

Experiences in promoting an intercultural perspective in an educational technology program

Dr. Kara Dawson

*University of Florida
College of Education*

dawson@coe.ufl.edu

Dr. Richard E. Ferdig

*University of Florida
College of Education*

rferdig@ufl.edu

Abstract

Technology is a driving force behind why intercultural education and intercultural communication are important goals for the 21st century. As such, tomorrow's educational technology leaders must be well-versed in these areas. In this article we describe an international grant designed to build a transatlantic doctoral community focused on educational technology, highlight the impact of this grant on an educational technology program in the United States and provide suggestions for others interested in enculturating educational technology doctoral students into a community of intercultural practice. Readers will be particularly interested in our struggles (and potential solutions) related to student exchanges and our curriculum for courses designed to elevate intercultural education in our program.

Introduction

Improving intercultural education and intercultural communication are seen as important goals for the 21st century (Batelaan & Coomans, 1999; Davis, Brown, & Ferdig, 2005). Although these are tasks that are enormously complex, there are a number of important ethical, moral, educational, and economic reasons these goals must be achieved (Martin & Nakayama, 2000). Included in those reasons is the fact that technologies are making the global world more connected. Brown & Davis (2004) argue that digital media "offer tantalizing potential to increase access to education, and to intercultural experiences,

more generally, that should enhance and broaden education for all” (p. 234). Therefore, technology is one of the driving forces behind why intercultural communication and education are so important; but, it is also seen as a potential vehicle by which to improve said topics. However, research suggests this potential cannot be realized unless tomorrow’s leaders of educational technology are prepared using multi-level and intercultural perspectives on the complex educational systems in which they work (Brown & Davis, 2004; UNESCO, 2002; Davis, 2002).

In other words, learning can be viewed as an enculturation into a community of practice (Lave & Wenger, 1991). You give learners the tools that are common in the community they are preparing to join; these tools help them become legitimate, participating members in the ambient community. Graduate or undergraduate preparation programs that provide access to intercultural perspectives thus demonstrate the importance of intercultural communication and education in the practicing communities the students are joining.

Although intercultural education and communication have seen a recent growth in interest, there have long been attempts to integrate multiple perspectives, both with and without technology. Study abroad programs are provided as non-technology-based examples; networked and virtual communities are seen as the potential technological counterparts (Sorensen & Takle, 2004). The challenge is to adopt a systemic effort so that intercultural (and international) efforts are not seen as the work of a few but the respected goal of the community.

The University of Florida (USA) has had a long-term interest in internationalizing both the curriculum and the faculty & student body. In 2001, an international grant jointly sponsored by the *Fund for the Improvement of Post-Secondary Education (FIPSE)* and the *European Commission (EC)* provided the University of Florida’s (UF) educational technology program with the opportunity to build an international and intercultural core. In this article, we describe the impact of the grant. We describe the outcomes of the grant on the UF program for the purpose of both documenting our efforts and to suggest future changes for those seeking such funding. We also explain changes to our program that were indirectly related to the grant for those who wish to internationalize their curriculum but who do not have funding to do so.

International Leadership in Educational Technology (ILET)

In 2001, six universities in both the United States and Europe were awarded a grant from *FIPSE* and the *EC*. Iowa State University was the lead institution on the USA side, with the University of Florida and the University of Virginia as partners. The University of London’s Institute of Education was the lead on the European side, with Aalborg University in Denmark and the University of Barcelona in Spain as partners. The purpose of the grant was to build a transatlantic doctoral community that focused on educational technology. ILET has been written about conceptually (Davis, Brown & Ferdig, 2005; Brown & Davis, 2004); the grant is nearing the end of its lifespan and so

evaluation of its effectiveness is currently being analyzed and written about. More about the project can be found at: <http://www.public.iastate.edu/~ilet/>.

The ILET grant was not the first or only attempt to integrate an intercultural perspective to our curriculum. Drawing on theoretical and practical research (Geertz 1973), we believe that technology had the potential to: a) demonstrate the complexity of teaching; b) provide students with an opportunity to explore the various webs of significance within teaching, and c) enable students to investigate the multiple cultures that exist within the field. We also believe that in these cases technology can either be the tool that is used to explore or it can be the object of exploration (i.e. learning what it means to teach with technology) (Ferdig & Dawson, 2005).

As such, one attempt to bring multiple perspectives into the classroom was the development and implementation of the *Reading Classroom Explorer (RCE)* (Ferdig, Roehler & Pearson, 2002). RCE is a web-based environment that allows teacher candidates to see video exemplars of literacy instruction. The learning environment provides access to video clips from 10 different schools, thus highlighting student and pedagogical diversity (Ferdig & Roehler, 2003).

A second attempt has been our work with *Professional Development Communities (PDCs)*. Currently, eight PDCs built on national standards (Holmes Group, 1995; Thomas, 1999), state standards (Florida Department of Education, 1996; Florida Education Standards Commission, 1999), teacher education research (Wilson, Floden & Ferrini-Mundy, 2001), systemic inquiry (Dana & Silva, 2003) and literature in higher education (Boyer, 1997) provide technology integration opportunities for each of the over 250 students in our elementary teacher preparation program. These PDCs are essentially school/university partnerships designed around the universal themes of student achievement, accommodating diverse learners and school-identified improvement themes (i.e. Assessment, Technology Integration, Data-driven Instruction, etc.). They provide each culture (i.e. classroom teachers, prospective teachers and university faculty) a lens, and frequently a walkway, into the other. Classroom teachers become teacher educators while university faculty become immersed in the work of a classroom teacher. Likewise, prospective teachers have an opportunity to become part of a school-based community, a community beyond their university-based cohorts and a community that begins an enculturation process that will continue throughout their careers. PDCs are an example of how technology can be used in a process that is designed to promote intercultural understanding and catalyze enculturation into communities of practice.

Both examples have demonstrated success in achieving some of our intercultural education goals (Ferdig & Dawson, in press). However, achieving intercultural education within the field of educational technology is difficult for a number of reasons. First, there is not a tremendous body of collective research in the area. This is due, in part, to the fact that those interested in intercultural communication and education come from multiple fields (Hammer, 1989). Second, although exchange programs to intercultural education have existed for quite some time, they are relatively new to graduate education, particularly doctoral education. Both RCE and the PDC experiences have focused on

undergraduate or Master's level education; we had not had the opportunity to do much within doctoral education.

A third reason achieving intercultural education is difficult, particularly at a doctoral level, is because of differing education systems. For instance, at the University of Florida, our doctoral program consists of students taking a certain number of classes. At our London counterpart, there were no required classes; students worked with their mentors on their dissertation and took seminars when needed to promote their research.

A final difficulty in trying to build intercultural approaches systemically in our doctoral program relates to trying to understand the metaphor by which one attempts to change the curriculum. Does one view an intercultural experience from a "tourist's approach", providing a quick trip to the land, giving them opportunities to see cultural events, eat local foods, and see important landmarks? Or, does an intercultural approach mean something more intense, where a feeling of 'culture shock' is not only expected, but also welcomed (Brown & Davis, 2004)?

Prior to obtaining the ILET grant we attempted to implement tools and processes by which student could explore multi-level and intercultural perspectives. For example, "Foundations of Educational Technology", a required course for all educational technology majors, consisted of a series of videoconferencing sessions that allowed our students to communicate and collaborate with distant, reputable scholars on diverse issues in the field. This class, taken as an initial course in our program sequence, also provided an opportunity for our international students to share the educational technology context in their countries with their local peers as well as with distant colleagues via videoconferencing. We have been fortunate enough to gain student perspectives from a wide range of countries including Turkey, Kuwait, Taiwan, China and Egypt.

Yet, we knew this was not enough to build an intercultural core and the ILET grant was an innovative and welcomed opportunity to experiment with building transatlantic partnerships focused on doctoral education. Such a grant experience would give us an opportunity to explore this important challenge and hopefully provide research-based insight into integrating intercultural perspectives.

The initial ILET plan

Our initial plan with ILET was to exchange 5 doctoral students. We would send 5 students to London, Barcelona, or Aalborg, and we would receive 5 students from one of those places over the period of three years. Our traveling scholars would be doctoral students who would stay an average of three months in their choice of destination. In order to support their stay, the grant also funded the development of an online community that: a) helped prepare them for their destination culture; b) provided contact with those they would work with during their stay; and, c) interaction with all traveling peers during online reading seminars.

The online reading groups were both successful and challenging. They were successful because they provided students with two important perspectives within educational technology. First, readings were selected by an international audience. Therefore, students were exposed to readings, topics, authors, and journals that they may not have normally been introduced. Second, they were provided with interactions with peers from 5 locations. In doing so, they were introduced to perspectives that were much different than their own.

However, the reading groups also provided challenges. On the US side, reading groups could potentially be assigned as a part of class; because of the timing of the offerings and/or because of the incentives for students who were not required to take classes on the European side, finding a large group of students to participate was not easy. A second problem was the technology platform. The first reading groups were held on different technology platforms chosen by the discussion leaders for each series of articles. This resulted in cognitive overload as students attempted to learn how to use the platform rather than focusing on the discussion. A final problem was the language barrier. English was the spoken and teaching language of 5 of the 6 institutions; including students and faculty from Barcelona meant trying to find Spanish-speaking students within the other five universities.

Even with these constraints (which need to be addressed in future programs), the initial plans seemed successful. Students did participate in the reading groups; students from Florida reported that partaking in the activity was an important part of their educational growth. Numerous students were repeat attendees in later reading groups.

An unintended consequence for the educational technology program at the University of Florida came from the mandatory grant meetings that happened twice a year. The meetings provided an opportunity for faculty from diverse universities to begin to examine their own research from multiple perspectives. Conversations at these events also revolved around the notion of doctoral studies and benefits and disadvantages to each approach represented at the dinner meetings. Outcomes of these meetings not only produced written work (i.e. ILET partners publishing together in the *2004 World Yearbook of Education*) but also reflection on the current and future practices of the University of Florida program. Current and future students were impacted in two ways. First, they began to see the importance of international and intercultural collaboration as evidenced by members of the community of practice they were joining. Second, they were introduced to new curricula that occurred as an outcome of the reflective conversations in grant meetings.

In addition to these successes, students also traveled. We received one student from the Aalborg University. Camilla H. was a Master's student who joined us for a few months of study at UF. During her stay, she helped prepare materials for an international class we were developing, she provided insight and guidance on a summer institute we were planning, and she also developed her interests that culminated in applying to a doctoral program. During her trip back from the airport on the first day of her trip, she was openly critical about the United States and what it represented. On her final days prior to

departing, she shared how she still saw problems, but also saw the positives that each culture brought to the conversation.

The Summer Institutes

The previous section is entitled “initial plans” because during our first year and a half, no one had traveled from Florida. And, although some students had traveled (most from Europe to the US), we were not close to meeting our quota of student travel for the grant. We believe there were a number of reasons for outcome. First, doctoral students are generally advanced students with families. Leaving their families and homes for three months was not realistic. Second, at least on the America side, if they were early in their program, they were rigidly saddled with class work; if they were later in their program, they were preparing or collecting data for their dissertation and could not leave for an extended time period. Third, many Florida students had rarely been out of the country and embarking on such a trip during a time when the stresses of doctoral work already challenged work and family dynamics was often not feasible.

We discussed these problems at our second grant meeting in Halifax, Canada. Although some of these problems were US-based, we decided to try a new approach. We could not shorten the time during which they stayed. Our grants officers did not want this to turn into a variety of 10-14 day vacations for students. However, we were allowed to divide the visits into two trips. Therefore, we decided to host a Summer Institute in London during the summer of 2003. The goal was to bring 5-7 students from each institution to London for an intense period of study (~10 days). Students would have the opportunity to explore educational technology issues while they met other students from other cultures. They would also be doing this in London, which would be a new experience for most of the students. The hope was that this short initial trip would then provide students with contacts at other institutions. Students would also have had the experience of travel and would then hopefully be more likely to take a second trip for 1-2 months.

The summer institute held in 2003 in London was a great success from many perspectives. We developed an “International Perspectives on Educational Technology” class at the University of Florida to scaffold their development (discussed below). We took 5 students and 2 faculty members from the University of Florida to London. Students were required to make a digital narrative of their experience; they were also required to journal their stay. Journals reveal that students had a deepening awareness of the differences and similarities between Gainesville, Florida, and London, England. Most importantly for us, they began to examine both their doctoral education and their specific area of interest.

Unfortunately, and we knew this was a risk we were taking, none of the 5 students returned to London for an extended stay. One of the 5 students will be traveling to Barcelona in the summer of 2005. But, the goal of getting all 5 to travel was not met. It is obvious to us that through their writing (currently being analyzed), students gained a

depth of understanding that would not have happened under current teaching practices. Whether travel is required to accomplish those outcomes and the length of travel are both issues that we have not been able to resolve.

Due to the success of the first institute, a second was held at the University of Florida during the summer of 2004. Almost 30 students and faculty members from 6 different institutions attended the seminar. From our first experience, we learned that we had made the institute too long, and so we shortened the experience to one week. We allowed students and faculty to arrive on a Friday and visit the tourist attractions in Orlando. We then picked them up on Monday and held the institute in Gainesville until Friday. Students could then stay on longer and do more visiting if they chose.

From all practical perspectives, this was also a great success. Students were able to listen to a multitude of speakers, including the Dean of the College of Education, James Oliverio (director of the Digital Worlds Institute), and Dr. Ian Gibson, current president of *Society of Information technology & Teacher Education (SITE)*. However, students were also able to present their work and get feedback from peers and colleagues. One of the interesting comments that kept resurfacing was the difference in presentations between the US and European delegates. Audience members were very impressed with the theoretical approach and backing to the presentations from the European delegates; however, they had a multitude of questions about the practical implications of their work. Conversely, many of the American presentations were applauded for their practical outcomes but were questioned theoretically. Such a discovery led to important conversations about similarities and differences in graduate preparation, how technology was being used and researched, and how future collaborations could bridge different cultures.

In addition to these successes, students arranged their own trips with contacts they met at the institution. Two students have since visited Florida from Denmark and Barcelona. And, future plans include a third institute at the University of Barcelona. Unfortunately, there were problems. For instance, although Gainesville is a university town, there were very few cultural events during the Institute because it was held during summer break. Second, although we had raised awareness of the importance of intercultural programs, we still had not had a student leave Florida for one of our three European partner programs.

International Mini-Trips

Trying to determine exactly why we were having this problem was not easy. We returned, however, to our theoretical belief that we were enculturating people into a community of practice. In the fall after the summer institute of 2004, the second author had plans to make a trip to England to visit the Institute of Education as well as to conduct other research in Doncaster. Meredith D., a student who had attended the summer institute, had shared an interest in the use of video games in education, the purpose of the second author's trip. We determined that although the institute gave

students a chance to explore their research interests, they did not have an opportunity to legitimately participate in the community of practice. This was due, in part, to the number of students participating. It was simply too difficult to focus in depth on one student's interest area.

In addition, legitimate members of the community of practice get together to do work in their fields. For instance, the second author was going to England to build partnerships for research on the use of games in education. We needed (and need) opportunities for students to participate in those types of activities. As such, we decided that Meredith would make a mini-trip to England, joining the second author. Unlike some of our summer institutes that included time for travel and sightseeing, the entire purpose of the trip was to work with colleagues on research. As such, Meredith became a legitimate member of the ambient community; she was put into multiple situations where she had to justify and defend her research-based beliefs about the use of video games for teaching and learning. In doing so, she returned to Florida more clearly able to articulate her research interests and her future goals. Her peers, colleagues, and instructors all noticed the important growth in Meredith as she was able to identify herself as a member of the educational gaming community. She wrote the following, summarizing her experience:

“This was my first trip overseas and I found the experience both a rich and exciting one. I felt that this week spent in preparation for my return trip in May was critical. It offered me an opportunity to meet with faculty and doctoral students to discuss their areas of research... When I came back to the University of Florida I found myself returning with a more focused sense of my academic goals and a topic of research for my dissertation. I also returned with academic connections from the Education Institute that will facilitate my prompt start of work when I return to London in May, arrangement for email correspondence with those I anticipate working with have been made to ensure my personal goal of participating in research while I am there is satisfied.”

That is not to suggest that somehow the summer institutes are not valuable, but it does raise a question about how to measure (understanding the metric) and replicate the kinds of outcomes that happened with Meredith with large numbers of students. It also raises questions about how much time is necessary during travel, what events are important to plan in terms of student success, and how to build this into a doctoral program with limited or no funding.

International Perspectives in Educational Technology

Overall, the ILET grant has had a tremendous impact on the educational technology program at the University of Florida. Although we are currently in the evaluation phase, early results demonstrate that the partnerships that were built as a part of this program have offered both students and faculty members an opportunity to explore their research from multiple perspectives. However, there were two other outcomes that were indirectly related to the grant. We discuss these here because of their relationship (although indirect), but also because they may act as a model for those interested in intercultural programs in educational technology but who have limited or no funding.

The first unintended outcome was the development of graduate class entitled, “International Perspectives on Educational Technology.” The class was developed as a way to scaffold the student’s experience in the summer institutes. It was also developed as a way to create an accredited course that would last beyond the grant years. The course, generally taught in summer, is 6 weeks in length. During the first four weeks, we have three main tasks with our students. First, we provide students with an opportunity to explore educational technology from an international perspective. That entails finding readings that cover one topic from multiple perspectives. It also means selecting readings from international authors that are researching technologies (as entities or processes) that are not necessarily addressed within the cultural domain presented in US education or within US educational technology programs. Table 1 lists some of the topics and readings we cover in the course.

Course Topic	Readings for that Topic
Understanding cross-cultural research	<p>Le Roux, J. (2002). Effective educators are culturally competent communicators. <i>Intercultural Education</i>, 13(1), 37-48.</p> <p>Payne, M. (1996). Introduction: Some versions of Cultural and Critical theory. <i>A Dictionary of Cultural & Critical Theory</i>.</p> <p>Scribner, S. & Cole, M. (1978). Literacy without schooling: Testing for intellectual effects. <i>Harvard Educational Review</i>, 48(4), 448-461.</p>
What it means to study inter- and intra-culturally	<p>Cole - Chapter 5: Putting Culture in the Middle. Cole, M. (1996). <i>Cultural Psychology: A Once and Future Discipline</i>. Cambridge, MA: Harvard University Press.</p> <p>Geertz, C. (1973). Thick description: Toward an interpretive theory of culture. In <i>The interpretation of cultures: Selected essays by Clifford Geertz</i> (pp. 3-30). New York: Basic Books.</p> <p>Ingulsrud, J.E., Kai, K., Kadowaki, S., Kurobane, S., & Shiobara, M. (2002). The assessment of cross-cultural experience: Measuring awareness through critical text analysis. <i>International Journal of Intercultural Relations</i>, 26(5), 473-491.</p>
International Research on Educational Technology	<p>Nicolopoulou, A. & Cole, M. (1994). Generation and transmission of shared knowledge in the culture of collaborative learning: The fifth dimension, its play-world, and its institutional contexts (pp. 283-314). In E.A. Forman, N. Minick, & C.A. Stone (Eds.), <i>Contexts for Learning</i>. NY: Oxford.</p> <p>Kozma, R.B. (2003). Innovative practices from</p>

	<p>around the world: Integrating technology into the classroom. Paper presented at the annual meeting of the <i>American Educational Research Association</i>, Chicago.</p> <p>McIsaac, M.S. (2002). Online learning from an international perspective. <i>Educational Media International</i>, 39(1), 17-21.</p>
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Table 1: Sample list of Readings for “International Perspectives” Course

A second task is to help students explore and focus on their specific area of interest so that when they do travel, they will have the opportunity to make progress towards researching their area and discussing it with others. In some sense, we are helping them build their expertise in the international community by becoming aware of the terminology, research, and jargon associated within different cultures and communities (i.e. educational technology vs. information and communication technologies—ed tech vs. ICT) related to their area of interest. A third outcome is to help them prepare to travel overseas. Our experience suggests that students in our European partner universities are more accustomed to travel; our Floridian students have less travel experience, particularly related to international travel. Travel preparation includes safety, specific cultural differences (i.e. eating times), and relevant events and people in destination cities and universities.

This course has been successful in terms of preparing students to travel. Our goal is to explore how this course can be taught without having students travel.

Society, Technology & Culture

A second related outcome of the grant has been the continued development of a course entitled, “Society, Technology & Culture” (STC). Although this course was in existence before the grant was received, it has since been revised to build on the success of the grant. The purpose of the International Perspectives class is to examine current technologies from multiple and intercultural perspectives. Conversely, the STC course examines the impact of technology on society & culture (and vice versa) from more of an historical perspective. The two courses work in tandem to demonstrate the importance of a broad understanding of technology from multiple perspectives, both in present day and historically. A sample listing of some of the readings from the STC course can be found in Table 2.

<p>What is Technology?</p>	<ol style="list-style-type: none"> 1. Daniel Chandler's: "What is Technology?" 2. Washington State U: "What is Culture?" (Read the various sections of 'Defining Culture'.) 3. What is Society? 4. "Beyond Melting Pot and Tossed Salad" by Fernand Lubuguin, Ph.D.
<p>Media, Transformation, and Society</p>	<ol style="list-style-type: none"> 1. Dobres, M. (2000). <u>Technology and Social Agency</u>. Oxford: Blackwell Publishers. 47-95. 2. Slevin, J. (2000). <u>The Internet and Society</u>. Oxford: Blackwell Publishers, 11-26
<p>Media, Transformation, and Society</p>	<ol style="list-style-type: none"> 1. McLuhan, M. (2002). The medium is the message. In K. Askew and R. Wilk (eds.), <u>The Anthropology of Media</u> (18-26). Oxford: Blackwell Publishers. 2. Williams, R. (2002). The technology and the society. In K. Askew and R. Wilk (eds.), <u>The Anthropology of Media</u> (27-40). Oxford: Blackwell Publishers.
<p>Technology & History</p>	<p>Steinberg, T.L. (1990). Dam-breaking in the 19th-century Merrimack Valley: Water, social conflict, and the Waltham-Lowell Mills. <i>Journal of Social History</i>, 24, 25-45.</p> <p>Sverrisson, Á. (2002). Small boats and large ships: Social continuity and technical change in the Icelandic fisheries, 1800-1960. <i>Technology & Culture</i> [online], 43(2), 227-253.</p>
<p>Technology & History</p>	<p>Sharp, L. (1952). Steel axes for stone age Australians. In E. Spicer (ed.) <u>Human Problems in Technological Change</u> (69-90). New York: Russell Sage Foundation.</p> <p>Pelto, P.J. & Muller-Wille, L. (1973). Snowmobiles: Technological revolution in the artic. In P. Pelto (ed.), <u>Snowmobile Revolution : Technology and Change in the Arctic</u> (166-200). New York: Macmillan.</p>
<p>Technology & Change</p>	<p>Basalla, G. (1988). <u>The Evolution of Technology</u>. Cambridge University Press. (1-26, 207-217)</p> <p>Bruce, B.C. (1993). Innovation and social change. In B.C. Bruce, J.K. Peyton, & T. Batson (eds.), <u>Network-based classrooms</u>, 9-32. Cambridge University Press.</p>

<p>Studying Technology Change</p>	<p>Callon, M. (1987). Society in the making: The study of technology as a tool for sociological analysis. In Bijker, W. E., Hughes, T. P. and Pinch, T. J. (Eds.) <u>The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology</u> (83-103). Cambridge, Massachusetts: MIT Press.</p> <p>Besser, H. (1993). Education as marketplace. In Muffoletto, R. & Knupfer, N. (eds.) <u>Computers in education: Social, historical, and political perspectives</u> (37-69). New Jersey: Hampton Press.</p>
<p>Technology & Race/Gender</p>	<p>Green, V. (1995). Race and technology: African American women in the bell system, 1945-1980. <i>Technology and Culture</i>, 36, 101-143.</p> <p>Kleinegger, C. (1987). Out of the barns and into the kitchens: Transformations in farm women's work in the first half of the twentieth century (162-181). In B.D. Wright et al (eds.) <u>Women, Work, and Technology: Transformations</u>. Ann Arbor: University of Michigan Press.</p>
<p>Mediating Culture, Identity, & Relationships</p>	<p>Miller, D. & Slater, D. (2002). Relationships. In K. Askew and R. Wilk (eds.), <u>The Anthropology of Media</u> (187-209). Oxford: Blackwell Publishers.</p> <p>Ginsburg, F. (2002). Mediating culture: Indigenous media, ethnographic film, and the production of identity. In K. Askew and R. Wilk (eds.), <u>The Anthropology of Media</u> (187-209). Oxford: Blackwell Publishers.</p>
<p>Technology, Culture, and Computers; Technology & the Future</p>	<p>Lipartito, K. (2003). Picturephone and the information age: The social meaning of failure. <i>Technology & Culture</i> [Online], 44(1), 50-81.</p> <p>Stefik, M. (1999). <u>The Internet Edge</u>. MIT Press, Chapter 10: 253-290.</p>
<p>Technology & the Future</p>	<p>Ross, A. (1991). Hacking away at the counterculture. In C. Penley & A. Ross (eds.), <u>Technoculture</u> (107-134). Minnesota: University of Minnesota Press.</p> <p>Pretzer, W.S. (1997). Technology education and the search for truth, beauty, and love. <i>Journal of Technology Education</i>, 8(2). Available online.</p>

Table 2: Sample List of Readings for STC course.

In addition to the course readings, students view a number of movies during the course that examine the impact of technology on society & culture and vice versa. For instance, in “The Gods Must be Crazy”, a coke bottle is seen as the technology; the movie examines its impact on a South African bushman. Another potential movie for this class is “2001: A Space Odyssey.”

The final project for the class is for students to research the impact of a technology on society & culture (and vice versa) and to document that with their own film. Technology, society, and culture can be and must be defined by the student in their movie. This class has also demonstrated the success of using blogs in the classroom, with students blogging about their reactions to being challenged about the technology and the notion of progress.

Conclusion

Intercultural education and communication are important topics that must be addressed in 21st century education. Achieving such a goal is not easy, however, as explained here and in other research. We were fortunate to receive a grant to examine how to make this happen; yet for every question we answered a new one arose. Data that is currently being analyzed will provide more answers and undoubtedly more questions. However, there are some conclusions and suggestions that we can offer.

First, we re-emphasize the importance of working within a community of practice. An important outcome of our grant is that faculty members have had an opportunity to work together. This not only demonstrates successful intercultural participation in an existing community of practice, it also provides future funding opportunities that could include travel for students.

Second, there is an obvious opportunity to build intercultural programs through developing and implementing curricula that challenges students notions of technology, society, and culture from both current and historical perspectives. We have provided here lists of articles that have challenged our students.

Finally, we end this article by drawing on the work of George Howard (University of Notre Dame). Howard (1996) describes three writings we could make about ourselves. The first is an autobiography that tells the story of our past. The second talks about our current situation. A third is a teleography, which is a future fictional autobiography. We can use these stories to help guide our future development. The autobiography tells us what mountain we are on; writing about our current situation tells us how high up we are on that mountain. And, our teleography is likened to a grappling hook that pulls us towards a higher point on that mountain.

Howard’s work is useful for two reasons. First, it helps us understand that we need to make intercultural education an explicit goal and an important part of the future story that we tell about the development of our programs. But, secondly, Howard’s methodology may be an important tool for helping students attain a multicultural perspective in becoming part of the ambient learning community. There is some evidence from our

work in the summer institutes that having students tell stories about their experience is a useful metric to measure intercultural growth. But, it also forces them to state who they are and who they wish to become in terms of research interests; this gives them a story to share with others and a story space to listen to others' stories.

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