of multicultural education*. New York, NY: Longman.
- Nyvang, T. (2004). ILET exchange visit at Iowa State University. Available: http://www.public.iastate.edu/~ilet/student_files/final_report.pdf.pdf
- Philson, M. (1998) Curriculum by Bytes—Using Technology to Enhance International Education. In J. Mestenhauser, & B. Ellingboe (Eds.) Reforming the Higher Education Curriculum. Internationalizing the Campus. (pp. 150-173). Phoenix, Arizona: The Oryx Press.
- Ratiu, I. (1983). Thinking internationally: a comparison of how international executives learn. *International Studies of Management and Organisation*, 13, 139-150.

- Rose, E. (2005 March-April). Cultural studies in instructional design: Building a bridge to practice. Introduction to special section. *Educational Technology*, 45(2), 5-10.
- Ruben, B. D. (1987). Guidelines for cross-cultural communication effectiveness. In L. F. Luce & E. C. Smith (Eds.), *Towards Internationalism* (pp. 36-46). Cambridge, MA: Newbury House.
- Schneider, S. C., & Barsoux J. (2003). *Managing Cross Cultures*. New York, NY: Prentice Hall.
- Seelye, H. N. (1991). *Teaching culture: strategies for intercultural communication*. Lincolnwood, IL: National Textbook Company.
- Ting-Toomey, S. (1999). *Communicating across cultures*. New York, NY: The Guilford Press.
- UNESCO (1998). Higher education in the twenty-first century vision and action, *World Conference on Higher Education, Final Report, Volume 1*. pp. 75-78.
- Williams, T. (2005). Impact of study abroad on students' intercultural communication skills: adaptability and sensitivity. *Texas Christian University*. Retrieved February 23, 2005, from <http://www.aaplac.org/library/WilliamsTracy03.pdf>.
- Wiseman, R. L. (2002) Intercultural communication competence, In W. B. Gudykunst & B. Mody (2nd Eds.), *International and Intercultural Communication* (pp. 207-224). Thousand Oaks, CA: Sage.
- Wiseman, R., Hammer, M. R., & Nishida, H. (1989). Predictors of intercultural communication competence. *International Journal of Intercultural Relations*, 13, 349-370.