

## Intercultural Technology Education for Preservice Teachers in Namibia and New Jersey

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### Abstract

This case study of current practice describes a virtual cross-cultural collaboration in the development of an undergraduate teacher preparation course in educational technology. In an effort to increase the cross-cultural and technological awareness necessary for 21st-century teachers, the authors collaborated on the design and development of an online course that was delivered to preservice teachers in the US and Namibia. All course content was designed as reusable learning objects, with material and assignments being vetted by authors in both Namibia and the US to minimize cultural bias and to ensure relevance and appropriateness for students in both countries. This paper describes design and ethical issues and related decisions during the course development and the first semester of delivery online. During fall 2004 students from William Paterson University in New Jersey and four colleges of education in Windhoek, Rundu, Ongwediva, and Caprivi in Namibia took the course together.

For teachers in today's international, technological world, the challenges of preparing their students for 21st-century citizenship means that they themselves must be ready to benefit from and contribute to the shared global experiences now made possible by technology. For new teachers being trained in developed countries such as the United States, this may mean an increased emphasis on intercultural understanding and awareness, in addition to being able to use information and communication technologies (ICTs) effectively in their classrooms. For new teachers being trained in developing countries such as Namibia, the emphasis may be on the use of ICT skills in order to help bridge the digital divide (Solomon, Allen, & Resta, 2002), but the need to connect with peers in other cultures is just as relevant. As Davis (1999) argued, there are three reasons why this connection is important to all new teachers:

- Education, as with all modern social systems, now operates in a global context.
- ICT and, in particular, interactive distance learning technologies, can be easily used to increase access to education on a global scale. This is especially important for previously undeserved nations and communities.
- Providing preservice teachers with an opportunity to learn from peers in other cultures may help them gain a better understanding of their own educational culture and the social, economic, and political context that affects it.

This paper discusses the development of a course whose aim is to prepare preservice teacher candidates in Namibia and New Jersey "for productive citizenship in an increasingly global economy and technological world" (William Paterson University [WPUNJ], 1998). The course, therefore, has two major goals: (a) to help students understand and effectively use technology in their teaching and learning; and (b) to help students broaden their understanding of and responsibility to the world they live in.

For the first goal, in addition to the educational technology content, the course will immerse students in an online learning experience in which technology is used in a compelling and authentic manner to enhance learning. This course may serve as a model for teacher education programs looking to promote information and communication technology experiences for preservice and in-service teachers (United Nations Educational, Scientific and Cultural Organization, 2002). A major goal for both the United States Department of Education (2003; in the Preparing Tomorrow's Teachers to Use Technology program) and the Namibian Ministries of Basic Education and Higher Education (Ministry of Basic Education, Sport and Culture [MBESC] & Ministry of Higher Education, Training and Employment Creation [MHETEC], 2004), is the need for preservice and in-service teachers to attain appropriate technology skills for ensuring the achievement of necessary technological literacy by tomorrow's citizens. This goal will be of particular importance to new teachers in developing nations where the digital divide threatens to keep their students even further disadvantaged in the global economy.

For the second goal, the online technology will allow students to communicate with and learn from peers who are literally on the other side of the world, thereby giving them insight and understanding into the needs of learners globally. In particular, an intercultural learning experience will help teacher candidates in developed nations gain an even greater appreciation for the diversity of their K-12 students (many of whom are recent immigrants to the United States), in addition to comprehending their responsibility on a global level. As New Jersey schools grow even more linguistically and socially diverse, future teachers need to "understand the practice of culturally responsive teaching" (New Jersey Department of Education [NJDOE], 2004a), as well as understand the importance of international education (NJDOE, 2004b).

The development of this course and all the materials used in it took place from May to August of 2004. A pilot, which includes students from WPUNJ and the four colleges of education in Namibia (at Windhoek, Rundu, Ongwediva, and Caprivi) was run during the September to December 2004 semester (fall for WPUNJ students, third semester for Namibian students). This pilot was cotaught by the first author, with staff from the National Institute for Educational Development (NIED) in Namibia and support from a teacher educator at each of the four colleges of education.

### **Background**

The first author teaches undergraduate and graduate courses in educational technology at William Paterson, a state university celebrating the 150th anniversary of its inception as

the Paterson City Normal School. One of these courses, Technology Across the Curriculum, is a required course in the elementary education (K-8) initial certification program and is now even more important with the recent adoption of *Core Curriculum Content Standards for Technological Literacy* by the state's Department of Education (NJDOE, 2004c).

The first author is also concerned about the digital divide and has spent two summers in Namibia to volunteer her expertise there. In the summer of 2001, she taught computer and Internet skills to teachers and students in primary (grades 1-7), junior secondary (grades 8-10), and senior secondary (grades 11-12) schools in Namibia and also mentored student groups at these schools in creating Web sites as part of a Domestic Violence Awareness Campaign (SchoolNet Namibia, 2001). In 2003, she returned to Namibia to present workshops for members of the faculty at the University of Namibia. (She was also able to bring a large number *National Educational Technology Standards for Teachers* brochures (International Society for Technology in Education [ISTE], 2000b) donated by ISTE with the help of Dianne Porter-Lord).

During these visits, she established contacts at SchoolNet Namibia, the faculty of education at the University of Namibia (UNAM), and NIED. NIED is a governmental organization under the Ministry of Basic Education and is responsible for primary and secondary school curriculum development and deployment, as well as the development of resources for preservice student teachers and professional development for in-service teachers and administrators. The first author was particularly impressed by the progress made given the country's young age. Namibia was occupied by the apartheid South African government until 1990, and during this time majority populations had little access to facilities and devices that most Americans take for granted. Whereas the question in other developing nations might be asking why money should be spent on putting technology in the schools (Lelliot, Pendlebury, & Enslin, 2000), the question in Namibia was how fast can technology be put into the schools and what is the best way to do this? (MBESC & MHETEC, 2004)

The second author, along with other collaborators at NIED, works on the Initiative for Namibian Education Technology (iNET; NIED, 2003), funded by the United States Agency for International Development (USAID). One of the goals of the iNET project is to expand the availability and use of ICTs for preservice and in-service teachers and teacher education programs. They work with staff and faculty members at the four colleges of education in Namibia who are responsible for the preservice Basic Education Teacher Diploma (BETD) programs. The BETD is the basic qualification for all Namibian grade 1-8 teachers. The BETD is also offered as an in-service program for unqualified or underqualified teachers in Basic Education and seeks to strike a balance between professional insight and skills and subject knowledge. Currently, students in the BETD program may take the Integrated Media and Technology in Education course; however, this course is in need of revision, as it has not been updated to utilize ICT systems, which are beginning to be available in Namibian schools.

For the second author, this project will also provide a model for further online teacher education courses. Expanded teacher education opportunities will benefit Namibia, where the legacy of apartheid and history of inferior schooling for majority population groups is now coupled with the impact of the HIV/AIDS pandemic, which threatens to significantly deplete the number of qualified teachers over the next decade (Kinghorn et al., 2002). Online teacher education programs are becoming feasible as the technology infrastructure in Namibia advances (Bateman, 2002) and nongovernmental organizations such as SchoolNet Namibia continue to install networked computers in primary and secondary schools around the country. These installations are supported in

large part by a grant from the Swedish International Development Cooperation Agency (Ballantyne, 2003) and, more recently, through a Global Development Alliance award from USAID.

### **Virtual, Cross-Cultural, Collaborative Course Development**

It was decided that the WPUNJ Technology Across the Curriculum course would be revised for online delivery and that all the content material and assignments would be developed as reusable learning objects, licensed under the Creative Commons Attribution-NonCommercial-ShareAlike License (Creative Commons, 2002). This licensing would make it possible to offer the course to students in both New Jersey and Namibia and also possible for the content to be reused in future Namibian BETD courses. However, the intent was that educational material would not simply be handed down. As an African leader eloquently summed it up, "You cannot be part of the global village by just sitting and waiting to be 'globalized' .... We want to be the globalizers" (Useem, 1999, p. A52). Accordingly, collaborators at NIED worked with the first author to ensure the relevance and appropriateness of all the material and assignments for their students and to minimize US-centric bias.

The first author and NIED collaborators used WPUNJ's Blackboard Learning Management System (<http://www.blackboard.com>) as a scaffold to hold material while it was being developed from May to August 2004. All communication used email and Blackboard discussion boards. Although this worked relatively well, there were problems in downloading some of the documents from Blackboard for the NIED collaborators. The virtual nature of the course development between the collaborators gave them firsthand experience with some of the frustrations students were likely to face. While the technology made the development collaboration possible, it was not without its own drawbacks. Telephone communication was impractical due to cost and time zone factors. Email communication was often intermittent from Namibia, and the impoverished nature of email text lacked the cues possible in face-to-face or even telephone communication. Additionally, the first author made assumptions as to who was doing what and an assumption that collaborators in Namibia were all keeping each other informed. However, all the collaborators had many other conflicting priorities and responsibilities, and it became easy to forget a project that did not have an embodied presence. These factors, coupled with cultural differences in conceptions of urgency made the collaboration stressful at times.

Recommendations for future virtual course development collaborations include (a) a weekly, brief, synchronous online meeting to ensure that everyone is on the same page and (b) an upfront agreement from all parties (and their administrations) to a timeline of what gets done when and by whom. This agreement should optimally include a memorandum of understanding that explicitly spells out responsibilities, as well as resources (time, technology) for all involved. It also remains questionable whether a course developed for Blackboard can be effectively ported to another online learning management system, as suggested by the current efforts in reusable learning objects and standardization of learning technologies (Advanced Distributed Learning, 2003). This issue will be of particular importance to educational institutions in Namibia and other developing nations, as they may install a free, open source software learning management system such as ATutor (<http://www.atutor.ca/>), rather than a proprietary system such as Blackboard, due to the price factor.

### **Meeting the Course Goals: Preparing Teacher Candidates to Use Educational Technologies and Moving Towards Global Digital Equity**

The question of what constitutes a "global curriculum" in educational technology has been raised before (Hagenson et al., 2004) but has special meaning in this case, since New Jersey and Namibia are diametrical opposites on economic as well as racial and cultural (not to mention geographical and seasonal) measures. Although some differences were relatively trivial (Is it a *floppy* or a *stiffy*? Is it a *VCR* or a *video machine*?), there were more consequential differences. The Technology Across the Curriculum course addresses New Jersey technology literacy standards, most of which are based on the U.S. *National Educational Technology Standards for Students* (ISTE, 2000a) and the *Information Literacy Standards for Student Learning* (American Library Association & Association for Educational Communications and Technology, 1998). Due to the influence of the US these standards are somewhat global, and they are in alignment with the ones being developed by NIED and the MBESC. Other New Jersey technology standards, however, focus on technology education and are based on the *Standards for Technological Literacy* from the International Technology Education Association (2000). The aim of these standards is to position New Jersey students for careers in the many high-technology industries in the state, including ones it hopes to attract with a well-prepared workforce. Certainly, decisionmakers in Namibia share these goals, but not the timeframe for meeting them.

Additionally, a main assignment in the course was to have students create a technology-infused unit plan with the expectation that they would have the necessary technology available to them in their own K-12 classrooms. For the New Jersey students, it was likely that they would find jobs in schools in which there was at least one computer in their classroom or perhaps a computer lab available for their students. In contrast, the students at the colleges of education in Namibia were more likely to find teaching jobs in schools with no computer and possibly limited telephone and electrical infrastructure. Is it unfair to ask them to complete a what-if assignment knowing that they may not have a chance to use it? Similarly, it was unclear as to how in depth the course had to go when covering basic technology operations and concepts, especially since Namibian students were unlikely to have any technology available once they started teaching.

After reflection, the project leaders decided that having a basic understanding of computer and networking technologies may be even more important for teachers in Namibian schools than in New Jersey schools, since in the former the technical support personnel are literally few and far between. As organizations like SchoolNet Namibia continue to make headway in installing computers in Namibian schools, the Technology Across the Curriculum course could produce teachers who were able to do basic onsite troubleshooting. Likewise, teachers in Namibian schools, unlike their cohorts in New Jersey schools, would probably not have the services of a technology coordinator to help them integrate technology into their teaching and, again, would be on their own to do this.

Time will tell as to whether the Namibian students in this course will be able to help their students attain the technological literacy that will allow them to succeed in the global workplace. Notwithstanding, it will continue to be imperative that organizations such as the International Society for Technology in Education, the International Technology Education Association, and the Society for Information Technology and Teacher Education keep students such as these in mind as they develop agendas and standards that can either widen or bridge the digital divide.

### **Meeting the Course Goals: Exposing Teacher Candidates to Intercultural Education**

While developing the course materials and assignments, the first author and NIED collaborators looked for ways to weave intercultural issues into the course. For example, the discussion for the session on technology literacy standards asked the questions, "What is the digital divide?" and "How necessary is it for children around the world to be technologically literate?" In a session on teaching standard office applications, the discussion considered the following:

What is the best way to teach basic computer applications? Does this depend on the student's situation? Pick one type of student (a Namibian student in a rural school, a Namibian student in an urban school, a US student in a suburban school, or a US student in an urban school) and brainstorm on ways you might help that student learn a standard application.

In a session on digital media students discussed the copyright and fair use laws, including the following questions:

- What are the laws in the US or Namibia?
- How have these been affected by the use of easy-to-copy digital media?
- What do you as a teacher need to know?
- What do your students need to know?

Similarly, assignments were designed to get students to share their background with others, for example, an assignment to create a reusable learning object (in the form of a PowerPoint presentation) on their hometown.

All assignments and discussions were posted online for sharing with classmates. There were, however, no assignments that explicitly required students to collaborate. It turns out to be a fortuitous decision because of the lack of robust Internet service in the Namibian colleges of education, which is another aspect of cultural context. The college in Ongwediva was not connected to the Internet until a month after the course started. Even after all colleges were connected, there were many times when students in all four Namibian colleges could not log into Blackboard. This will become less of an issue as connectivity issues are resolved. However, it would have been discouraging for all students to have graded assignments held hostage by erratic technology. In some ways, the frustration felt by the first author during the virtual course development period would have been repeated, and it did not seem fair to subject her students (both WPUNJ and Namibian) to this. Furthermore, since Namibian students were not taking this course for credit, they had no leverage to insist that the technology get fixed. A recommendation for future courses would be an explicit statement in the memorandum of understanding that would require staff at the colleges of education to ensure that technology and connectivity was always available.

Classroom issues also caused challenges. In the past, students were required to respond at least once to a classmate's posting. In this course there was no explicit requirement that students respond to (or even read) each other's postings, other than the incentive of extra credit. The authors expected that WPUNJ students would be curious to read what Namibian students had to say. Apparently, responding to a posting needs to be a requirement. Although Namibians were likely to read and respond to WPUNJ postings, the reverse was not common.

The lack of symmetry raises ethical questions. The experience thus far has been that WPUNJ students will respond but only to other WPUNJ students whom they know. Does requiring them to respond to a Namibian student create an artificial situation, since there are far less Namibian students in the class than WPUNJ students? Furthermore, the first author often found herself wondering if she was using the Namibian students—expecting that their responses on questions like the digital divide would be the way to open WPUNJ students' eyes. Certainly Namibian students have a much deeper and more personal understanding of the digital divide, but is it fair to make them the poster children for this and similar issues? The first author's main goal for having Namibian students in her class was to enrich the learning experience for her New Jersey students. Is this exploitive, given that Namibian students probably want to be treated just like New Jersey students (and are certainly familiar with what that means, given the amount of US television, music, etc., that floods Namibian media)?

An even more difficult ethical issue arose when the first author noticed that one of the Namibian students consistently responded to discussion questions by repeating what was in the lecture notes for that session. This style of rote learning (instructor speaks, students repeat) was common for most nonwhite Namibian children under apartheid. In a face-to-face classroom, this could have been the jumping point to get students to explore the ways they were taught and how that affects the ways they will teach, especially since most WPUNJ students were not taught in this manner. However, given the impoverished nature of online communication and intermittent Internet connections in Namibia, would it have been fair to pursue this course of discussion? The authors still believe that students from both countries can gain a better understanding and appreciation of global educational issues, as well as a broader and deeper perspective of the issues that they will face in their own classrooms.

In the future, the authors plan to negotiate a memorandum of understanding between WPUNJ and the Namibian colleges of education in order to substantiate, support, and formally recognize future intercultural course offerings. Over the coming months, the authors will be analyzing and methodically evaluating the discussion postings and assignments from the students once the pilot course finishes. However, one thing is becoming clear: While the technology does make addressing the goals of global digital equity and intercultural education possible, underlying implications and ethical challenges must be carefully thought through.

### Endnote

<sup>1</sup>Namibia distinguishes between Grade 1 -12 students and tertiary education students by referring to the former as learners and the latter as students. The term *student* is employed for both groups throughout this paper.

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