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ABSTRACT

This paper describes the use of technology by students and their instructor in a course on multicultural education at Gallaudet University (District of Columbia). In the course, Multicultural Foundations of Education, each technology-based course component is designed to satisfy a specific constructivist learning objective. Students engage in online discussions to enhance and reinforce multicultural content learning, explore and develop Internet resources that address a wide spectrum of cultures, and become contributors to a knowledge base accessible worldwide. The instructor uses online libraries for class readings, as well as for resources for students and resources related to multicultural education. The use of technology in a multicultural education course allows students to enact a way of being engaged in the world that is essentially multicultural in spirit. When used consciously to create a more student-centered classroom, it allows the instructor and students to engage in a constructivist approach to teaching and learning. (Author/AEF)

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# Beyond the Learning Tool Paradigm: The Computer as a Medium in a Technology Enhanced Multicultural Education Course

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**Abstract:** This paper describes the use of technology by students and their instructor in a course on multicultural education. In the course Multicultural Foundations of Education, each technology-based course component is designed to satisfy a specific constructivist learning objective. Students engage in online discussions to enhance and reinforce multicultural content learning, explore and develop Internet resources that address a wide spectrum of cultures, and become contributors to a knowledge base accessible worldwide. The instructor uses on-line libraries for class readings, as well as for resources for students and resources related to multicultural education. The use of technology in a multicultural education course allows students to enact a way of being engaged in the world that is essentially multicultural in spirit. When used consciously to create a more student-centered classroom, it allows the instructor and students to engage in a constructivist approach to teaching and learning.

## Introduction

At Gallaudet University, the world's only liberal arts university for deaf undergraduate students, a strong obligation exists to press forward in the development and implementation of innovative technologies to support and model visually rich multimedia and hypertextual learning environments. Professors in Gallaudet's graduate programs, which accept not only deaf, and hard of hearing students, but also hearing students, are strongly encouraged to integrate technology into their teaching, and we continually explore ways to enhance our teaching with new technology-based methods and resources to empower visual learning and visual learners.

For those of us who teach in the School of Education and Human Services, NCATE (National Council for Accreditation of Teacher Education) requirements oblige us to indicate in course syllabi how technology is included in the course. At the same time, the guidelines or case studies demonstrating methods for technology integration which address the learning objectives of highly specialized course topics are few. A wider array of models demonstrating how technology can be used effectively to enhance the course teaching is needed. Meanwhile, pedagogical appropriateness and planning for technology training may be overlooked in the rush to mark that "I teach with technology" checkbox done.

The course instructor developed several technology components for the course she teaches on multicultural education. With the support from the Mellon funded Technology Fellows Program, Gallaudet University created the Technology Fellows Program for faculty members who were committed to technological enhancement of their teaching. Over a period of 2 years beginning in the fall of 1996, the

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instructor, the first author, worked with an educational technology specialist, the second author, to accomplish this project.

## **Use Of Technology to Support Constructivist Pedagogy**

The appropriateness of the use of discipline specific software applications may be a given in the sciences and mathematics. However, designing appropriate use of technology in classes in other disciplines may require more innovative teaching strategies. Traditionally courses in schools of education, other than courses in computer literacy and applications, have not integrated technology into course content and goals

The landscape of educational technology has been transformed in the few years from the pre-eminence of stand-alone applications, typically with a drill and practice activity focus to "weblications" supporting more active and participatory learning (Dede, 1996). New tools designed specifically to support peer to peer interaction, tele-mentoring, and information sharing, as well as the burgeoning of the Internet for academic publishing, are altering the educational landscape to allow support for more constructivist teaching practices (Berge, 1996; Berge & Collins, 1995).

Two perennial questions, which have shaped the evolution of our plan for integration of technology at Gallaudet, are:

1. What purpose does the instructor's use of technology to deliver course content serve?
2. What impact does requiring students to use technology to accomplish course objectives have on both their current academic success and on their future professional growth?

These questions have been at the core of the integration of technology into the course to be discussed, Multicultural Foundations of Education, as will be shown later in this paper.

Constructivist pedagogy demands that teachers not rigidly follow a textbook, plan in an experimental spirit, and is concerned with seeing that meaningful activities occur in the classroom rather than worry about complying with pre-set objectives at all times (Henderson, 1996). Technological innovation in classroom is a good fit with this pedagogical style. Those of us who teach with technology know that we must anticipate the possibility that something will not work the way we want it to when we want it to. A constructivist educator may be more willing to take the necessary chances that the integration of technology into their teaching requires.

## **"Education That Is Multicultural" and Technology in the Classroom**

Technology has direct applications to multicultural issues that may not be immediately apparent. The following excerpt from *Brave new schools: Challenging cultural illiteracy through global learning networks* describes applications of technology that are central to multiculturalism:

...previously silenced voices can now be raised and heard as a result of the greater recognition of human rights and freedoms in industrialized societies during the past 30 years. Modern communications technology permits these voices to be amplified, so that they have become harder to ignore. Official versions of history and even the myths that form the foundation of nationhood are being challenged both inside and outside the classroom. (Cummins & Sayers, 1997, p. 5).

The goals of the course Multicultural Foundations of Education include a focus on issues of educational equity and educational reform in the United States. Because the students are preparing to work as teachers of the deaf as well as school psychologists, and administrators, they learn about theory and practice of multicultural education in K-12 general education and the application of multicultural practice in the education of deaf students. The instructor's goal for herself is to be a model of multicultural competence in her management of the class, teaching, and interactions with students. A constructivist pedagogy allows the co-construction of knowledge to occur with students learning from one another, and the instructor learning from her students. A teacher-centered autocratic classroom is not practicing "education that is multicultural".

What does it mean to practice “education that is multicultural”? This is an educational approach that is philosophically aligned with constructivist teaching. Rather than focusing on teaching students finite bits of information about various cultures in our country, education that is multicultural should be democracy in practice, and promotes social equity and equal educational opportunity (Davidman & Davidman, 1997; Sleeter & Grant, 1999). An educator who is preparing future teachers to be culturally competent must teach with a multicultural perspective. This means she must model respect for differences of many kinds including differences of belief, learning styles, races, gender, age, class and more. At Gallaudet University, it also means the instructor must accommodate differences in language and communication mode – spoken English or sign language- and the hearing status of students—hearing, hard of hearing or deaf.

Although there are quality commercially available products such as CD-ROMs available that focus on topics such as Black History or Labor History, these are not used in the course. The focus is on creating new multicultural resources that can be accessed by anyone - K-12 students, teachers-in-training, teacher educators, parents, community agencies, and others interested in multicultural education, and deaf education and Deaf culture. These resources will help meet the critical need in deaf education for information as well as materials on multicultural issues in the Deaf community and schools and programs for the deaf. Approximately 42% of the school-age deaf and hard of hearing student population is from racial, cultural and ethnic diverse backgrounds which has created the need for this information and the Internet provides an ideal vehicle for rapid its dissemination. Rather than have students create projects in paper form, which will be seen by very few people, the Internet allows their work to become resources for other educators in all corners of the country (and world). In this course, the World Wide Web is also used to access a wealth of information relevant to multicultural education. This is done through the use of on-line readings in the course syllabus, the creation of a multicultural resource web library, and by requiring students to use on-line sources for their final paper, which is a case study of a culturally diverse individual.

## Technology Applications

In the course, each technology-based course component is designed to satisfy a specific constructivist learning objective. Students engage in online discussions to enhance and reinforce multicultural content learning, explore and develop Internet resources that address a wide spectrum of cultures, and become contributors to a knowledge base accessible worldwide. In so doing, they enact a way of being engaged in the world that is essentially multicultural in spirit. Specifically, students meet these objectives by:

1. Participating in an asynchronous electronic discussion forum where students initiate, online discussion of topics brought up in class, in readings, on campus, as well as in the real world that are relevant to multicultural issues.
2. Working collaboratively in student organized groups to develop web projects that offer resources on multicultural issues for educators, students, parents and the Deaf community.
3. Contributing to and utilizing an Internet multicultural resource library.
4. Reading relevant articles by scholar and practitioners in the field.

Using technology created by Collegis, the Learning Technologies Unit at Gallaudet University has created the Gallaudet Dynamic Online Collaboration system (GDOC). The GDOC system includes the Discussion Forum (an asynchronous online discussion), the Course Center (a database of course materials), and the Resource Library (an annotated dynamic listing of Internet resources). One week of training for the GDOC databases was offered to a pilot group of faculty last spring and summer. Some faculty has begun to use the Discussion Forum. Departments, as well as individual faculty members, are constructing Resource Libraries in their disciplines or for courses. Gallaudet is establishing a syllabus repository (password protected) which will allow instructors to create electronic versions of their syllabi with hot links to readings. Requiring students to use technology to satisfy course objectives in a course that is not about technology presents a number of challenges. Ensuring access to computers, estimating the time needed from both instructor and students to respond to the changes that occur when technology is integrated into the course, assessing technology training needs, and ways to shoehorn technology training into already crowded syllabi are all issues to be addressed. In this course, one class session out of 14 is

dedicated to orientation to the technology used in the course. Students are encouraged to take advantage of training provided by the Learning Technologies Unit in designing a simple web page.

### **Discussion Forum**

The Discussion forum is designed for asynchronous communication. It is similar to a list-serv in that threads (groups of related messages) are created and continued by discussion group members themselves, that the membership is limited to those registered, and the degree of monitoring and shaping of content by the moderator can vary. In this multicultural course, the instructor allows the students wide autonomy to raise and address emerging topics. There can be additional discussion of videotapes shown in class, debate about issues studied in that week's class or sharing of personal reactions to current events as illustrated here:

As I mentioned in class, K. and I decided to go to the vigil the other night in memory of Matthew Shepard. I was deeply saddened by the entire experience. Sad that such a sick, horrible crime had to occur at all, sad that there was a need for a vigil, and sad that we have to fight to have an anti-hate crime bill to be passed. It was said the other night at the vigil, and I couldn't agree more. In the Declaration of Independence it says..."We hold these truths to be self-evident, that ALL men are created equal, that they are endowed by their creator to certain inalienable rights, that among these are LIFE, LIBERTY and the PURSUIT OF HAPPINESS." Why is it that many, many years ago, our forefathers thought to include this when creating America, yet today, in the 1990's people are STILL being denied these rights? Perhaps as a member of a minority group, I am even more affected by this heinous act...perhaps because I could imagine that happening to me...maybe I'll encounter someone that hates Jews and decides that I don't deserve to live, because I am different than they are...after all, Nazi Germany didn't happen that long ago. Someone in class asked me and K., I think it was L., why we went to the vigil. Beyond being curious, how could we NOT go? How can any of us sit idly by and allow people to torment and terrorize other people? It doesn't matter that K. and I are not gay, because it goes far beyond a gay/straight issue. It is about rights, of all human beings, no matter what their race, religious beliefs, etc. may be. Wow, this is getting really long. I'll get off my soapbox now...any comments? : )

The discussion forum has a number of benefits. Some students, particularly hearing students who are not fluent yet in sign language, are more comfortable participating in an on-line discussion where they can express themselves in writing. Because it is asynchronous, they can wait to submit a response (to post) in situations in which they are not sure they are being clear. When a debate or discussion occurs face-to-face in the classroom, they may worry about their ability to make themselves clear using sign language, having their intent misinterpreted, or blurting things out they haven't thought through. The asynchronicity provides a reflective environment, which allows them the time to think about what they want to say and how to say it.

This discussion forum is a student-guided activity, but instructors have options to use the discussion forum in a several distinct ways. Those instructors who want to control the discussion may establish the threads or assign topics. Instructors have options to evaluate the content of student contributions and grade them. In the multicultural education course, participation is a course requirement, although not all instructors choose to require participation.

### **Resource Libraries**

Resource Libraries are dynamic, collaborative, annotated collections of Internet resources and websites. Students in the class as well as any visitor to the Resource Library can suggest resources. They served several functions in this course:

1. As an adjunct to an electronic syllabus, an electronic library of on-line readings was set up.



2. For specific in-class activities and topics, special categories were set up in the on-line library.
3. The instructor-maintained Multicultural Resource Library with over 200 links to multicultural topics was made available to the larger community through the WWW.

For an in-class activity on bilingual education and language diversity, a set of links was added to online articles and websites. This kind of modification can be done in a matter of minutes using the GDOC system. Both the Resource Libraries and the Course Centers have templates that faculty can fill in to allow the addition of new information and content automatically. The system is dynamic, as its name, Gallaudet Dynamic Online Collaboration, suggests. Students and others who want to suggest (add) resources to the Multicultural Resource Library may fill out a template. However, the instructor must approve new suggested resources before they are added to the course's Resource Library. The instructor may also tally a listing of all resources by contributors which is a convenient feature for assessment at the end of the semester.

### Web Projects

Students are required to construct websites in the course, working collaborating on a topic approved by the instructor. All the students are encouraged to learn simple web page construction, but the instructor suggests that students form web project groups that include a class member who has the web authoring skills or the interest to learn. Since adding this requirement in fall semester, 1996, the improvement in available Internet authoring tools has reduced students' anxiety about the assignment and improved the quality of student work. The web projects replace paper projects the students formerly did and shared only with their classmates and instructor. Now they can share their work with the world. Student web projects are stored on a department server in order to preserve the sites after students leave the university.

Students' adjustment to some of the technological changes has been slower. Many continue to feel the need to make paper copies of on-line readings. This is sometime a good idea as sites come and go and the information may not be there the next time they go to look for it. As the instructor continues to find better solutions to some of these problems, the use of on-line readings could expand to on-line activities of other sorts.

### Conclusion

The integration of technology into a course on multicultural education has been challenging, but extremely rewarding to both students and instructor. Although the instructor is a self-described Luddite (a term reviewed in the first class), these learning technologies have proved their worth in promoting active learning – both the students' and the instructor's – and at the same time provided a lasting resource for the students and the larger community of educators and parents. A few students have considered the course too technology intensive, but many more students have come to the course enthusiastic about the prospect of developing a website and sharing their work with the world. This learning environment requires the instructor to continue to learn new technology tools and pedagogies alongside her students, and in that way, as well to model the constructivist philosophy espoused in her teaching.

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