TRANSFORMATIVE EXPERIENCES THROUGH INTERNATIONAL SERVICE LEARNING

by

TEL AMIEL

(Under the Direction of Michael A. Orey III)

ABSTRACT

The integration of technology into education has been seen as a way to solve a myriad of educational problems. Research in the field has traditionally created, modified, or evaluated the application of technological devices to solve an educational problem. The focus has been, for too long, on the devices that now permeate every facet of teaching and learning. We must cease to support technology as an end unto itself within the field of education. There is a need to reevaluate our commitment to investing in educational technologies insofar as they support our ultimate educational objectives. These studies comprise a report on how educational technologies can be applied through value-based research, by illustrating the case of a Brazil-United States cooperative program focusing on technology integration in public schools.

A four-year cooperative program between Brazil and the United States is used to illustrate this framework for technology-based projects in schools. This undergraduate exchange program was focused on promoting cross-national collaboration using educational technologies available in schools. Over a dozen semester-long projects were conducted, connecting students in Brazil and the United States to dialogue about important cultural concerns such as racism, drug abuse, recycling, and value-systems. A series of studies resulted from this cooperative program.

The results reported here are three fold. First, a collaborative model was devised from the experiences over two years of school-based projects. The model emphasizes the dynamics of collaboration between university faculty, schoolteachers and undergraduate students. Second, a new course entitled Multicultural Perspectives on Technology was designed, implemented, and evaluated. The results indicate that it was successful in providing the foundations for students to develop projects aimed at teaching for diversity. Finally, the impact of the program on three of the undergraduate students was analyzed. These three cases provide a model for transformative learning that can be used to investigate the experiences of participants in international service-learning programs such as this. Importantly, participants changed perspectives along five dimensions: *educational, spiritual, cultural-global, socio-political,* and *personal*.

These studies collectively present a framework for the development of cross-national projects that emphasize the use of available educational technologies in public schools. Partnerships can be established between universities in order to foster cross-national collaboration between local public schools. The results of these studies indicate that these partnerships are feasible, can promote valuable projects using educational technologies, and have lasting impact on the participants.

INDEX WORDS: Educational Technology, Digital Divide, Brazil, Technology Literacy, Technology Fluency, International Service-Learning, Design-Based Research, Development Research, Multicultural Education

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Introduction

This dissertation is written in a non-traditional, article-based format. This prologue is intended to discuss how the collection of articles fit into one cohesive research program. A total of five articles have been prepared. Figure 1 details the funnel structure that was followed, beginning with a broad philosophical consideration on research in educational technology into the final empirical study on the experience of students in a technology integration service-learning program. The first two articles are depicted as separate from the bottom three, as they function as an introduction to the latter collection of three articles. These are discussed below, in turn.

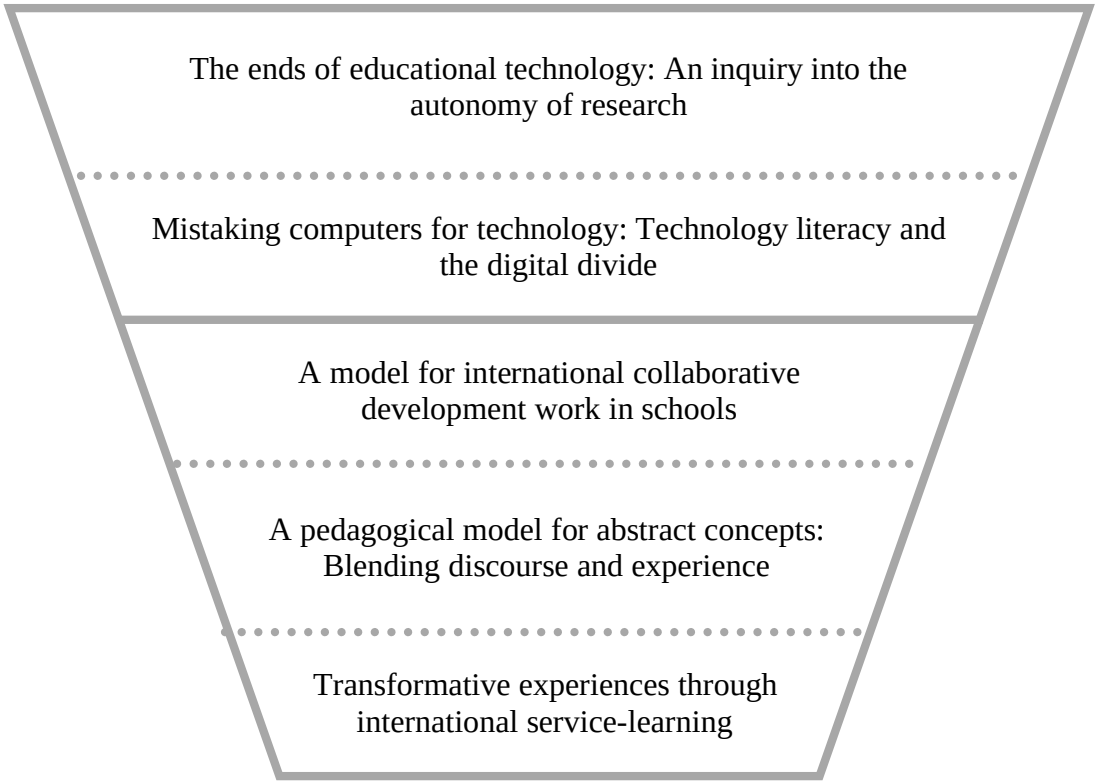

Figure 1. *Funnel representation of chapters composing the dissertation*

I entered the doctorate program in Instructional Technology without a background in the field of education. Unlike most of my first year colleagues, I did not make a smooth transition

from Computer Science or some sector of Education or Psychology to naturally fall into the blended field that is Instructional Technology. Also unlike most students, I came to the field because I had something I wanted to accomplish. I thought that the project I had in mind could only be done within this field. Soon after I entered the program, I came across the possibility of writing a FIPSE-CAPES Brazil-USA cooperative grant. My original project involving semantic networks and historical knowledge slowly withered, as my knowledge of the field grew. My interaction with the professors involved in the grant program, their projects and interests, made my interest in the sociological aspects of technology mature.

I looked back at a paper I had begun writing on the Brazilian digital divide which was originally focused on telecommunications infrastructure and education. I also began to do side readings on the sociology and philosophy of technology, continuously refining a "working paper" throughout my doctoral career on my understanding of *technology* as a concept. These two works lay the current foundation of my thoughts on the field of instructional technology, and provide an introduction to the remaining papers that compose this dissertation.

Articles

The first article, "The ends of educational technology: An inquiry into the autonomy of research" describes an ideal set of standards by which research in the field should be guided. I contend that much of the current research ignores the socio-historical elements of the technological system, obsessing too much about the *devices* created through technology. This fetish with novel devices has led to much research focused on simply testing and refining the application of devices not originally intended for educational purposes. Borrowing from the philosophy of technology, and primarily from the critical stance, I contend that many researchers have become mere components of the technological system, perpetuating its inherent objective. I

do not contend that technology is itself autonomous. Through its interplay with powerful interests in society, technologist have attempted to codify every method into a technique, and strive to maximize societal efficiency to the detriment of other values (Feenberg, 2002). Researchers who test and tweak devices ultimately do no more than further the purpose of technology proper. But as critical theorists argue, this is not a lost battle. I contend that research done in the field should consider the values that guide and define their research in order to strive against a passive role in technological development. An argument is made for a design-based research methodology, guided by the principles of democratic education, as a guide for research (Design Based Research Collective, 2003). This article has been submitted to the *Journal of Educational Technology & Society*.

My discussion of these principles take a more concrete role in "Mistaking computers for technology: Technology literacy and the digital divide". Here I use the digital divide as a clear case of the socio-historical dimensions of the technological system. Traditional discussions of the digital divide have focused greatly on arguing on two sides of the issue of access to devices (lately, computers). More recently, researchers have begun to conceptualize the divide in terms of more complex sociological constructs, including individual ability and volition, community support, and others (Hargittai, 2002; Warschauer, 2002). I approached the digital divide as a socio-historical construct within the system of technology. The quasi-autonomous nature of technology described above was applied to the development of the digital divide. An argument following this form would state that the cycle of adoption of new technologies and lowering prices would eventually lead to a closing of the digital gap. But an historical analysis of the gap demonstrates that the *divide* itself is not new (Light, 2001). In order to analyze it faithfully, it would have to be re-constructed from a *digital* to a broader *technological* divide. A technology

divide is in the nature of technological development and the process of adoption of new devices. It has occurred over time and is bound to perpetuate itself in the future. I analyzed the case of Brazil, demonstrating the digital divide's historical development and its socio-economic causes and consequences. I argued that in order to break the cycle of *divides*, technology could not be seen as *device*. The issue of the divide was beyond and beneath the computer and the Internet, and instead resided on *technology literacy*. Computer and Internet technology have developed from previous technological advancements. Future developments have and will build on a set of common attributes to modern information and communication technologies (ICT). The solution to the existing and near-future divides could perhaps be ameliorated by ICTs, but it could not depend on access to devices in order to close upcoming technology gaps. An educated citizenry informed of the nature of technology and its many underlying principles could break the cycle of technological determinism. This paper has been published at the *Association for the Advancement of Computing in Education Journal* (Amiel, 2006).

The first two manuscripts represent an ideal standard by which I would like to conduct my research. The remainder of the articles represented here are the outcome of the FIPSE-CAPES grant program. I was a co-author of this grant and had substantial input in its design and re-design throughout its four-year span. As I wrote the first two articles and grappled with the issues discussed above, I attempted to re-design and re-direct the program. During the first year of the program I traveled to Bauru, São Paulo, one of our partner institutions. During my stay I conducted two small scale projects that would function as models for upcoming projects, following the guidelines of design-based research. From these I learned the difficulties in aligning the theoretical model I describe to the practical complications of completing projects. I also learned that these difficulties were part of the process in design-based research and the

incredible sensation of working on a project with a purpose. The remaining three articles discuss the FIPSE-CAPES project and its outcomes. The first, discusses some of the programmatic outcomes, the second, one of the courses offered through the program, and the final article presents an empirical study conducted with students who participated in the exchange.

The third article, “A model for international collaborative development work in schools” provides a transition into the FIPSE-CAPES grant program (Department of Education, 2006). It highlights the foundations of the project: technology integration, multicultural education, and service-learning. It goes on to discuss the application of these principles by highlighting the outcomes of two years of projects conducted under the grant program. Through the first two years of the program, a series of collaborative projects were conducted between the four partner universities in Brazil and the United States. A strong commitment was made to using the communicative functions of educational technologies in order to advance the principles of meaningful dialogue as part of educating for democracy. These projects were the product of iterative development, building on the knowledge of previous experiences. This article discusses an analysis of seven collaborative projects conducted during the Fall of 2005. The grant program proposed that undergraduate students in their exchange countries engage with local public school teachers to create projects that would meaningfully connect students in Brazil and the United States. There is an increasing interest in study abroad programs emphasizing service learning as a core component (Grusky, 2000; Kiely, 2005). This paper contributes to this literature by illustrating our experiences in conducting an international service-learning program blending university and school stakeholders. The proposed model illustrates a collaborative framework that illustrates the interaction between faculty, undergraduate students, and teachers in conducting the technology integration projects. This paper, co-authored with Jo McClendon and

Dr. Michael A. Orey III has been accepted, and will be published in *Educational Media International.*

The fourth piece, *A pedagogical model for abstract concepts: Blending discourse and experience* discusses the framework and design of a blended course entitled *Multicultural Perspectives on Technology*. This course was designed to be a required class to all students participating in the grant program, in order to provide instruction and a space for reflection related to issues of culture, education, and technology. The course was taught at four institutions simultaneously using an Internet-based classroom during the Fall of 2005. The paper discusses the design of the course. The instructor attempted to blend the service/experiential oriented nature of the program to the abstract conceptual knowledge required to complete the projects successfully. This article is to appear in the book *Pedagogy to management systems: Trends in online instruction*.

The final piece, "Transformative experiences through international service-learning" is an empirical study which tracked three undergraduate students who participated in the exchange program. These three students participated in the projects discussed in article three and four above. Students were interviewed and participated in focus groups in four phases: before, during, after, and approximately seven months after their return to the United States. During their entire study abroad, students were engaged in a collaborative technology integration program. They worked with students in other parts of Brazil and their colleagues in the United States to develop connections between the schools in each country. These students were also engaged in the Multicultural Perspectives on Technology course. This longitudinal study describes affective, cognitive, conative, and behavioral changes, and their relationship to the elements of the

international service-learning project. This article will be submitted to the *Michigan Journal of Community Service Learning*.

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LITERATURE REVIEW

In line with the requirements of the Graduate School Handbook, the first three manuscripts included in this dissertation constitute a literature review, "defining problems, presenting hypotheses or theories, stating objectives, and thoroughly reviewing pertinent literature." (p. 29). The main themes for this dissertation are the philosophy of technology, educational technologies, multicultural education, and international service-learning. The first two articles focus on the literature on the broad field of technology studies including its research and application. These two pieces are analytical in nature and present the definition of technology that is pursued in the remaining research manuscripts. The theoretical framework for values-based educational technology research and objectives for inquiry in the field are presented. The third article overviews the research on (international) service-learning and its connection to multicultural education. It presents a theoretical framework and a model for research connecting the two fields, making an argument for further empirical research in the emerging field of international service-learning, which is presented in the final manuscript.

CHAPTER 1

THE ENDS OF EDUCATIONAL TECHNOLOGY:

AN INQUIRY INTO THE AUTONOMY OF RESEARCH[1]

[1] Submitted to the Journal of Educational Technology and Society

Abstract

The role of educational technologies in improving educational practices and outcomes has been criticized as over-hyped and insignificant. Though this pattern has been illustrated time and time again, educational technology researchers and practitioners have continued the tendency to tout every new technological artifact as the "next big thing." With few exceptions the state of education has changed less than expected as a result of innovations such as computers and the Internet. To a large extent, this is the product of sub-standard educational research that has succumbed to technological determinism. Educational technologists have accepted and promoted the computer as a *means* without proper attention to the value of *ends.* Lacking is a direction for the field of educational technology guided by a clear sense of the *purpose* of both education and the technological process. This article argues in favor of principles of democratic education as a robust set of constructs on which to build an agenda for design-based research and enhanced practice in the field of educational technology.

Introduction

> "It is one thing to state the chief aim of education…it is quite another thing to pursue this aim in a world which denies the principles on which it rests."
>
> (Jeffreys, 1955, p.13)

New communication, media, and computing technologies have long tantalized educators, policy-makers, and especially educational technologists as to their prospects for enhancing educational outcomes (Saettler, 1990). Numerous technologies ranging from Edison's film projector through Berners-Lee's World Wide Web were originally invented for purposes other than education, but they were quickly promoted by educational technologists and others as having enormous promise for enhancing the impact of teaching and learning. Devices now considered to be simple and omnipresent in educational settings were once considered revolutionary and capable of mending social inequity and changing the face of education. For example, access to handheld calculators was once considered to be crucial to raising test scores for underachieving math students, and math educators and educational technologists led the effort to get calculators into the hands of children learning mathematics in the 1970s. Alas, once the access gap was diminished, the results were found to be much lower than promised (Loveless & Diperna, 2000).

Educational technologies are often viewed not only as solutions to the inadequacies of traditional instruction, but also as tools for reducing the inequities in educational opportunities around the world. Light (2001) described the rhetoric of social inclusion often associated with new technologies such as cable television. Cable was flaunted as a technology to improve not only educational opportunities, but general access to information. Inequitable access in terms of race and wealth prompted policy-makers and researchers to push for equitable distribution of

cable access. Clearly, cable did not achieve educational equity nor increase access to reliable and valid information, but instead is primarily used as increased bandwidth for media outlets. Much of the excitement regarding student achievement that could have been derived from cable in the classroom and other new technologies has faded into disappointment. This trend is nowhere more prevalent than with respect to today's heavily promoted technological solution to educational problems, the Internet.

The Internet is in danger of becoming yet another example of society's all-too-frequent, but usually failed, infatuations with the educational potential of new technologies. Past research has shown us time and time again that, despite all the rhetoric to the contrary, educational technologies do not guarantee big leaps in educational achievement by any measures, nor have they eliminated the inequitable distribution of learning opportunities. However, the Internet as an educational technology can serve a much more noble and principled purpose. A new approach to educational technology research, one grounded in the *ends* of technology, directed by values and principles, must be pursued. The use of the Internet can help researchers and practitioners return to a laudable goal of education, and public schooling in particular – to promote a democratic education and to educate for democracy.

In this paper, a review of the criticisms of educational technology research is presented followed by a discussion of the meaning of technology. Next, a design-based approach to educational technology research is described. Finally, the framework of democratic education is promoted as the set of principles that can remove us from the empty cycle of promises unmet that have haunted the field of educational technology for more than eighty years (Cuban, 1986).

Empty Practice

Governments around the world have implemented policies and made substantial funds available to deploy Internet-enabled computers in schools. The cost and maintenance of computers and online technologies in schools far exceed investments in previous technologies. For example, Oppenheimer (2003) estimates that approximately 70 billion dollars have been spent in U.S. schools on computers, Internet access, and related technologies over the past decade. Oppenheimer argued that this money should have been spent hiring 170,000 new teachers. Similar investments have been made in higher education institutions with few demonstrable benefits (Hersh & Merrow, 2005; Postman, 2003).

A decade ago, when the World Wide Web was in its infancy and other countries were still experimenting with the computer as an instructional device, the United States already had approximately 5.8 million computers in schools (Office of Technology Assessment, 1995). This trend has not faded. While Oppenheimer, a journalist perhaps given to hyperbole, calculates a 70 billion dollar "investment" on school technology, even respected educational researchers have estimated that more than 40 billion dollars have been spent on educational technology infrastructure and training in the past ten years (Culp, Honey, & Mandinach, 2003). Regardless of the actual amount, the costs are clearly enormous.

There is little sign that expenditures for school and campus computers are slowing down. The 2005 budget for the US Department of Education was forecasted at over 55 billion dollars, and almost 500 million were dedicated to state educational technology grants supporting technology integration into the schools (Department of Education, 2005). The same pattern of investment occurs around the world. With the aim of enhancing information and communication

technology infrastructure in its schools, England committed approximately 11,200 and 65,000 pounds to each primary and secondary school respectively in 2003 alone. As a result, 99 percent of British schools are connected to the Internet (Department for Education and Skills, 2003). Poorer nations have followed suit; Brazil deployed over 53,000 computers in over 4,600 schools around the country as part of a federal government program for technology integration (Departamento de Informática na Educação a Distância, 2002). As demonstrated by the example of these and other countries, technology integration into education is a massive global trend (Pelgrum, 2001).

What evidence exists that the expenditures on educational technologies such as computers and Internet access have been worthwhile? Although virtually all schools in the United States now have Internet access, recent reports of the use of computing technologies in the classroom (Cuban, 2001; Oppenheimer, 1997, 2003; see also Salomon, 2002) only reiterate what early accounts (Office of Technology Assessment, 1995) have demonstrated: educational technology has been oversold and is generally underused in classrooms around the country. There is no clear evidence of increased achievement resulting from Internet applications in education, nor:

> "…has a technological revolution in teaching and learning occurred in the vast majority of American classrooms. Teachers have been infrequent and limited users of the new technologies for classroom instruction. If anything, in the midst of the swift spread of computers and the Internet to all facets of American life, "e-learning" in public schools has turned out to be word processing and Internet searches" (Cuban, 2001, p.178).

Why have we been so naïve in investing this much research time and public money in "wiring" the schools when past educational innovations, including films, instructional television, and programmed instruction have failed so miserably (Cuban, 1986)? What is it about the World Wide Web and other Internet technologies that entices us into believing that *this time,* things will be different? It could be that the Internet as an educational delivery system is simply following the "hype cycle," i.e., the over enthusiasm followed by sharp disappointment with new technological tools. This cycle (found in business and everyday life as well as education) begins with a peak of inflated expectations leading to disillusionment and finally to a plateau or realistic application; indeed, we could simply be at the midst of a period of inflated expectations that will ultimately lead to disappointment (Gartner Inc., 2004; Rescher, 1980).

While skeptics and critics do exist, many still believe in the power of the Internet and computers to change the way we teach and learn. Some believe that the online technologies can foster pedagogical change, such as those who promote the constructivist pedagogy movement (Jonassen, 1991, 2003). At the other end of the pedagogical continuum, extremists claim that the answer to the crisis in education can be solved by employing computers as tutors, without human intermediaries (Bennett, 1996; Jones, 1996). This quote from Lewis Perelman's 1993 book titled *School's Out* exemplifies the extreme perspective:

> Because of the pervasive and potent impact of HL (hyperlearning) technology, we now are experiencing the turbulent advent of an economic and social transformation more profound than the industrial revolution. The same technology that is transforming work offers new learning systems to solve the problems it creates. In the wake of the HL revolution, the technology called "school" and the social institution commonly thought of as "education" will be as obsolete and ultimately extinct as the dinosaurs. (p. 50)

Wang and Reeves (2003) point out that many educators as well as people in the general public believe that computers and the Internet are simply much more powerful educational tools, and cannot be compared to previous "new" technologies such as the television. Although large scale success stories in real, school-based applications of educational technologies have been exceedingly rare (Cuban, 1986, 2001), the persistent belief that a new, more powerful technology such as the Internet will automatically change the face of education without concern for social, political, and pedagogical implications is difficult to dispel. New and more sophisticated technological devices are always being developed (such as mobile computing) and the rhetoric around their potential impact on education in popular media and even some reputable journals looms large (cf. Wangemann, Lewis, & Squires, 2003). Abram's (2006) recent enthusiastic endorsement of iPods in education is typical:

> "I think that iPods and other more generic MP3 players are a bellwether technology…. To ignore iPods and their kin in the education space in 2006 is the same as ignoring the Web in 1996 or the Internet in 1986. You won't go extinct, but you won't evolve too quickly either."

If anything should have been learned from research in the field of educational technology by researchers and practitioners alike, it is that a tool itself will not change the educational system or even implicitly encourage new pedagogy. If the Internet and computers are going to even begin to reach their much lauded potential as truly revolutionary tools, then something fundamental in the way educational technology research is done must change. This change requires a shift in our concept of *technology.* Technology is much more than hardware; it is a process that involves the complex interactions of human, social, and cultural factors as well as the technical aspects per se.

The Problem with Educational Technology Research

In asking why education as a field has not been a contender for a Nobel Prize, Wiley (2003) concludes that much of educational research is just plain bad, poorly done, or that the complexity of education is so large that educational research might not matter at all. Educational research has frequently come under strong criticism (Kaestle, 1993; Lagemann, 2000). *The Chronicle of Higher Education* bluntly questioned – "why do academic studies play such a minimal role in efforts to improve the schools" (Miller, 1999, August 6)?

Research into new technologies and their application in education has not fared much better. Reeves (1993; 1995; 2003) has detailed consistent problems in the foundations, design, application, and analysis of educational research in this area:

> "…such as specification error, lack of linkage to theoretical foundations, inadequate literature reviews, poor treatment implementation, major measurement flaws, inconsequential learning outcomes for research participants, inadequate sample sizes, inaccurate statistical analyses, and meaningless discussions of results" (Reeves, 2003, p.17).

Today, the focus of much educational technology research has to do with applications of the Internet and computers for the broad purposes of teaching and learning using terms such as e-learning, online learning, and Web-based learning. However, the research carried out with these applications is rarely closely linked with the day-to-day struggles of practitioners. Educational technology research studies are for the most part conducted by Education School faculty members and their graduate students, and it is difficult to see who benefits from these research studies other than the researchers themselves. The former are awarded promotion and tenure based on the number of research papers they publish in refereed journals that few practitioners

even know exist, much less read. The latter are forced to complete research dissertations to earn their advanced degrees, but are never held accountable for demonstrating any impact on practice.

Given the enormous investments in computers and Internet technologies in the schools as well as the ethical need to engage in responsible use of resources, a much stronger connection must be fostered between educational technology research and the use of its findings in educational practice. The distressing lack of impact that educational technologies have on achievement can be partially but substantially blamed on the failure of educational technology researchers to carry out substantive research agendas that could inform practice.

The Potential of Design-Based Research

Design-based research (similar approaches have been termed design research, development research, action research, and others) has recently received considerable consideration by researchers in education as an emerging methodology that can guide better educational research (Brown, 1992; Barab & Krishner, 2001; Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003; Design Based Research Collective, 2003; see also Reeves, Herrington, & Oliver, 2004). Five core principles guide this methodology:

> First, the central goals of designing learning environments and developing theories or "prototheories" of learning are intertwined. Second, development and research take place through continuous cycles of design, enactment, analysis, and redesign…Third, research on designs must lead to sharable theories that help communicate relevant implications to practitioners and other educational designers…Fourth, research must account for how designs function in authentic settings. It must not only document success or failure but also focus on interactions that refine our understanding of the learning issues involved. Fifth,

the development of such accounts relies on methods that can document and connect processes of enactment to outcomes of interest. (Design Based Research Collective, 2003)

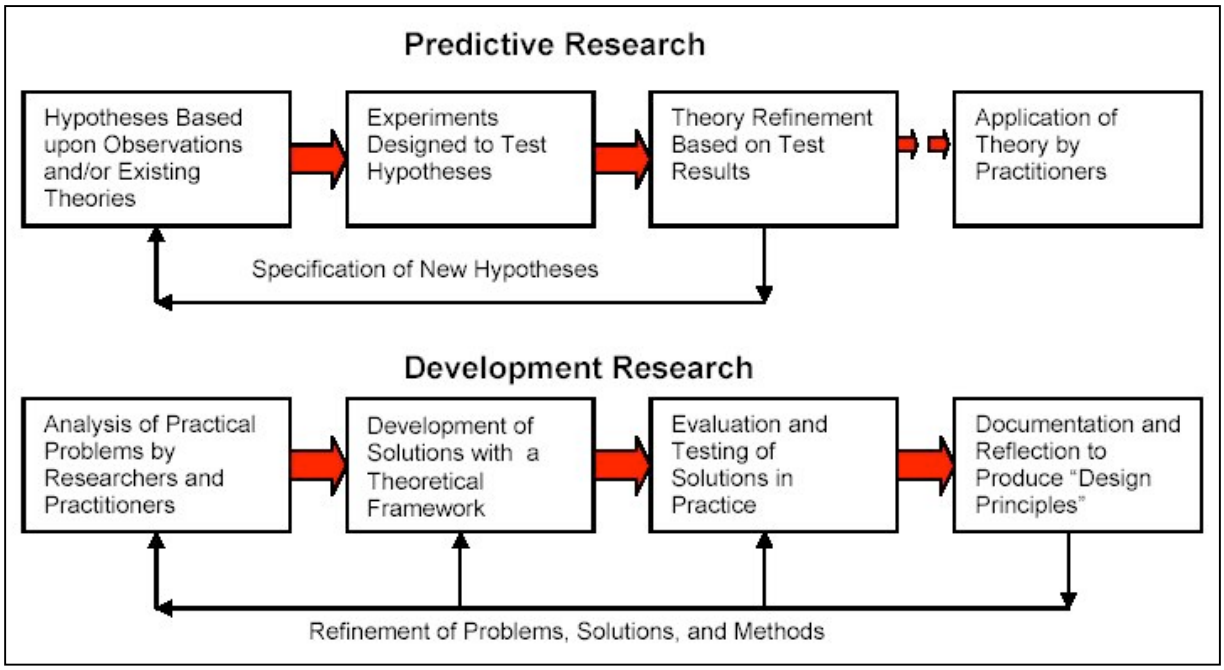

Figure 2. Predictive versus development research (Reeves, Herrington, & Oliver, 2004)

The ultimate goal of design-based research is building a stronger connection between educational research and real world problems. An emphasis is placed on an iterative research process that does not just evaluate an innovative product or intervention, but systematically attempts to refine the innovation while also producing theories or design principles that can guide similar research and development endeavors. This results in a cycle of research that is markedly different from what is currently pursued by most researchers in the field (Figure 2).

Connecting Education, Research, and the Technological Condition

Although we are certain that others will disagree, we argue that educational researchers of all stripes should be encouraged to move towards more systematic and collaborative methods of investigation that can promote research that makes a difference. Design-based research

methodologies may go a long way in promoting this. In order to promote this agenda, two things must inform research in educational technology: first, an understanding of technology and technique as *processes* rather than artifacts; second, a resolute concern for the values, and *principles* guiding educational technology research. What Winner (1993/2003) says about social constructivists well describes most of research into educational technologies at the present:

> "…this perspective does not explore or in any way call into question the basic commitments and projects of modern technological society. The attitude of social constructivists seems to be that it is enough to provide clearer, well-nuanced explanations of technological development…there is something very important missing here; namely, a general position on the social and technological patterns under study" (p. 241).

Much, if not most of what is researched, presented, and published in the field of educational technology outright ignores the nature of technology and its relationship to society. Specifically, it ignores the complex interaction between technological interventions, the roles of educational institutions such as schools and universities, the purposes of education, and the meaning of research. Instead, educational technology researchers generally adhere to a value-free discourse regarding the role of technology. There is a spotlight on the value of technology only to the extent that it has, or does not have an *effect* on learning-related variables. Indeed, it almost seems that educational technologists have taken technological determinism as a given, and are simply trying to make the best of what is thrown at them by forces beyond their control.

The ever shifting definitions of the field of educational or instructional technology reinforce this deterministic position. Many definitions focus on terms such as *efficiency* and *effectiveness* as they relate to *problems* in teaching, learning, and instruction (Earle, 2002). This

positions educational technology researchers and practitioners at the end of the technological process continuously testing new devices and contexts. The aforementioned call for design-based research presents educational researchers with a conundrum: if we persist in believing in education and technology as value-free, we should not attempt to engage in design-based research and instead resign ourselves to perpetuating research that affects no practical change. We may hide our lack of concern for impact behind the veil of academic freedom. But if the case for the new design-based methodologies is sound, then research and practice can become intertwined, and as a result, it becomes impractical and indeed *un*grounded to promote the kinds of impartial, unengaged research that dominates the published literature.

Technology as Process

Most educational technologists would accept the proposition that integrating technologies into an educational context is a complex task because of the many stakeholders, and their differing respective values and interests. Fewer would be willing to concede that the Internet in itself is value laden. One could argue that computers and the Internet are inherently apolitical and value-free. After all, how could a computer promote any particular world-view? A device has no particular bias – it is up to humans to decide what purpose it should serve (for a discussion, see Pitt, 1987).

At this juncture it becomes important to differentiate between the popular use of the term *technology*, and a more robust and accurate representation. The word is commonly used in the field of instructional and educational technologies to refer to electronic tools or devices such as the calculator, television, and the computer. It can also refer to the application, particular characteristics, or the affordances of these devices. When referring to the *Internet* as a technology we are instead referring to a phenomenon made available by the interaction of many

devices and techniques including the computer, cables, digital encoding, data exchange protocols, and others. When referring to *new* technologies in education, it is usually understood that the object of the sentence refers to a device or software application related to computers or the Internet.

This view of technology as *device* prescribes educational technologists with a comfortable, albeit false, level of control, and an easy, but ultimately meaningless unit of analysis in their research pursuits. This limited view of technology must be challenged at the definitional level. Technology is not a *product* and instead a *process*: devices are merely a product of a technological system. A more inclusive definition of the term is offered by Hickman (2001), who uses Dewey's pragmatism to describe technology as a process that involves the "invention, development, and cognitive deployment of tools and other artifacts, brought to bear on raw materials and intermediate stock parts, with a view to the resolution of perceived problems" (p. 26). This definition includes the process of inquiry itself. While it might be broad in scope, it does well in describing the job of researchers and practitioners in educational technology regularly do: application and inquiry into techniques (of design, development, teaching, and learning) in an effort to improve and refine the process of teaching and learning.

In distinguishing between technology and science, Agazzi (1998) proposes that technology differs from science in its pragmatic nature. The technological process is concerned with uncovering knowledge and information in so much as it leads to *doing*. This process is deliberate, and the products that result from it are not the result of coincidence. Technology can be seen as deterministic, or as subservient to some other agent's (human) control. While few

would blindly ascribe to technological determinism, many naively accept the authority of man over the technological system (Ellul, 1980).

There is instead a certain level of autonomy to the technological process: technological problems and conditions perpetually promote technological solutions. The details and criticisms of this postulation have been delineated by many elsewhere (Ellul, 1980; Heidegger, 1977/2004; Marcuse, 1982/2004; Winner, 1977). What is important here is to recognize that because of its pragmatic nature, technology cannot be considered to be value free once it is recognized as both *process* and *practice.* As Ellul (1980/2003) contends, we cannot expect application to be judged as good or bad, if we as researchers, from the onset, ignore the merits of moral judgment from the research process. As such, educational technologists cannot continue to simply investigate the impact or describe "best cases" in *posteriori* applications of technological devices. This position makes them simply part of this technological system (Heidegger, 1977/2004), perpetually "testing" the appropriate uses of new technological devices in education – helping veer, but not *reconstitute* the direction of technological development. Evidence of this trend can be seen in fifty plus years of media comparison studies conducted by educational technology researchers to examine the influence of devices on educational achievement with the most frequent result being "no significant differences" (Clark, 1983; Reeves et al., 2004).

As part of the intricate socio-technical system that promotes the use of computers in education, educational technologists must begin to question and influence the *a priori* integration of these devices based on an investigation of its *ends.* As Borgmann (1984/2004) has discussed, the technological system all too often upholds the subservience of *ends* to *means.* This is no different in education. Educational technologists are frequently more concerned with the

possibilities of using a new technology (means), such as a newer learning management system or the hottest wireless device, than considering the ultimate aims of its use.

That educational technologies are not value or culture-free may be a hard proposition for some to accept. Neither education, nor technology is neutral and unbiased (Freire, 1985; Hlynka, 2003; Illich, 1970) – their conception and application are guided by and provide guidance for political processes that are not necessarily grounded in a principle that promotes social good. Educational technologies are intricately connected with political agendas, economic gains, and social needs and consequences. Because of this, educational technologists should not be purveyors of "treatments" as if these devices and techniques were unbiased and value neutral (Feenberg, 2002, ch.3; Winner, 1993/2003). Computers and Internet access in schools are products of governmental policies that demand them (Department of Education, 1996, 2000), corporations which produce them, and numerous people who are often misinformed or ignorant about their purpose in education. Many of these concerns could be addressed by a serious media technology literacy movement, but this has failed to develop into a cohesive effort in most North American schools (see ITEA, 2000; Petrina, 2000; Postman, 1995).

What is missing from the extant research in educational technologies is a question of *principle* and *value*. Hence, there is a need to add to the epistemology-theory-methodology-method thread that forms the basis of our educational inquiry (see, Crotty, 1998). Design-based research calls for collaborative practitioner-researcher long-term involvement (Reeves et al., 2004), but still focuses mainly on addressing "immediate needs, interests, problems, and solutions of specific groups and social actors" (Winner, 1993/2003, p. 238). It is necessary but not sufficient to connect research methods to compatible theoretical perspectives and epistemologies. Once a pedagogical stance is taken, and we align it to a "way of knowing"

(epistemology) then we must evaluate the *why* of *what* we want to know. The act of *knowing* in research is not disconnected from practice, and therefore implies change.

From the onset of any project, researchers into the field of educational technology must evaluate the principles that guide their research projects, and the values that are promoted by their agendas. Researchers must not blindly accept the inherent values associated with technological development, and instead should seriously consider the nature of value in their practice (Koetting & Malisa, 2004). By ignoring the question of axiology (the study of value or issues of quality) in research, educational technologists are allowing technology to function autonomously, in a self-perpetuating cycle which can lead to unforeseeable consequences (Agazzi, 1998; see also Heilbroner, 1967/2003). Gone unquestioned, the values promoted by the technological process are clear. Technology is based on, and promotes efficiency, speed, control, and reliability (see for example, Hiedegger, 2004; Marcuse, 1982/2004), values that primarily emphasize economic utility.

For example, research using video cases to prepare teachers to use technology might have the noble objective of better teaching. But *better* is a value that must be disclosed – what does better teaching mean for the researcher and practitioner? To what *end* is this project being conducted? Is it simply to promote a more efficient classroom, teaching, or learning? What is the *educational principle* and *foundation* guiding the project? Surely if research intends to affect change, it must be realized that education is not simply about increasing the efficiency in the acquisition of knowledge and skills. As Postman (1995) has highlighted, “any education that is mainly about economic utility is far too limited to be useful, and in any case, so diminishes the world that it mocks one’s humanity” (p. 31; see also, Postman & Weingartner, 1971). What

values could be more exemplary of economic utility than the efficiency, speed, control, and reliability evidenced in the technological system?

A Foundation to Guide Educational Technology Researchers

We are asking educational technologists to question the very foundations of their research agendas and indeed, their field. In reflecting on 30 years of the field of instructional technology, Ely (1999) emphasizes that the only constant in this field is change. As a field, educational technology is eclectic, dealing with aspects of instructional design, educational tools, learning environments, and others (for a review, see Reiser & Ely, 1997; Rieber, 1998). Its areas of survey are intertwined with many others. For example, online higher education is intrinsically connected with technology integration on campus, faculty development, learning management systems, and student engagement. While the quest for a philosophy of educational technology continues, it will lead nowhere if the field does not recognize, foster, and sustain a cohesive vision for education.

The implications of this principle spiral beyond the domain of the halls of academe, school corridors, education departments, and state legislatures. Technology can be seen as an autonomous phenomenon that perpetuates and promotes itself, subordinating political decisions to an on-going cycle in search of better and more efficient ways. In contrast, Feenberg (2003) rejects the perspective that technology is inherently autonomous, suggesting instead that the technological system is (socio-historically) serving the needs of a particular hegemony. In order to break this hegemonic or autonomous cycle, Ellul (1992) calls for a revisiting of the type of democratic institution that renews the power of individuals in guiding their public and private lives (see also Hickman, 2001). Here, Ellul (1992) makes a clear and strong connection between education and democracy in a technological society arguing that the public “must be given

information that allows for free decisions, not ones based solely upon a menu of options served up by technicians" (p. 44). In order to make and interpret these decisions, education is necessary.

Very different views exist on the relationship of the people and decision making processes regarding technology. Mesthene (2003) has argued that in the complex world of today, technology should be left to the hands of experts, meaning that experts would attempt to organize complex knowledge for pragmatic purposes. The populace would then be asked to choose from a number of expertly-crafted processes (techniques) in order to address real-world concerns. McDermott (2003) argues against this position, since experts are implicitly at the mercy of the interests of powerful subgroups. In essence, the issues to be brought up for investigation by researchers might not be those demanded by the populace. Hickman (2001) expands on this view, arguing that a Deweyan take on technology would promote the education of citizens as to encourage their full involvement in the deliberation of the design and implementation of technological tools as well as the research that informs their application. This process would lead to collaborative deliberation and argumentation between experts and non-experts in "technicizing" (inquiring into) societal tribulations.

The establishment of a well educated populace promotes a "public bureaucracy" that can counterbalance the force of a private bureaucracy championing the value of efficiency (Heilbroner, 1967/2003; Marcuse, 1982/2004). While considerably different, these interpretations of the decision making process surrounding the use of technological tools all implicitly require that the populace be educated in order to make choices or decisions. In order for citizens in technological society to engage in responsible decision making, we must be able to

educate the populace into a democratic mentality. Democratic education provides a worthy set of principles that can serve as *ends* to technological device's *means* for education.

Democratic Education as a Guide

As Barber (2001) suggests, democracy is not a "natural form of association; it is an extraordinary and rare contrivance of cultivated imagination" (p. 12); in essence it takes work. It is the role of educators, particularly those working in public school and universities, to promote an education for democracy. The more thoughtful inquiries into the purpose of education have attempted to align schooling with precisely these principles. Indeed, democratic education has seen a revival in the progressive movement, and serves as a strong foundation for education (Parker, 1996). In a democratic classroom, student's opinions are valued and incorporated in the design and implementation of the course. Students learn to engage in discourse, and take responsibility for their learning and the outcomes of their efforts. Instructors often become co-learners with their students. In promoting this type of democratic education, one is also teaching *for* democracy, as students learn the democratic process while acting it out in the classroom.

In spite of the strong connection between public schooling and democracy (Westbrook, 1996), an observer of today's classrooms would likely not describe our education or pedagogy as democratic. The harsh reality of our educational program is one that promotes a type of mediocre equality, a "dumbing down" that leads to conformity. Gatto (2003), an award-winning and long time teacher, describes schools today as "laboratories of experimentation on young minds, drill centers for the habits and attitudes that corporate society demands" (p.38, see also Freire, 1985; Giroux, 1996; Shor, 1993). One only has to look at how student learning is assessed using standardized tests to see how low the bar is set. Though an inappropriate measure in itself,

student tests also demonstrate a mixed bag of results in achievement, including disparities between different social groups (Lee, 2002; National Center for Education Statistics, 2003).

The Value of Educational Technology Research

In light of the fundamental disconnect between the reality of schooling and the principles upon which education should be founded, educational technologists find themselves contributing little to educational progress. This does not have to be the case. Researchers in the field of educational technology can begin to look away from the short-term objectives of their individual projects. In order to escape the anti-humanistic values promoted by the engines of autonomous technological progress, educational technologists must recognize the transformational potential of their profession. A primary responsibility of researchers in the field should be to limit their investigation of means, and contemplate educational ends or aims, making them explicit in the process of an investigation.

Design-based research provides a methodology that promotes the reflective and long-term foundation upon which such research can be undertaken. Educational technology researchers should be concerned with examining the technological process as it unfolds in schools and universities and its relationship to larger society. By carefully considering their ends and selecting an appropriate methodology, researchers in our field will be better prepared to determine their values, make their agendas explicit, and promote democratic education.

This pursuit of democratic education may be more important that ever. We live in an age when a president issues his first veto in five years to ban funding for embryonic stem cell research surrounded by children born from “rescued” embryos, ignoring the fact that none of the children would have been born without the contributions of earlier generations of embryonic researchers. We live in an world of melting glaciers and rising seas when more people appear to

believe in angels and ghosts than Global Warming. Is it too simplistic to suggest that educational technology researchers might have a role in combating such global ignorance? Perhaps so. But we think not.

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CHAPTER 2

MISTAKING COMPUTERS FOR TECHNOLOGY:

TECHNOLOGY LITERACY AND THE DIGITAL DIVIDE[2]

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Abstract

No other information and communication technology has swept the globe with greater speed than the Internet, having the potential to promote vast social, economic, and political transformations. As new technologies become available the pattern of adoption and diffusion creates disparities in access and ownership. At the most basic this gap is termed the digital divide and its most common antidote has been the computer. To close this divide, sizeable capital has been spent on deploying computer integration into public schools around the globe. This article uses the case of Brazil to analyze the role of computers in schools as tools to close the digital divide and promote pedagogical change. Massive computer integration will not be the cure for the digital gap. As new technological tools continue to develop, new gaps will arise. An approach focusing on technology literacy is the only sustainable way to avoid present and future technological divides

Introduction

The growth of the Internet over the past decade has affected the way people in wealthy nations communicate, interact, and gather information. Anyone who has lived through the 90's can testify to the swiftness with which this network of computers has changed the very essence of the way we live. It is estimated that more than 450 million people use the Internet (Nielsen Netratings, 2004b). The growth rate of the World Wide Web has been staggering, reaching more than 50 million users in less than five years: radio took thirty-eight years, broadcast television needed sixteen years, and cable television took ten years to reach the same number of users world-wide (ANATEL, 2000b).

Though most people in developed nations see the television set as low-cost technology, and even as a commodity, a large contingent of citizens in poorer countries still do not own a television set. Roughly twenty televisions exist for every hundred Brazilians. Compare this to almost sixty-two in Germany, and seventy-eight in the United States (Central Intelligence Agency, 2002; IBGE, 2000a). If a device such as the television set (and its associated media), over fifty years old, has failed to reach critical mass in many countries around the world, what is the outlook for this century's new medium, the Internet? If developed nations such as the United States are concerned about unequal access to new technologies, how do developing countries grapple with the problem of inequality?

This paper analyzes Brazil as an illustration of the digital divide in third-world countries, criticizing educational technologies and the integration of computers into schools as resolutions to the digital divide. It is ultimately argued that the integration of computing technologies into the educational system is not an effective way to promote equality. It is naïve to expect that yet another "new" tool will be able to stop the cycle of exclusion promoted by new technological

tools. Radio, television, and cable were once new, and were promoted as great educational equalizers. Making use of more multifaceted definitions of the digital divide, an argument is made for the conceptualization of technological divides as a factor of technology literacy, instead of access or use of technological tools. As such, educators have a crucial role to play in addressing the digital divide.

The essay begins with an introduction and a conceptualization of the *digital divide*. Next, an analysis of the Brazilian digital divide is presented, with an overview of policies that have targeted the gap. Finally, an argument is made in favor of pedagogical change, leading to technologically literate individuals. A technology literacy agenda, as opposed to the frantic integration of computers into the classroom, can provide effective, long-term solutions to the digital divide. This entails making use of all available technological tools to promote a sustainable and valid tactic in achieving educational reform and closing the digital gap. It is argued that students should not need to wait for a computer in order to gain entry into the world of the digitally literate.

Educational Technologies

Substantial effort and money have been paid to promoting the integration of the personal computer and Internet access into schools around the globe. Learning how to use a computer has been seen as an effective way to bridge the digital divide, producing computer-savvy students and future workers prepared to enter the highly computerized workforce. Technology integration has also been promoted as a key to the shift towards constructivist pedagogy in the classroom (for a worldwide review, see Pelgrum, 2001).

A comprehensive survey of technology integration in K-12 classrooms around the United States demonstrated that though the number of computers in classrooms was sizeable,

approximately 5.8 million computers in 1995, the equipment was generally underused. Though many expected constructivist pedagogical principles to reign, teachers tended to use the computer as an instructivist tool. Teachers were forced to use computers in specific laboratories that were not conducive to partnering technologies with specific subjects. Computers were found to be obsolete: 49 percent were considered outdated and unable to run appropriate software. Moreover, computers were used mostly to teach and learn about applications, such as word processing, rather than a tool for other subjects (Office of Technology Assessment, 1995). This report is over 8 years old, but teachers and administrators continue to mistake computers for technology. Since then, American policy towards educational technologies has called for every student to have access to a computer, at the risk being left behind (Department of Education, 1996, 2000). It is necessary to expand the understanding of technological devices to include other tools besides the computer, though this has not been the case.

Recent reports on the state of technology in schools continues to demonstrate that even in the most sophisticated and rich parts of the nation, computers have been appallingly oversold and underused in schools (Cuban, 2001; Oppenheimer, 1997, 2003). The pedagogical promises simply have not been fulfilled,

> "…nor has a technological revolution in teaching and learning occurred in the vast majority of American classrooms. Teachers have been infrequent and limited users of the new technologies for classroom instruction. If anything, in the midst of the swift spread of computers and the Internet to all facets of American life, "e-learning" in public schools has turned out to be word processing and Internet searches" (Cuban, 2001, p. 178).

In relationship to the digital divide, some contend that "the key is education. Providing schools with the [sic] Internet access is a necessary first step" (Sipior, Ward, & Marzec, 2001). This truism, evidenced in feverish purchases of computer technologies for education around the globe, is misguided. As Light (2001) demonstrated, similar rhetoric surrounded the educational potential of cable television in closing racial and urban/rural gaps, to no end. Though most schools in the United States now have access to the Internet, the issue of digital inequality has not disappeared.

The personal computer and the Internet have become important tools within the information age. Nevertheless, the significance of the personal computer in bridging the digital divide has been touted too highly. While the *potential* exists for the computer to facilitate pedagogical change and diminishing the access gap, the path to success is at best, unclear.

The computer is simply not needed to promote pedagogical change towards a student-centered classroom, collaboration, problem-based learning, and other developments in pedagogy (for an overview of emerging theories, see Orey, 2002). Few seem to question the computer as a tool of choice to help close the digital divide, or to provide every citizen with the necessary skills to live in the 21st century. The solution to this problem does not lie on devices such as the computer, but increased technology literacy.

It is Not the Computer that Divides Us

Schools should not depend on expensive and rapidly aging computer equipment to modify teaching and learning. Governments should not expect computer access to bridge the digital divide – the gap is far more complex than it seems. For one, it is concerned with the implementation of a technology infrastructure. Second, it deals with the ability to access these technologies, including the capability to make successful use of new technologies in a social and

cultural context. Some have readily dismissed the issue of access as nothing more than an economic gap that will soon be closed by progressively cheaper technologies (Morrisett, 2001). Others argue that the digital divide is similar to many other economic or social gaps (Compaine, 2001). While the issue of access to hardware has the potential to swiftly fade-away in richer societies, research indicates otherwise. While billions of dollars have been invested in the United States to equip schools with computers, access to these machines remains scarce so teachers and students make little use of the available equipment (see Dijk & Hacker, 2003; Martin, 2003; Norris, Sullvian, Poirot, & Soloway, 2003). Considering the rapidly decaying nature of the computer and its applications, not even heavy continuous funding has been able to provide access to all students, and equally equip all schools and classes with computers. As such, access to the computer cannot be promoted as the great equalizer.

Recognizing the existence of a digital divide does not imply that every citizen must be given the opportunity to use the Internet in an attempt to close the gap between the "haves" and "have nots" (Kenny, 2003). This binary differentiation has come under contention, and more comprehensive definitions of the digital divide have arisen (Baker, 2001; Dijk & Hacker, 2003; Hargittai, 2002; Warschauer, 2003a, 2003b). Warschauer (2002) has proposed a more accurate and intricate definition of the digital divide that is examined from the perspective of *technologies for social inclusion*, emphasizing the need to focus on the social and cultural aspects of the implementation of technology in society. This revised notion is a function of four variables: physical resources, such as computers and other hardware; digital resources or materials available online, including software; human resources, including education and literacy; and social resources, that include community, social, and institutional structures.

While providing access to hardware and software resources remains important, the real digital divide remains at the level of understanding. What has kept large sections of the population on the unfortunate side of every technological divide is an inability to comprehend the significance and role of these tools in their life and community. This in turn, leads to citizens who are unable to make choices regarding technological infusion in their communities and schools. When the next generation of technologies arrives (as the television and the computer once did) will another generation of technologically "unfortunate" citizens be created? Even if access were to be provided to all, there is crucial need to understand the complex nature of technology before making use of it effectively (Kling, 2000). As Brendan Lyut has thoughtfully suggested, if these technologies are to truly make a difference then we must:

> "…re–construct the nature of the digital divide as a policy issue, to frame it as more than access, skills, or even content, but rather as part of a challenge to the global order itself so that solutions to the problem consciously tilt the balance of benefits away from those already privileged (information capital, the state, and the development industry) towards those currently excluded from not only new information and communication technology, but the basic requirements of a dignified human existence" (2004).

The educational community can address the technological divide by promoting a sustainable agenda emphasizing technology literacy; an agenda that does not depend on the computer, but can benefit from it if available. Educational technology and technology education curricula diverge in specifics, but invariably promote, among other things, what is broadly termed *technology literacy* (Petrina, 2003). Rasinen (2003), demonstrated that the same emphasis on technology literacy holds when examining the curricula of a number of different countries. A

technology literacy agenda focuses on educating "a person that understands – with increasing sophistication – what technology is, how it is created, how it shapes society and in turn is shaped by society" (ITEA, 2000). This includes vast areas of study such as the cultural, social, economic, and political effects of technology and the influence of technology in history, engineering design, information and communication, among others (see ISTE, 2003; ITEA, 2000; Petrina, 2003). The concept of technology literacy clearly aligns with a program of technologies for social inclusion (Warschauer, 2002), providing a set of guidelines for schools and educators – critical agents of change in regards to the digital divide.

Developing countries can avoid the pitfalls experienced by more seasoned national technology integration programs, such as that of the United States – but has this happened? In order to provide a context for the framework of *technologies for social inclusion* and *technology literacy*, the case of Brazil is analyzed. The case of Brazil is especially insightful because it exhibits a clear divide in terms of *access*, and *conditions for access* by the general population; moreover, the government has provided substantial resources for computer integration as a way to bridge the digital gap and to promote pedagogical change. A number of steps have been taken to build a strong and cohesive process of technology integration. A short analysis of the Brazilian digital divide, the process of computer integration into schools, and Brazilian educational policy, suggests that we must rethink the use of the computer as the solution to our social and educational ills. Finally, a framework for technology literacy is proposed that deemphasizes the importance of the computer in promoting digital equity.

The Nature of the Divide

Brazil has exhibited substantial growth in the implementation of its communication technology infrastructure. One such indicator is the number of Internet hosts and Internet users.

As of August 2004, Brazil held 3,163.349 hosts, the largest number of hosts in Latin America, and 8th largest worldwide (Network Wizards, 2004). The number of Internet users has grown to more than nineteen million (from a total population of approximately 170 million) in June 2004 (Nielsen Netratings, 2004a). Though statistics indicate a substantial number of people use the Internet, availability is still considerably segregated. The National Telecommunications and Information Administration (NTIA) points to income and education as two important variables that help us define the digitally deprived (McConnaughey & Lader, 1997; see also Robinson, DiMaggio, & Hargittai, 2003). These factors will help provide an overview of the Brazilian digital divide. This overview is not meant to describe all the facets of social and economic inequality. Instead, it is meant to provide a glimpse at some of the disparities that exist and are being targeted in part by educational reform and educational technologies.

Economic factors

A historically uneven distribution of telephone service by the national telephone monopoly (Telebrás), led by nominal universal access policies, left a sizeable portion of the population without the most basic means to access the Internet. The move towards privatization in the late nineties provided increased investment and a larger information and communications technology (ICT) infrastructure. The cost of basic telephone service went down roughly 20% from 1994 to 1999, to R$42,00 or US$14.00 per month (conversion henceforth based on R$3.00 per U$1.00, ANATEL, 2000a). However, this apparent low cost is deceiving. A closer look at the difference in purchasing power between people from different geographical locations helps us understand who falls on the unfortunate side of the digital divide.

The Brazilian GDP per capita was approximately R$6.000 (US$2,000) in 2000 (ANATEL, 2000a), which points to a middle-class economy, but masks the extreme income

inequality that characterizes the Brazilian economic landscape (Tigre, 2003). The latest census statistics show that the poorest ten-percent earn approximately R$28.26 (US$9.42) monthly, compared to the richest ten-percent who make fifty times more, averaging R$1,511.67 (US$503.89) (IBGE, 2000d).

At a regional level, the results are even more noteworthy and show a sharp economic gap between the more rural northern (Rondônia, Acre, Amazonas, Roraima, Pará, Amapá, and Tocantins) and northeastern (Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, and Bahia) states, as compared to the urban southern (Paraná, Santa Catarina, and Rio Grande do Sul), central (Mato Grosso, Mato Grosso do Sul, Goiás, Distrito Federal), and southeastern (Minas Gerais, Espírito Santo, Rio de Janeiro, and São Paulo) states (Figure 3). This effectively divides the country across a north/south line. Rural population accounts for approximately 30.1 percent of the 60.6 million people living in the northern and northeastern regions of Brazil, and only 12.1 percent of the 109 million people living in the more urban southern, central, and southeastern regions (IBGE, 2000b).

Average income for the poorest ten-percent in the northeastern states is R$17.48 (US$ 5.83), which is approximately half of that in the same economic group in southern, central, and southeastern states. The difference in income is similar when widening the comparison to the poorest forty-percent, and is slightly smaller when analyzing the richest ten-percent (IBGE, 2000d). The data is especially striking when taking into consideration that federal law required a minimum wage of R$151.00 (US$50.33) in 2000 (Banco Central do Brasil, 2000).

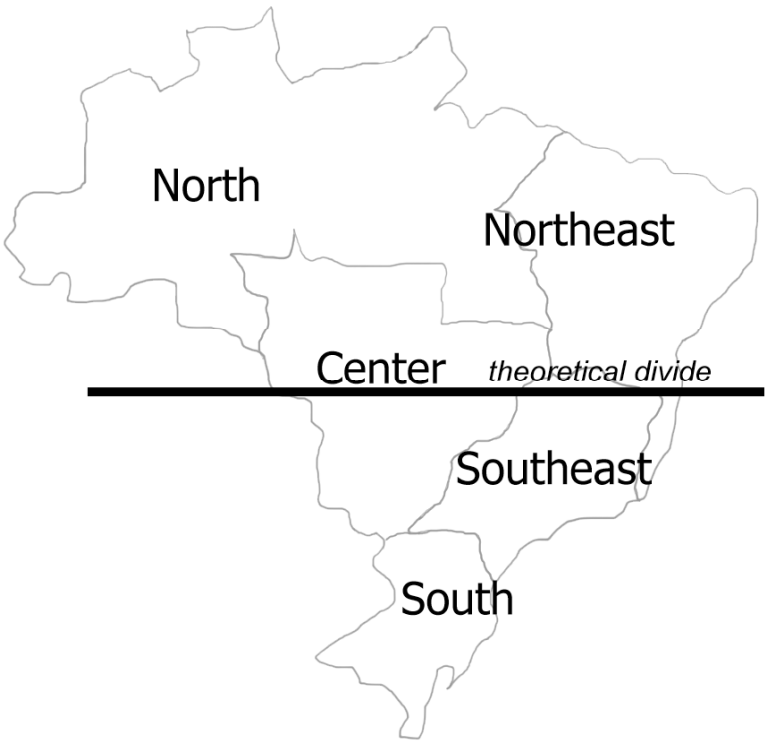

Figure 3. *Theoretical geographic digital divide in Brazil*

Though census data suffers from shortcomings, the patterns of inequality are unmistakable. It is clear then, that an economic gap exists between those in southern and northern regions of Brazil, greatly impacting the purchasing power and investment attractiveness of those with lower income and those living in rural areas. Economic and geographical divides help us identify those who have clearly been much slower in benefiting from economic progress.

Education

As Robison, DiMaggio and Hargittai (2003) demonstrated, a person's level of education provides strong indication of how much he or she will benefit from the tools available through the Internet. Literacy data show a wide gap between those in rural and urban areas nationwide, and a clear divide between northern and southern rural citizens. Census data shows that 9.7 percent of urban citizens and 29 percent of rural citizens (not including data for rural areas of

northern states) of age fifteen or older were considered illiterate (IBGE, 2000c). Numbers in both categories have been consistently reduced, but great disparity still exists between rural and urban literacy rates. The regional divide points to a severe disparity in literacy rates between regions of the country. While only incomplete data is available for the northern states, 41 percent of those in the rural areas of northeastern states, and between 12.4 and 19.4 percent of those in rural areas of southern, central, and southeastern states were considered illiterate. The gap is reduced but remains large when considering the urban areas in the same regions of the country: 19.1 percent (northeast), 11.6 (north), and between 6.4 and 9.1 percent for the remaining regions of the country (IBGE, 2000c).

Illiteracy within these strata of society translates to an inability to use of new technologies that are dependent on basic literacy. The same pattern of inequality exists between rural and urban schools in terms of computer availability and Internet access. A 2000 census of *ensino médio* (high schools) by the *Ministério da Educação* (Ministry of Education; MEC) and the *Instituto Nacional de Estudos e Pesquisas Educacionais* (National Institute of Educational Research; INEP) shows that nationally, less than 0.3 percent of rural and 14 percent of urban 1st-8th grade (basic education; *Ensino Fundamental*) public schools (federal, state, and municipal) had computer labs. The numbers are further reduced when considering those with Internet access: less than 0.1 percent in rural, and approximately 12 percent in urban schools. The gap in computer integration is substantial across the rural/urban divide, and is evidenced across the different regions of the country: the northern and northeastern states averaged less then 0.4 percent of all *Ensino Fundamental* schools with Internet access, while the southeastern states averaged over 17 percent (southern = 2.5 percent, and central = 3.3 percent) (INEP, 2000).

This regional divide in education is also extended by the discrepancy in the schooling level in these regions. Educators in the public schools in the northern and northeastern regions are considerably less schooled than those in the other regions of the country. In the northern and northeastern part of the country, less than 30 percent of teachers in public *Ensino Fundamental* have a college diploma; the percentages nearly double for the remainder for the country (INEP, 1999, 2002). In essence, a noticeable gap exists between those in rural and urban areas, and those living in the northern and northeastern states in comparison to the central, southern, and southeastern regions.

Closing the Gap

Colossal disparities exist across the country when measuring both *conditions for access* and potential ability to *make use* of computer technology. These measures point to a digital divide that has resulted from, and added to social and economic inequalities. Apple (2002) noted that emphasis on economic development at the cost of public and social equality can be understood within the influence of neo-liberal policies in education. This is very much in line with Brazilian neo-liberal economic policies since the mid nineties, which included privatization, increased foreign investment and reduction in import tariffs (Amann & Baer, 2002; Tigre, 2003). During this time, government policies focused on large-scale privatization of public institutions and radical openness to foreign investment**.** While one could argue that these policies have improved the standard of living for those of the lowest income bracket, the situation of the poor did not undergo a substantial improvement, so far as can be detected from absolute poverty indicators (Amann & Baer, 2002; see also Tigre, 2003)**.**

Barros, Henriques and Mendonça (2002) have demonstrated that educational heterogeneity in Brazil is the principal determinant of economic disparity in Brazil, accounting

for almost 40 percent of the difference in salary among the population. In light of this evidence and taking into consideration the dismal quality of the Brazilian educational system, the government has devised long-term educational goals aimed at improving the quality and equality of the educational system. These goals include increasing the number of students in schools, boosting teacher salaries, increasing completion rates, and augmenting teacher training (MEC, 2003a).

Within the scope of these reforms, the move towards the integration of computing technologies in school is strong (for a pioneering effort see project EDUCOM). The Ministry of Education has implemented a national technology integration program termed *Programa de Informática na Educação* (Educational Informatics Program; PROINFO) beginning 1996 with ambitious goals through the deployment of computing technology in both classrooms and Núcleos de Tecnologia Educacionais (Educational Technology Centers, NTE), which serve as training and support facilities. Some of its initial goals included preparing 25,000 teachers to work with technology in education, in 6,000 schools; installing 105,000 Microsoft Windows-based computers (100,000 in schools, 5,000 in NTE), and creating 200 NTEs around the country by the end of 2002. Ultimately the government hopes to provide Internet access to all schools, and access to the local community. By 2002, 53,895 computers had been installed in 4,629 schools. Brazil has approximately 150,000 schools dedicated to basic education (INEP, 2003). Approximately 137,911 teachers had been schooled to use the implemented technology, and over 262 NTEs had been implemented by 2002 (Departamento de Informática na Educação a Distância, 2002).

In order to benefit from the experience and pitfalls of pioneering technology integration programs, important issues have been concomitantly addressed, including the need for teacher

professional development, creation of standards reinforcing pedagogical change, and formation of centers for pedagogical and technical support (see, for example Sette, Aguiar, & Sette, n.d). Still, many problems exist in the race towards computer integration, including the placement of computers in remote locations (Morgado, Cavenaghi, & Reinhard, n.d.), and the problems of dealing with a rapidly aging technology such as the computer. Analyses of the efficacy of the program are limited, but Paulo Gileno Cynseiros, a long time researcher of educational technologies in Brazil offers some reasons why the program is not reaching its expected goals. One of the largest problems occurred in providing professional development for practicing teachers:

> "The promise made by Proinfo of first training teachers in the schools which received computers did not take effect, since the NTEs were not functioning to their full capacity, and the majority of school systems did not have the transportation infrastructure, teacher substitutes, materials, etc. The computers were delivered, and the labs in many schools remained closed for one or two semesters…" (Cysneiros, 2001, p.134, author's translation)

In distributing funds for the purchase of computing equipment, the government intended to promote regional equity. Computers were allocated to states based on the average of schools with over 150 students and the number of registered students in each state. As a consequence of this distribution policy, the richest state in the nation, São Paulo, received more computers than the 11 states of the north and central regions combined. Other problems existed, such as the lack of preparation to use and evaluate educational software, and a lack of computer support personnel.

The technology integration program has also led to opposing views towards educational technologies, a problem faced by many developing nations with geographically and economically unbalanced national ICT infrastructures. Current government policy has dictated investment towards the more developed regions of the country where the infrastructure is present and can accommodate the implementation of educational technologies. The opposition would argue that this stand will increase the already substantial divide between the northern and southern regions of the country, and the rural and urban populations. Instead, new technologies should be implemented in those locations that could most benefit from a boost in access to information and greater inclusion.

In order to succeed in the implementation of new technologies in schools, a level of infrastructure must be present, including a secure building to house any such technology, such as a computer laboratory (Morgado et al., n.d.). It is unarguable that a school with proper electricity, building infrastructure, security, and monetary stability will better support the installation of a technology infrastructure. Unfortunately, most of the schools with the necessary infrastructure to house such technologies lie in the southern, richer, and more urban locales. A statement by the secretary for distance education (under the auspices of MEC) points to this essential dilemma. In essence, the secretary acknowledges the conundrum but states that the digital divide in developing countries must be accepted as a temporary drawback in light of the need for technological advancement and global competition (Poppovic, 2001).

This strategy, quite plainly, leads to the continuation of the access gap. Communication and computing technologies evolve rapidly and degrade (equipment renewal is commonly four to five years). A compromise must be found between the need to implement technologies in order to maintain a competitive global edge while addressing the needs of the disenfranchised within

the country. A strong governmental objective is the use of information technologies to help alleviate social problems (Takahashi, 2000). If this is to be the case, a policy that balances both social and economic interest must be employed.

If access to a computer is vital to the 21st century student and citizen, as the policies of Brazil and United States advise, then first possible resolution to this issue is to invest in the poorest regions of the country more heavily to bring them up to the standard of the more advanced locations. The *Projeto Dinheiro Direto na Escola* (Project for Direct School Funding; PDDE) directed by the federal government has followed this rationale. It is aimed at directly at public schools, funding small projects directed at school improvement and small purchases (explicitly listed options are items such as the computers, printers, modems, diskettes). The program has invested over R$2 billion (US$ 666 million) in schools with over 20 students from 1995-2002 (MEC, 2003b). One of its biggest goals is to bridge the geographical divide between the north, northeastern and central, and southern and southeastern regions of the country. In order to do so, the program explicitly dedicates more money to the poorest states of the country (northern, northeastern, and central – excluding the federal district of Brasília).

Legislation proposes that the smallest school unit in a poor state (with 21 to 50 students) would receive R$600 (U$200) yearly, while one in a rich state would receive R$500 (U$ 166.67). The largest units (over 2000 students) in a poor state would receive R$19,000 (U$6,333.33), and in a rich state, R$14,500 (U$4833.33) annually ("RESOLUÇÃO/CD/FNDE N.º 003," 2003). While the money may be used to purchase almost anything from basic paper supplies, plumbing, evaluation, and technological tools, the amount nor the difference between the funding levels is enough to promote school equality, especially insofar as educational technologies are concerned. In a country where schools suffer from lack of teachers and

pedagogical coordinators, school supplies and security, among other problems, this meager amount can only begin to tackle some of its more pressing issues (see Paro, 2000 for a detailed portrayal of a Brazilian public school). It is hard to imagine that these funds would be used to purchase a computer, a printer, or a hard drive. This is a notable effort that has promoted the improvement of schools in many poor and rural regions of the country, but will do little to promote equity.

Funds stemming from the *Fundo de Universalização dos Serviços de Telecomunicações* (Fund for the Universalization of Telecommunication Services; FUST), maintained by monies originating from the telecommunications sector now total approximately R$3 billion. Four years after its inception, politicians contemplate the use of these funds to connect public institutions (including schools) to the Internet. To date, none of the riches have been put to use (*Governo prepara acesso público a internet rápida*, 2004; Weber, 2003).

This short overview of the Brazilian condition is meant to demonstrate that the government has enthusiastically promoted the integration of computing into schools. It had been described as a contributor to the eradication of educational and social ills, an objective which has not materialized. These attempts have not, and will not bridge the educational divide. Regions with more advanced computing equipment will continue to prosper, purchase, and renovate; they will not simply stand still. The demands of the global economy will not wait or remain the same. A long drawn cycle of inequality between these regions is poised to continue. If one is to assume that the digital divide is about *devices* such as the computer, then equal *access* is the initial condition for promoting digital equity. If computing technologies are not deployed in favor of the unfortunate, then these policies are doomed from the beginning. Equality will not be reached until substantial funds are designated in favor of the poor.

Access issues have not been resolved, and will continue to arise from newer technological tools. Providing access to these tools is important, but will not resolve the digital divide; the gap lies before and beneath these tools. Even if equal access was reached, computing tools age, leading again to inequality as newer tools and applications are made available.

History has shown us that few pedagogical advances have been made by the introduction of computing technologies into the classroom (Cuban, 2001; Oppenheimer, 2003). Decades of computer integration have not resolved issues of access (Norris et al., 2003), and trend data demonstrates that the computer access gap might take decades to close in a pioneering country like the United States (Martin, 2003). Why then, should third world countries such as Brazil deposit such faith in these technologies as tools for pedagogical change, or for the production of more computer savvy, marketable students? In a country where at the basic educational level (1^{st}-8^{th} grade) only approximately one-fifth of the schools have a library, 5 percent have a science laboratory, and less than two-thirds of rural schools have electricity, is this mentality justified (INEP, 2003)? Have books and better-prepared teachers been debunked by the awe-inspiring potential of the computer as an agent of educational change? Divides (digital or otherwise) will continue to arise through the patterns of technological adoption. Technological inequities, such as the digital divide, will not be solved by more technology. In order to resolve the digital divide a change must occur in how we understand and teach about the relationship between technology and schooling.

The Role of Education

A more realistic and effective approach to technology integration includes investing in the poorest regions without producing a dependence on the personal computer as the technology of choice for education. This is a call for socially meaningful technologies, those which are

solicited by the community who will make use of it – a bottom-up approach to technological deployment (Baker, 2001; for a comprehensive review, see Hickman, 2001). Hence, local communities should be the ones to make decisions regarding the benefits of new technologies once they are aware of their functionality. This model promotes the use of community-based decisions regarding their technological future. Indeed, the community should be able to decide whether to create a computer lab or to hire more teachers, whichever might be deemed more effective and worthy. Projects such as *PDDE* described earlier already ascribe the duty of selecting the use of funds to community-based organizations, such as school councils and *Associações de Pais e Mestres* (Parents and Teachers Associations; APM), which has lead to a large increase in the number of such associations in Brazilian schools.

In order for communities to decide on their technological progress, an agenda for technology literacy must be emphasized in schools. Without the pre-requisite (technology) literacy, the community would not be able to make conscious decisions regarding the use of funds in local schools. Topics such as the reason for the implementation of ICT, how these technologies function, and their social and economic impacts, can promote the type of citizen which is able to make choices regarding technological implementation in his or her environment. This type of instruction *does not* depend on the computer, an expensive and high maintenance technology. The computer *can* be used to promote new learning environments incorporating student-centered and active instruction, multimedia, and critical thinking (ISTE, 2002). The computer is, nevertheless, just a tool, not a pedagogy. These same objectives can be attained by making use of other technologies, including the television, radio, and many other resources. It must be clear that a race towards the integration of computers into the classroom is not a

necessity, and is only one alternative in promoting technological literacy, as well as pedagogical change.

Sustainable Solutions to the Digital Divide

What is missing from current rhetoric is a realization that the computer is unnecessary to promote technology literacy, and considering its high maintenance and price, it might well be an inadequate tool. A number of tools including the television, radio, telephone, allow for the implementation of a technology literacy agenda (ISTE, 2003; ITEA, 2000; MEC, 1998, 2000). Students can learn about engineering design by analyzing a radio, even if only one exists in the school. Though radios are ubiquitous in Brazil, they are not recognized as a tool to promote technological literacy. Instead, the standards for basic education recommend its use as yet another content-transmitting device (MEC, 1998). Could students not learn about network systems, the impact of technology, engineering design, and other topics from these technologies? *Why should a student have to wait for a computer to be integrated into her classroom to investigate and learn about information and communication technologies?* Computers, cellular phones, radios, televisions, and many other devices have become part of communities everywhere. They share commonalities that could easily be incorporated into the curriculum in order to teach the topics of data transmission, networking, social networks, long-distance communication, and so forth. A variety of questions arise, including *what would our life be like without radio, television, or telephones? What services do these and other devices provide? How do they work? What are their effects on our communication and interaction?* The type of knowledge gained from the understanding of existent technologies could well be the type of information necessary to decide whether computers or any other costly technologies should be implemented in their communities in the first place.

Many children from this and previous generations have learned to make use of computers with no formal instruction. If children with no understanding of communication infrastructures and networks, and no knowledge of computing can learn to interact with a computer in days, one can only imagine the level and speed of computer literacy that could be achieved by children *with* a background on these topics. In other words, computers are unnecessary tools in achieving technological literacy; the same goal can be achieved with other tools. Once the need for computer use becomes necessary, as in the work environment, the computer skills can be achieved (see Cuban, 2001; Ernst, 1996; Oppenheimer, 1997; Strover, 2003).

The concept of digital networks, for example, can be explained within the context of a technology that now plays a substantial part of community life (e.g., a radio, a television). Discussions about the political, social, and economic aspects of the introduction of the cell phone can be grounded in authentic life examples and experiences. Discussion could be encouraged in class using student-centered, collaborative, and other emerging pedagogical approaches to learning – without a computer. Discussions surrounding the basic workings of this technology could lay the foundation for critical consideration. Technology literacy becomes a new type of literacy including the process of critically understanding and uncovering the world we live in (Freire, 1985). Transferring the kind of knowledge acquired by this process in order to understand how the Internet works, or how a computer might function should not require the student to *re-learn* but rather to build upon a foundation of understanding gathered from similar technologies.

Conclusion

Approximately 28 percent of Brazilians 11-years-old and older do not finish fourth grade (MEC, 2003a). For these 28 percent the addition of computers to the classroom holds no value

measured either by increased job perspectives and social mobility or increased computer literacy. For these and many other Brazilians, a computer would hold no meaning outside of school. Even the motivational aspects of computing could not encourage an impoverished student who needs to work, to stay in school.

Much is being done to transform schools in order to allow computing to reach full potential as an aid to pedagogical change, higher achievement, and new cognitive approaches. While these promises might eventually come to be, the previous decade has demonstrated that computing technologies have produced little to justify such substantial investment. A mental shift is required of teachers, schooling administrative culture must change, new pedagogical practices must be incorporated, and many other intangibles must be transformed in order for the computing revolution to occur. Even if the current computer integration plan is successful, a substantial portion of schools will not be exposed to computers within the next decade. Providing students with a curriculum that promoted technology literacy will create a new generation of student able to understand the impacts, effects, and uses of these technologies in their communities.

The debate on the digital divide must begin to focus on *people* rather than *devices*. Technological divides have existed and will continue to exist as new devices are developed and adopted. It is likely that the infatuation with technological devices will continue to point educators and administrators in the wrong direction. A focus on technology literacy, providing avenues for computer literacy at a later, more meaningful stage in life is tenable, and can be integrated to the national ICT infrastructure and educational goals. By focusing on literacy, students will be encouraged to understand the *process* of technology, rather than simply being affected by it.

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CHAPTER 3

A MODEL FOR INTERNATIONAL COLLABORATIVE DEVELOPMENT WORK IN SCHOOLS[3]

[3] This is a preprint of an article submitted for consideration in the Educational Media International journal © 2006 copyright Taylor & Francis; Educational Media International is available online at: http://journalsonline.tandf.co.uk/

Abstract

This paper discusses the establishment of an international collaborative program focused on school improvement in Brazil and the United States. Two qualitative research studies were conducted on the development work conducted by faculty, students, and local K-12 school stakeholders. The design and implementation of collaborative student projects focused multicultural education and the use of educational technologies. A model for international collaborative projects is presented that can serve as a framework for future projects following similar principles.

Introduction

The face of education has changed worldwide. Of the many developments in education, two of the most vital forces are those of emerging educational technologies and the recognition of the multiple cultures in the classroom (Sleeter & Tettegah, 2002). As technology breaks the boundaries of the classroom, reaching out to different communities, the school will become increasingly heterogeneous. Technology and diversity are cyclical currents. As technology increases outreach through distance education and collaboration, the school will encounter a more varied population of students. An increasingly diverse student base then requires the sensible use of technologies.

A bi-national consortium formed by four universities in Brazil and the United States conducted a four-year project aimed at school reform and social justice. Undergraduate students and faculty from both countries traveled abroad to develop and implement educational projects within the public school system in the host country. The principles of multicultural education and the communicative functions of educational technologies were used as the foundation. These projects helped form a model by which international exchange programs can be used to foster educational change in low-income public schooling. The universities involved in this project were the University of Georgia (UGA, Athens, GA), Universidade Federal do Ceará (UFC, Fortaleza, CE), Utah State University (USU, Logan, UT), and Universidade Estadual Paulista (UNESP, Bauru, SP).

We begin with an introduction to the project and its foundations, based on *multicultural education, educational technologies,* and *international service-learning.* A sample development project is presented to illustrate the work that took place in schools. The collaborative work of faculty in supporting the development work is discussed. This research suggests a descriptive

model for future international collaborative development projects, as well as a framework of considerations and issues.

Multicultural Education and Educational Technologies

Multicultural education has risen as a powerful force of change within our schools. While many interpretations exist as to the exact scope and focus of the movement, it is generally a call for recognition of the characteristics and needs of diverse students, affirming pluralism and emancipating the individual (see, Sleeter & Grant, 1994). In choosing to ascribe to multicultural education principles, the teacher is countering the traditional monocultural, "all students are alike" approach to education. Multicultural education is both a proposal for change in teacher practices, but also a call for curricular and educational reform (Nieto, 2002). This necessarily impacts more than just the dynamics of teacher-student relations; its social justice agenda has the potential to impact the school and the community.

The use of technological tools in education has had a long history filled with promises and disappointments (Cuban, 1986). The most recent and promising tool to enter the classroom is the Internet. Countries around the globe have invested heavily in equipping schools with computers and Internet access (Pelgrum, 2001). Oppenheimer (2003) calculates that approximately 70 billion dollars have been spent on computing technologies for schools within the past decade (see also, Culp, Honey, & Mandinach, 2003). In countries like the U.S. and Britain, over 99 percent of schools have access to the Internet (Department for Education and Skills, 2003). Poorer countries, such as Brazil, have followed suit, with substantial investments in computing and Internet connectivity. As of 2002, Brazil had installed over 53,000 computers in over 4,600 schools around the country as part of a federal government program for technology integration (Departamento de Informática na Educação a Distância, 2002). The effectiveness of

such investments has been contested over time (Cuban, 2001) but faith in the educative potential of educational technologies has not withered (Sheekey, 2003).

While these two major developments in education have grown from different roots, they do not necessarily hold disparate objectives. Damarin (1998) suggests that the “emancipatory pedagogy” of multicultural education and electronic pedagogies fostered by educational technologies promote a common set of reform principles. These include: (a) rejecting the “banking” system of education that deposits information in student's heads without critical examination (Freire, 1985); (b) de-centering the teacher, who becomes a guide and a mentor, rather than the center of knowledge; and (c) a recognition of multiple ways of knowing and interpreting reality.

The dynamics of the educational technology and multicultural education movements become more complex and dynamic when technological tools are used for their communicative functions, their primary and most powerful capabilities. With the increased penetration of computers and Internet access into schools, global outreach becomes easier and no longer cost-prohibitive. Distance education can connect remote learners comprising substantially different cultural groups. These differences can include language, nationality, ethnicity, socio-economic conditions, and many others. While Internet use and multicultural education are not new phenomena in education, the use of emerging technologies to bring people together for such international service-learning experiences is indeed novel (for a discussion of emerging technologies in education see Jochems, van Merrienboer, & Koper, 2004). This outreach to distinctive cultural groups is invaluable in promoting intergroup relations, reducing stereotypes, increasing dialogue, and other core objectives in multicultural education (Banks, 2004; Stephan & Stephan, 2004). Multicultural education provides a foundation by which educators can guide

and evaluate collaboration and cooperation among individuals who would not traditionally encounter each other, in an educational setting or otherwise. Internet communication technologies (ICT) provide the tools by which this connection can take place.

Study Abroad and Service-Learning

The examination of global perspectives provides for a widening of the meaning of culture. In a world that is constantly shrinking either through immigration, travel, or technology, the ability to communicate effectively with people from distant regions becomes increasingly important. As a consequence, global education enlarges the multicultural education agenda by spilling over national borders. Banks (2000) discusses globalism and global competency as a goal for multicultural education. This encompasses the ability to function in cultural groups within one's own nation as well as in cultures within other nations (see also, Greenholtz, 2000; Hammer, Bennett, & Wiseman, 2003) It suggests that in order to reach the fullest potential, an individual should aspire to learn from and engage with cultural groups in other nations.

The current project had the benefit of being able to provide travel and exchange for both students and faculty in order to engage in development work through grant funding. It is essential though, to examine the difference between the ISL approach used in this exchange program and traditional study abroad, to demonstrate its alignment with the foundations of multicultural education. Engle and Engle (2003) provide a taxonomy of study abroad programs. The lowest level is termed "study tours" which are characterized by the use of the student's native language, having courses taught by home faculty, providing little cultural interaction, and little emphasis on reflection. At the other end of the scale are longer-term, "cross-cultural immersion programs" which, among other things, use the target language almost exclusively, permeate the experience with in-country activities, connect with local people and institutions, and emphasize reflection

and mentoring. The goal for such a program is often termed ISL and can exhibit a clear social justice agenda aligning with the goals of multicultural education (Annette, 2002; Kiely, 2004, 2005). This exchange can be categorized as an ISL program, employing the principles of multicultural education and educational technologies as foundations for development.

Methodology

The program had two waves of exchange. The first functioned as a pilot program, where four students (two from the U.S., two from Brazil) were exchanged in order to work with the faculty in the design and development of the next wave and conduct pilot projects. The second semester of exchanges (the major exchange) had 26 students in simultaneous exchange (10 from Brazil, 16 from the USA), working in K-12 schools in each location. The focus of the program was to provide extensive presence (regular and long-term) in the schools where projects were conducted. Students spent one semester or more at the host university, taking four university-level courses, and partnering with a school teacher on a service-learning project. Students had undertaken at least one-semester of English/Portuguese before traveling abroad, and depending on proficiency, undertook an extra one-month intensive language training course at the host institution.

Two complementary studies were conducted during the second and major exchange. One study focused on the development work accomplished by the exchange students within their ISL projects. The other study focused on faculty collaboration the virtual faculty team (VFT), and its challenges in managing the development work.

Students participated in pre, intra, and post program interviews, which were audio or video recorded. Documentation in the form of class assignments and project reports were

collected. Multiple participant observations were conducted to more deeply examine student projects conducted in one of the locations in Brazil.

For the faculty study, the data included interviews, emails, chat logs, course and grant documents, and questionnaires to investigate the challenges of this international virtual faculty team. Specifically the faculty were asked to elaborate on their personal and curricular goals for collaborating with instructors over distance and to reflect on their use of technology to assist in their collaborative work. The qualitative goal was to describe their goals, perceptions, and methods in constructing success in collaborative ventures with remote educators.

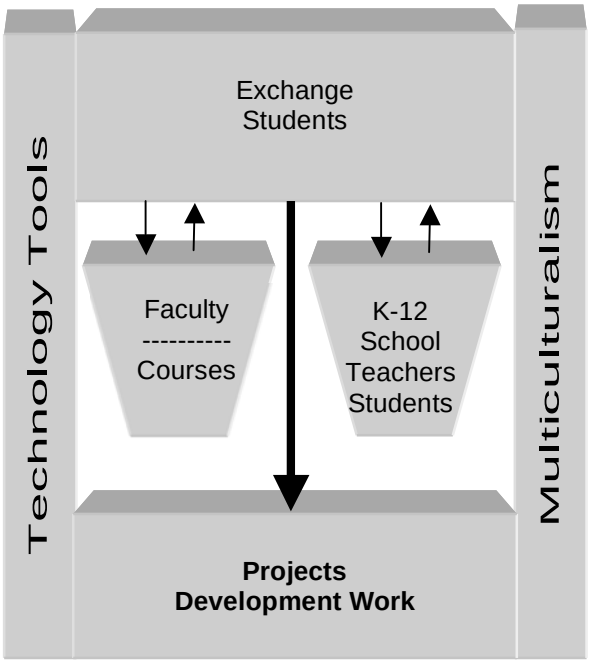

Figure 4. Collaborative development

Figure 4 provides a model for collaborative international development programs supported by ICTs. The focus of the model is on the development and implementation of school-based projects, involving three major actors: the exchange students, faculty, and K-12 students/teachers. The faculty serve as a scaffold, iteratively supporting and connecting exchange

student work, but allowing the students to manage their projects in direct collaboration with the classroom teachers and students. Ultimately, the exchange students hold ownership of the development work. Technology tools and the principles of multicultural education worked as pillars in supporting the project in context and application, as well as the interaction of all actors.

Courses and Development Work

In order to provide the groundwork for project development, two courses were offered in all four institutions. All students engaged in a new online course entitled "Multicultural Perspectives on Technology" (the *multicultural course*). This course was taught online, synchronously once a week, using HorizonWimba, a virtual classroom. One instructor, proficient in Portuguese and English, conducted the course, taught primarily in English. The course provided the theoretical foundations for the student projects, providing a forum for discussion on issues related to *education*, *culture,* and *technology*. Moreover, the course functioned as a meeting time and space. Students engaged in group work, and used class time to discuss their projects. The second course, "Technology Enhanced Learning Environments" (the *field course*), scaffolded the students' field experiences in local schools, providing foundational learning theory and teaching strategies. Three separate classes following similar principles were taught, with the UGA and UFC courses taught as one. The instructors for the courses served as guides and mentors, helping students locate cooperative teachers, select workable classroom issues for projects, as well as the design and implementation of their semester-long lesson plans. The greatest challenge in the applied student projects was matching teacher instructional needs and student interests across the two continents to develop useful and functional connections. The greatest project-wide challenges were communicating the constraints of each location and aligning the field courses to facilitate student project pairings.

In developing their projects, students sought to combine personal interests with curriculum needs of local schools. Two constraints limited the scope of the project. The first was the time frame available for the development and implementation of the project. The second was considerable effort in attempting to establish similar projects in both countries such that students in Brazil and the U.S. could connect on the same or complementary projects. This process included many hurdles. Students had to pick a topic that would fit within the state/country curriculum that was being covered in the particular classroom, and then promote the idea to students in the other country, in hopes of creating a corresponding project with which to collaborate.

An analysis of seven completed projects revealed four major phases of development. Figure 5 demonstrates these phases in comparison to the traditional elements of instructional development: analysis, design, development, implementation, and evaluation (Gustafson & Branch, 2002), depicted in a progressive, linear fashion for comparative purposes. The projects began with a phase of *brainstorming* for project ideas with school stakeholders, a *negotiation* process that permeated much of the project, and an iterative period of *adjustment* to expectations, and finally a completed project, a *synthesis* that reflected an alignment of expectations and the realities of the school.

Students: The Newspaper Project

The newspaper project will serve as an illustration of the development model outlined in Figure 5. For this project, a group of six students divided into four groups (each group from a different university and location) collaborated in the design of school newspapers.

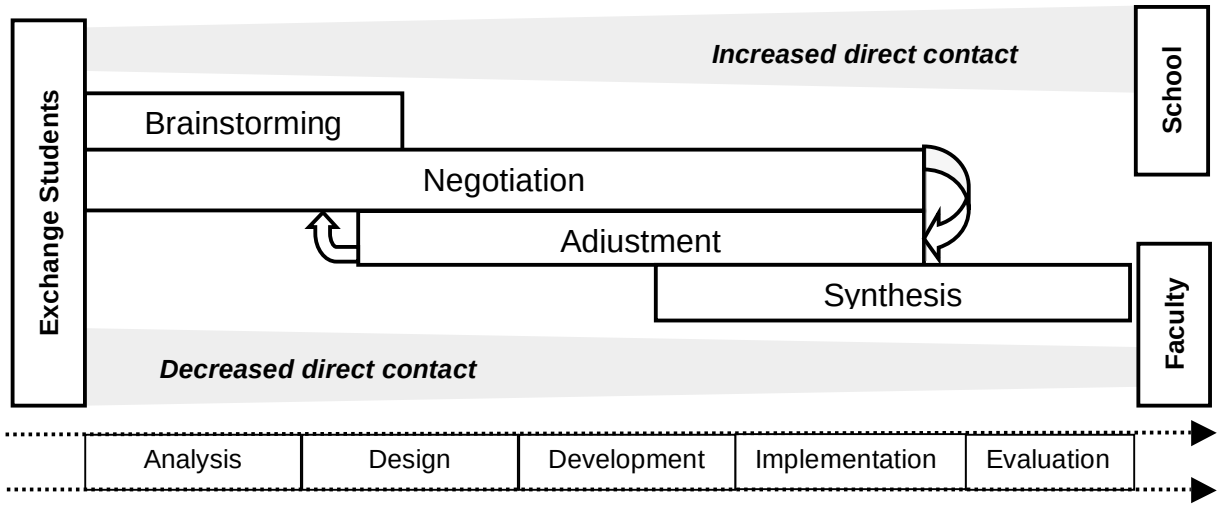

Figure 5. *Student development project workflow model*

The major objectives for this project were helping students reflect on their culture, values, and problems by sharing stories across the two different nations. The final group report on the project highlights these objectives:

> "Our plan was to not only publish regular local news and happenings, but to trade articles from across the globe. We also wanted to create a Newspaper that would serve as a real learning object where students could learn about real issues and begin to appreciate the importance of learning, especially with regards to multicultural education. We hoped that our project, after implementation, would continue to fulfill the measure of its purpose long after we were gone."

During the first month of school, most students had the opportunity to visit schools to discuss and generate ideas with K-12 school teachers. This *brainstorming* phase was iterative in that exchange students discussed ideas with K-12 teachers on location, based on curricular alignment, time constraints, and interests, and brought these ideas back to the exchange group, in search for potential partners. During this phase, faculty involvement was high, serving as a "filter" for the ideas proposed by the students (see Figure 5). This process, originally intended to

last for the month of August, extended for approximately two months. This was due to two primary reasons. First, the lack of alignment between the four university schedules resulted in some students having a head-start in going to schools and discussing ideas for projects. Second, many students underestimated the amount of work necessary to complete the brainstorming phase, spending less than the necessary amount of time planning their lessons and discussing the details of collaboration. As Mark pointed out: “I don’t feel like I’ve organized myself enough, I don’t feel like I’ve…done everything I should have, you know, planned properly…”.

As students organized into bi-national groups, they began *negotiating* the process of collaboration. The newspaper group made use of semi-monthly IP video conferences to discuss the project. Other groups made use of video conferencing, email, the HorizonWimba virtual platform, or instant messaging tools (audio and/or text) to negotiate their projects. All groups soon realized that the differing schedules, teacher and student commitment, and curricula would influence the alignment of the projects. The newspaper group at USU encountered a well-established completely student-led, teacher-supported newspaper. At UGA, students were working with an ELT (extended learning time) students with low-level reading and writing. UFC and UNESP selected students based on ability, potential, and interest in agreement with a partner teacher. The UFC school had a teacher-run newspaper mainly featuring student work, with little student involvement in the process of newspaper creation.

The original idea of establishing the same newspaper framework and stories in each location was abandoned. Instead, the newspaper group focused on the exchange of stories. In aligning with the principles of multicultural education, projects engaged the K-12 students as designers and originators of the ideas for the newspaper content and process. Exchange students

would provide guidance and technical instruction. Because of this, stories examined local issues, from students' environments on neighborhood, school, and city.

What followed was an *adjustment* phase, where students realigned their expectations and the demands of the project, to their now considerable experience in and with school stakeholders. For example, the UFC group had as many as thirteen school students involved in the design of the newspaper. A job distribution chart for the newspaper "staff" had been devised by the exchange student in collaboration with the teacher, and school students were selected based on skills and interest. A one-hour block (bi-weekly), selected by the students was scheduled. Still, within the first weeks of design, students began dropping out. Towards the implementation of the project, only three to four students consistently participated. Other drawbacks occurred elsewhere. The students at USU had difficulty promoting the project agenda, since students already had a well established newspaper group, and procedures for gathering and publishing stories. Exchange students had to make substantial effort to establish a position in relationship to the existing scheme. This apparent handicap served as a useful "model" for the other groups, who also were making efforts to establish a student-controlled newspaper. These and other examples demonstrate iterative *adjustments* that students needed to perform. Unlike a traditional project where the "client" (school stakeholders) holds control, exchange students were pursuing a clear "multicultural project" agenda. These iterative adjustments grew out of the clash between the expectations of the students (filtered by faculty and the courses) and the culture and agenda of each particular school group.

This iterative development and implementation phase concluded with a *synthesis* phase where students understood the barriers and limitations to their projects and devised a satisfactory solution. Students generally expressed frustration towards project completion and a feeling that

they could have accomplished more, or better, during the time they engaged in school work. While some students engaged in more formal evaluation, their reflections indicate that students generally accepted their limited contributions, but were able to highlight the significance of what they accomplished. As Carlos mentioned in his mid-semester reflection:

> "[it] definitely made me see that, teaching is not as easy as I thought it was…in fact when I was these students…there was a lot of planning that goes into it, there's a lot of thought that goes into it…and I never, realized…little successes that the teacher may have, maybe to the student may seem everyday occurrence but to her it's really great that it worked out…and the students are working on the project and they like it."

Faculty: Managing Development Work

Faculty decisions permeated both the design and the implementation of the program. During the major exchange, faculty took both teaching and support roles, becoming important actors in the outcomes of the development projects. In establishing the Virtual Faculty Teams (VFT), a variety of meeting software systems were tested to improve performance in the field courses, solve arising problems, align student projects, and collaborate via Internet technologies. Despite the promise of new technologies, faculty preferred their own well-established systems of video conferencing, email, and chats most functional for workflow when working internationally across platforms.

In the course of establishing collaboration the faculty formed the structures for a community of practice (CoP). Wenger (1998) defines a community of practice as a group that (a) engages in joint enterprise, (b) binds its members together as a social entity in mutual engagement, and (c) produces a shared repertoire of communal resources including routines,

vocabulary, and artifacts. Such CoP members create knowledge together and as a result consider themselves a knowledge network. The VFT shared information on university requirements for international students, assisted with letters for visa applications, planning housing, and ground and air travel for students involved. As one PI stated, “we all respect each other as well as our institutions… Taking care of our friends’ academic children is one way we honor our relationships to each other.”

An initial concern in creating the grant was the distribution of university partners to insure cultural diversity within the countries. Locations of the universities were east and west in the U.S. and north and south in Brazil. Next, in planning for student collaborative projects and social interaction, the team expected students to share reflections on the vast differences of the host universities and cities. It was quite common for students to taunt each other about going to the beach or skiing. With a view to social justice, schools were generally selected in low-income public schools. For example, UGA worked with a racially diverse middle school in which 62% of students qualify for free or reduced-price lunch program. These school selections had implications for the type of connections between student projects and schools possible, and as a result the emphasis was on using existing or freely available technologies such as instant-messaging, web-based tools, and email, in order to promote the continuation of the development projects after exchanges were completed.

At the time of the major exchange, five faculty and four instructors were involved in the project. As a community of practice, the faculty had developed many areas of joint enterprise in the initial two planning years. These included the agreements and structures of the grant plans, and university agreements in support of the student exchange and the recognition of course credit from partner institutions. Via monthly video conferencing and emails, reliable information

sharing occurred continuously, facilitating course content and student selection criteria. However actual student selection and mobility issues were local concerns.

Problems arose periodically and solutions were negotiated. One early negotiation resulted in the selection of “Fall” (August - December) as an appropriate period for the exchange of students. Varying between active scheduling/coordination and problem resolution, VFT activities confirm Lave and Wenger’s (1991) characterization of team behavior as “engaged and dilemma-driven” (p. 33). Examples include scheduling of faculty and student video conferencing, class scheduling, and seasonal changes in time. Though simple, such communication was critical to preserve the continuity in the flow of the courses and the service learning.

Early in the program, a team decision was made to have paired institutions within the larger project to simplify the complexities of student mobility and course credit recognition between academic records offices. The pairs were UGA and UFC, and USU and UNESP. The effects of this decision later influenced a number of grant activities but particularly the field course structure. Unlike the multicultural course which was theory focused and had been planned as a synchronous online course, the field course required onsite supervision at local schools. Students needed scaffolding (Galloway, 2001) in order to understand local culture, and school culture specifically, for a successful interaction with school stakeholders.

This resulted in three field courses with six instructors in the Fall of 2005 (Figure 6; detailed section of Figure 4). The UGA/UFC field course was taught by a single instructor located at UFC. This instructor managed the UGA field site with the assistance of two local instructors. The UNESP and USU courses were separate with one instructor in Bauru and two in Utah. Cementing the connections between the two sites, the senior faculty member at USU traveled to UNESP in October and took a very active role in the implementation stage of

students' projects, staying through completion (6 weeks). To illustrate this separation of the field courses the model has been enlarged for further detail.

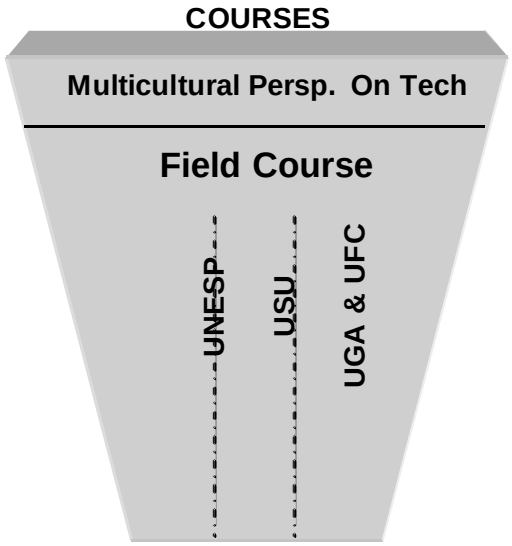

Figure 6. *Detailed design of courses*

The shared multicultural course was used as a theoretical foundation to begin thinking about the more applied nature of the dispersed field courses. Attempts were made to find a meeting time for all three field courses but these were unsuccessful. In response, the VFT met instead via video conferences to coordinate. The dotted lines between field courses in the model above suggest the permeability of the course related information but as the projects developed teaching teams who were co-located became knowledge silos (Burge, Laroque, & Boak, 2000) impacting joint project development of student work. For example, in early August as classes and school visits began at UFC and UGA, USU had yet to begin classes. Further, Utah K-12 schools began even later in August. At UGA, students were paired with ELT courses and only the local UGA team knew these courses started in October.

To insure speedy development and project pairings, faculty held regular video conferences, and when projects experienced difficulties, the team self selected paired projects to

mentor. Other issues contributing to this silo effect included different syllabi, different language proficiencies, and different local hardware and ICT usage patterns. Complications varied from site to site but the UFC location, a state with a high poverty rate, was repeatedly impacted by connectivity and infrastructure issues like reliable internet service, availability of computers for students, a local university strike and complex transportation to and from schools.

The VFT decided on two accommodations to help align the field courses from site to site. The first was offering video conferences for student partner groups allowing face to face communication upon request. The second was the shared use of a Wiki space termed IdeaShop helping students share their ideas during the *brainstorming* phase, to attract groups for collaborative ties, and keep other groups informed of project developments. Despite the lack of alignment on the field courses, a final project showcase occurred during the multicultural class in the HorizonWimba synchronous classroom.

Ultimately, the VFT's adaptability met the challenges of communication, curriculum, and language barriers through a variety of techniques. Three team members felt they were critical; one professor stating, "The video conferencing was critical. We could never have done it without them." The grant project provided the context for mutual engagement and joint enterprise; the course planning and student exchange activities resulted in shared repertoire; video conferencing, emails and chat messaging allowed for negotiated meaning. VFT members continue supporting connections between the students groups and the school sites even today. They have a continuing interest in team and school project sustainability extending the longevity of the VFT.

Conclusion

This paper has described a model for international development work within the scope of education and schooling. Because of the development of educational technologies and a growing

movement towards globalization, schooling is no longer confined to its physical walls. The traditional classroom teacher is faced with a realm of possibilities and challenges with the integration of ICTs into school. This technological development has grown parallel to a growth in multicultural awareness within our schools. Without a sound theoretical foundation, educational technologies can be victims to the growing cycle of disappointment. The framework presented here extends the theoretical discussions on the connections between educational technologies and multicultural education, and proposes a practical model for international collaboration based on these pillars.

The model presents the many challenges inherent in the implementation of such programs. These same cultural differences that serve as a pillar for the program, constitute a substantial barrier for success. The emphasis on communication and negotiation between actors emphasized here highlights these hurdles.

International development work does not depend on the exchange of students or faculty as depicted in this model. International partnerships can easily be established through these same ICTs. With effort and persistence, significant collaborations can occur to promote the development of schools. Issues related to gender, race, ethnicity, nationality, language, disability and others, prominent in the multicultural education agenda, can be explored in rich and engaging fashion through the international classroom pairings. The model developed through this program can serve as a framework for similar development projects with or without exchanges.

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CHAPTER 4

A PEDAGOGICAL MODEL FOR ABSTRACT CONCEPTS:

BLENDING DISCOURSE AND EXPERIENCE

Abstract

The current paper discusses a pedagogical model, leveraging the benefits and affordances of offline, experiential learning, with online, computer-mediated discussions. The course, entitled “Multicultural Perspectives on Technology” was designed around these principles. Students engaged in weekly online seminars and discussions, completed out-of-class activities, and a semester-long service-learning project in order to grapple with abstract concepts related to education, culture, and technology. The model is presented, along with the details of its application in the course, and student evaluations.

Introduction

The face of education has changed worldwide. Of the many developments in education, two of the most vital forces are those of emerging educational technologies and the recognition of the multiple cultures in the classroom (e.g., Sleeter & Tettegah, 2002). As technology breaks the boundaries of the classroom, reaching out to different communities, the school will become increasingly heterogeneous. Technology and diversity are cyclical currents. As technology increases outreach through distance education, the school will encompass a more varied population of students. An increasingly diverse student base then requires the sensible use of technologies.

Teachers must be prepared to thrive in such an environment by leveraging these two forces towards enhancing the educational experiences of students. Doing so is a complex task for teachers accustomed to replicating traditional teaching methods in ever-changing classrooms. An online course entitled “Multicultural Perspectives on Technology” grew out of the need to embrace and reflect on these changes. This course was first taught during a program conducted through a bi-national consortium formed by four universities, two in Brazil and two the United States. Undergraduate students from both countries traveled abroad for one semester (or longer) to conduct international service-learning projects (see, for example Kiely, 2005) within the public school system in the host country. Students worked on independent projects, which followed the principles of multicultural education and made sensible use of educational technologies.

The course was designed around the need to grapple with abstract concepts such as *education* and *technology.* In order to foster a learning environment in which these concepts could be learned, a unique pedagogical model for online instruction was devised. We begin with

an introduction to some pressing issues in online instruction, which the model is meant to address, followed by the theoretical foundations that have guided the inception of this model. Finally, the course is described as an application of this model, followed by evaluation data.

Current Concerns in Online Education

Online instruction has not only borrowed traditional methods of teaching, but also carried forth the principles on which traditional classroom instruction has been based. Online learning has strongly carried the conventional expository method of teaching. Many of the pitfalls of online instruction can be attributed to the faulty assumption that online courses can be taught following the same principles as face-to-face instruction (Reeves, Herrington, & Oliver, 2004). Simply transferring content and form from one mode of teaching to the other has generated online courses where students learn “from” media as opposed to learning “with” them (Reeves, 1998). While learning “from” is not inherently negative, this paradigm has had a tendency to produce courses that copy traditional methods of instruction and presentation to online media.

Darby (2001) defines the first generation of e-learning as one that replicates a conventional course with instructors transferring their materials online and using direct instruction. There are a variety of technologies that can help faculty follow this path very easily. Creating web-available versions of documents, presentations, and other media used in a traditional course is the simplest example. Using a Course Management System (CMS) like WebCT or Blackboard facilitates the implementation of this generation of learning. Slightly more sophisticated tools such as Impatica, allow faculty to easily record and stream narrated PowerPoint presentations. However, this generation of online learning is very much a transfer from the traditional classroom, and has the teacher as its primary focus.

Darby's (2001) second generation of e-learning involves a team approach, with a focus on design and meeting pre-defined goals. A key difference between first and second generation of online learning is the movement from "teaching" to "mentoring" as the key instructional approach. Another key issue for this generation is the scalability of the course. That is, because the team-designed components are self-contained instructional modules often called computer-based training or web-based training, many more students could take these courses than the first generation instructor produced "reading" materials. While this generation is a bit more student-centered, the model of learning tends to be very much an objectivistic model where the content is to be acquired through interaction directly with the computer.

We part ways with Darby (2001) at this point because we believe he is focused on instrumental learning. Mezirow (1991) draws a distinction between instrumental and communicative learning, following Habermas. We contend that much of what we learn cannot be learned by learning “from” media, demanding instead dialogue and discussion. As Mezirow (1991) explains:

> "Education designed to facilitate instrumental learning is the most familiar kind, a fact that reflects American convictions concerning the power of the methods of problem solving codified by the natural sciences. Indeed, many people think that this kind of education (and learning) is the only kind. The typical program generated by this orientation defines educational objectives in terms of specific behaviors that are to be acquired in order to accomplish a certain task, as determined previously by a process of "task analysis." Determination of the difference between present performance level and that required by the task constitutes a "needs assessment." (p. 213).

We often use instrumental learning approaches to teach what actually falls within the communicative domain, but this usually results in inadequate learning. When direct instruction is used in a communicative domain often formal definitions are provided and students are asked to remember these definitions rather than understand the concepts. Much of what we learn is represented by concepts such as *technology* or *education*, which are abstract and highly contextual. Students must grapple with such concepts, understanding their history, context, and application, instead of simply relying on authority-given definitions. In this mode, peers and mentors can support each other in sharing perspectives on the abstract concepts, and coming to understand what they can/cannot, should/should not mean. This type of learning requires knowledge of competing perspectives and context, which could be acquired through reading, videos, or other media. But abstract concepts cannot be treated as skills, procedures, or techniques. While the learning "from" approach can be applied to instrumental learning, and is prevalent in online environments, it cannot foster the type of learning needed in the communicative domain.

Limited Authenticity and Engagement

The emphasis on learning "from" media in online classrooms has led to unidirectional content transfer with limited student engagement. Traditional teaching often emphasizes passive students and fictitious content and scenarios. In many online courses students read, watch, and listen to a variety of media, but do without an emphasis on applying what is learned in authentic contexts. Learning concepts, especially abstract concepts, is greatly dependent on context and experience (Gagné, 1984; Mezirow, 2000; Schank, 1990; Smith & Medin, 1981). Emerging inquiry-based models such as those of project-based learning (Han & Bhattacharya, 2001) emphasize context, and focus on student activity and interaction. Providing authentic contexts for

engagement in online environments can be quite complicated, especially when dealing with ill-defined problems. As Petraglia (1998) contends: “With few exceptions, discussions of authenticity in educational technology avoid the issue of knowledge domain. With even fewer exceptions, the archetypal examples of authentic learning are well-structured problems to which correct answers are possible and empirically verifiable” (p. 62). There is, therefore, an inherent limit to the authenticity of mediated tasks such as those presented in the online environment.

Still, much work has been done to leverage the potential of online environments in order to create more authentic environments paying particular attention to context and audience (Reeves, Herrington, & Oliver, 2004). The authors contend that it is necessary to leverage the unique affordances of online learning environments in order to reach their full potential. Among their suggestions is enhancing the authenticity of tasks and assessment in online courses. Herrington, Oliver, and Reeves (2003) identify ten elements of authentic tasks, which include: real world relevance, examining the task from multiple perspectives using a variety of resources, providing opportunities for collaboration, and creating products valuable in their own right. We believe that understanding within the communicative domain requires authentic contexts for application.

An often-unexplored alternative to promoting authentic tasks and assessment is to expand the boundaries of the online classroom by providing students with offline experiential learning (for a review, see Malinen, 2000). One possibility is to engage students in service-learning projects with authentic clients and tasks in their local area (in this case allowing local schools to benefit from the work of the students). The service-learning experience can be defined in cooperation with the student, provides tangible outcomes, and assessment can easily be negotiated with the service-learning partner (Densmore, 2000; O'Grady, 2000). Simply having an

offline experiential activity does not guarantee the authenticity of the project. Defining the authenticity of the engagement is essential, in accordance with the student, course, and client goals and interests.

Table 1. *Domains for conceptual learning*

	Procedural	Dialogical
Concept	Concrete	Abstract
Problem	Well-structured	Ill-structured
Domain	Instrumental	Communicative
Technology	Learning "from"	Learning "with"

We contend therefore that in order to engage students in complex, authentic tasks in online environments, a shift in four levels must occur (see, Table 1). As a first step, designers would need to determine if the concepts being learned are abstract, rather than concrete. The process of learning the meaning of *education* is quite different than learning a definition for the concept of *chair* (Smith & Medin, 1981). Abstract concepts depend on exploring multiple propositions and ultimately rest on consensual validation. These concepts are, therefore complex, ill-structured problems without steps to be followed toward a single set of solutions. These types of transactions can only be accomplished within the domain of communicative learning. Finally, we must recognize that communicative learning necessarily implies dialogue, discussion, reflection, which can be fostered in the virtual classroom (for a review, Sherry, 2000). Online learning environments emerging from the learning "from" approach are not adequate to support this type of engagement. We must therefore align this type of learning with "cognitive tools" in a learning "with" approach (Jonassen & Reeves, 1996). In our case, these cognitive tools are those

facilitating communication, but there are a full range of tools that can be employed in aiding understanding.

Multicultural Perspectives on Technology

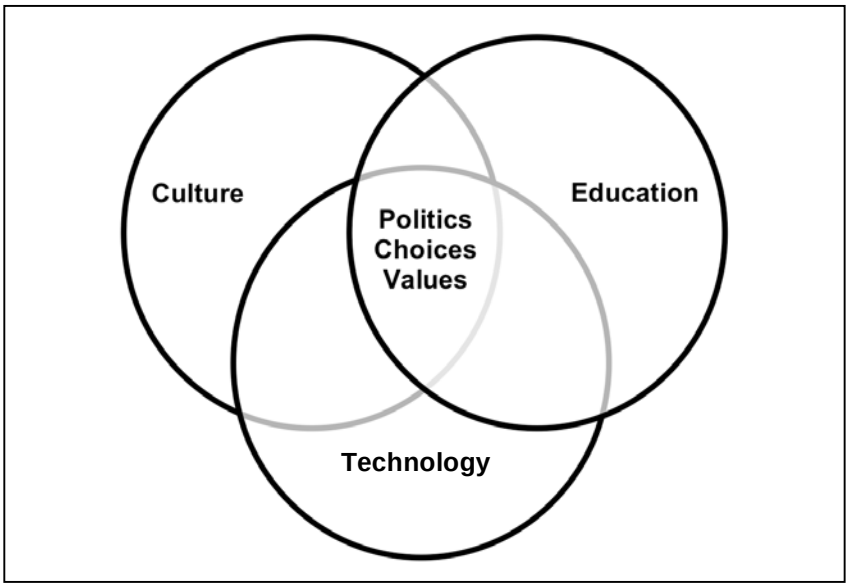

Figure 7. Course conceptual structure.

The exchange program described above prompted the development of a course that would blend a learning approach in the communicative domain that leverages the benefits of online discursive technologies and the authenticity of offline experiential learning. The course entitled “Multicultural Perspectives on Technology” was designed as a seminar, meeting synchronously once weekly. The data reported here come from two iterations of the course. It was first offered during the aforementioned exchange program to twenty-five undergraduate students located at four different locations in Brazil and the USA. One instructor, proficient in Portuguese and English, conducted the course, taught primarily in English. The second iteration of the course was adapted and offered to a group of practicing teachers and school library media specialists at the master’s level at one university in the USA, following the same weekly seminar format.

Each week students discussed the fundamental elements informing educational technology and multicultural education. These three essential concepts were *technology, education,* and *culture* to which all other concepts were related in class discussions (see Figure 7). The course began with a discussion on the politics of education that included: critical education (Rochester, 2003; Shor, 1993), schooling (Gatto, 2003), multicultural education (Noel, 2000; Sleeter & Grant, 1994). It went on to discuss the socio-cultural aspects of technology. Weekly discussions included the philosophy of technology (Winner, 2003) and the digital divide (Warschauer, 2002). Finally, students examined some of the most salient aspects of culture, focusing on their relationship with the concepts of education and technology. These included: gender, ethnicity, race, disability, nationality, language, and others (for example, Banks, 2000; Delpit, 1988). The investigation of these topics was meant to provide students with complex, interacting, and systemic view of education and technology, mediated by socio-cultural factors.

The course was conducted in a blended format (Orey, 2002; Orey, Koenecke, & Crozier, 2003), in order to leverage the affordances of online learning (flexibility, communicative tools, among others) but recognizing its limitations in providing authentic learning. Each key topic included synchronous weekly class presentations and group discussions, and offline bulletin-board postings. In addition, students engaged in a semester-long service-learning school-based project and shorter, community-based activities throughout the semester. These activities were meant to iteratively assist in the re-construction of the concepts of culture, education, and technology.

Semester long-projects for the undergraduate students emphasized the communicative functions of educational technologies (Figure 8). Students had to make strong attempts to

connect schools in Brazil and the USA around engaging issues. Topics ranged from creating a student-led, school-based newspaper, to fostering a bi-national video-exchange program. Graduate student projects ranged from investigating minority student and parent attitudes towards the library and media-center, to reformulating a music appreciation course around ethnic diversity.

Shorter activities examined particularly complex topics discussed in the course. For example, in order to examine the influence of socio-economic status (SES) on education and technology, undergraduate students visited a private and a public school in their host country, and took notes on human and physical resources. They briefly interviewed students, and questioned teachers and administrators. During the weekly meeting, students discussed the potential impact of SES on lesson planning and design. They then discussed how their investigation would affect their semester-long projects.

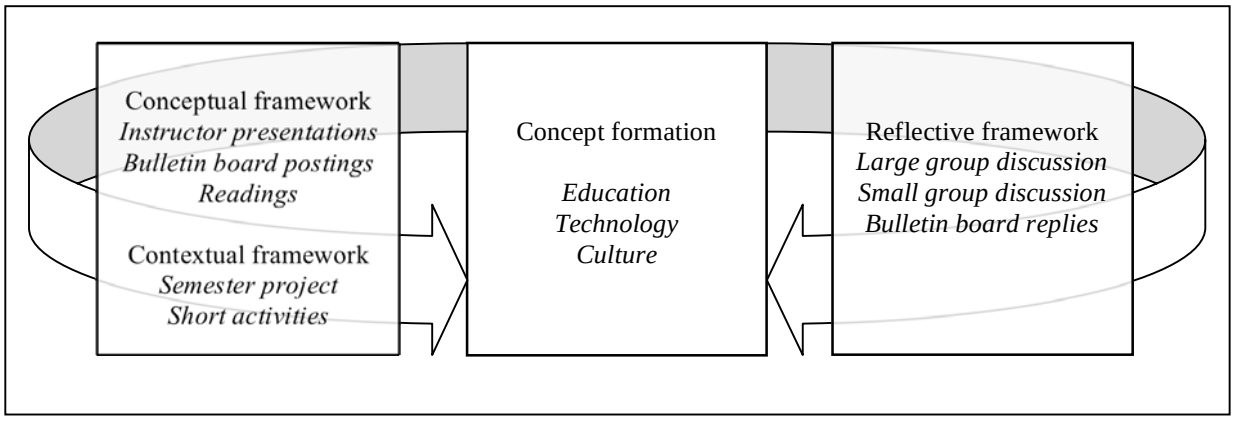

Figure 8. Activities and conceptual re-construction

Every week, students were encouraged to consider how the discussions on the three pillars would impact their own technology integration projects. Moreover, the course functioned as a meeting point. Students engaged in group work, and used class time to discuss their projects

and the concepts covered in class. In order to achieve these objectives a number of pedagogical techniques and technological tools were used. Feedback provided by the students in both courses is presented in order to evaluate how well these activities and tools facilitate their understanding of the concepts and aided in the completion of their projects.

Data Collection

The data presented here are primarily the result of a course evaluation of student attitudes towards the activities and tools used through the course (see Table 2). The evaluation was conducted using a web-based form. Students were given anonymous logins, and were asked a series of questions which allowed for a response on a Likert scale ranging from strongly disagree (1) to strongly agree (9). Each question was written in both English and Portuguese for the undergraduate course and in English only for the graduate course. Immediately after each question, a textbox included an open-ended follow up question that requested an explanation or comments for the score given. Responding to the questionnaire was not mandatory and students could leave any answers blank. Data was also compiled from student's participation in the synchronous class, asynchronous discussions in WebCT, and from their Wiki project pages.

Table 2. *Undergraduate and graduate mean responses to course evaluation*

Question	**Undergraduate**			**Graduate**		
	N	Mean	SD	N	Mean	SD
Q1. The presentations made by the instructor in the synchronous class (online/HorizonWimba) *helped me understand the concepts presented in the multicultural class*.	23	7.7	.93	7	8.4	0.53
Q2. The presentations made by the instructor in the synchronous class (online/HorizonWimba) *helped me succeed in my in-school projec*t.	22	6.1	1.61	7	7.9	1.46
Q3. The breakout discussions (group discussions in the HorizonWimba rooms) *helped me understand the concepts presented in the multicultural class.*	23	5.7	2.08	7	7.9	1.21
Q4. The breakout discussions (group discussions in the HorizonWimba rooms) *helped me succeed in my in-school project.*	22	5.5	1.9	7	6.7	2.21
Q5. The online class helped *modify my perspective on culture.*	23	8.1	1.16	7	8.3	0.95
Q6. The online class helped *modify my perspective on education.*	-	-	-	7	7.9	0.9
Q7.The online class helped *modify my perspective on technology.*	-	-	-	7	7.9	1.21
Q8. The out of class activities *helped me understand the concepts discussed in the multicultural class.*	23	7.5	1.31	7	8.6	0.53
Q9. The out of class activities *helped me succeed in my in-school projec*t.	23	6.5	2	7	7.7	2.21
Q10. The articles we read for class *helped me understand the concepts discussed in the multicultural class*.	23	7.6	1.68	7	7.4	1.51

Kirkpatrick (1994) defines 4 levels of evaluation. The first level is usually referred to as the "smiley face" level. At this level students are asked if they liked the class or instructor or materials. The second level of evaluation attempts to determine the extent to which learners learned the content. This is very much like assessment in that it attempts to assess the student's learning. It can be done via tests or other student produced artifacts. Though it is like assessment, it differs in that the goal of the assessment is to evaluate the instruction, not the individual learner. The third level attempts to determine the extent to which learners make use of the newly acquired knowledge, skills or concepts in their work or other real world setting. The final level focuses on whether the instruction impacts the learner in their work.

The course evaluation data we present here attempts to evaluate the course at levels one and three. Project final reports were used to assess learning (level two), but these data do not pertain particularly to the course so we do not report this data here. The course evaluation asked what the students thought of the course and materials, but it also asked them the extent to which they could make use of the content of the class in their real world projects or the real classrooms.

Course Description

The backbone of the course was the HorizonWimba virtual classroom (http://www.horizonwimba.com/). In its most simple use, the system allows for synchronous audio and text communication, and a PowerPoint presentation to be viewed by all participants (Figure 9). The PowerPoint presentation area can also function as a whiteboard to be shared by all that have permission from the instructor to use it. Finally, the system allows for small group discussion in *breakout rooms*. These rooms have the same tools and functions available in the main classroom, but are meant to include a smaller number of students.

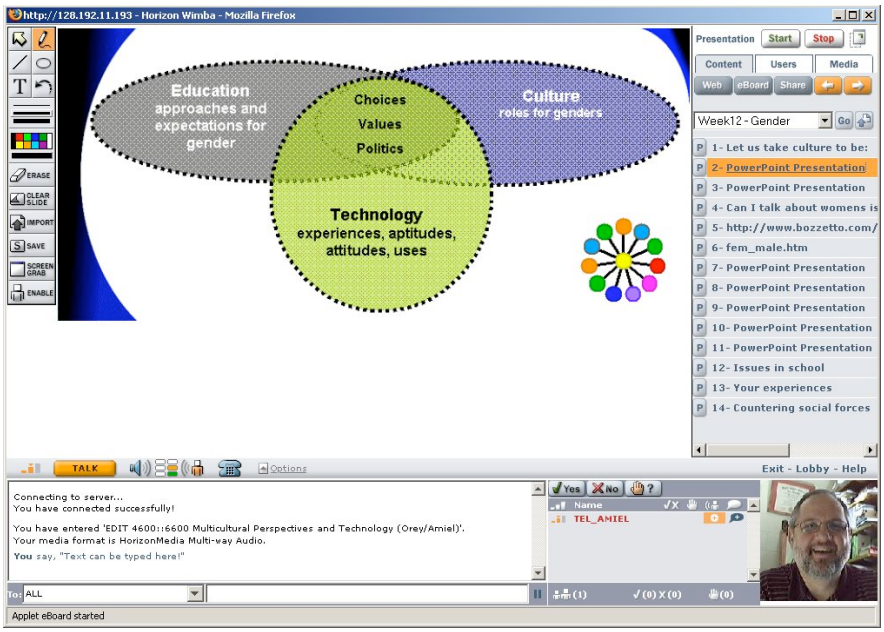

Figure 9. The synchronous classroom environment

Class presentations were intended to be short, emphasizing a small number of points to foster discussion. Articles for the week were referenced, though the objective of the presentations was not to provide a summary of the readings. Students made use of the breakout rooms to engage in small-group discussion. This was in accordance to the principles of the course, attempting to promote dialogue, a pillar in educating for diversity in a democratic society (Preskill, 1997). Students dedicated thirty minutes to one-hour of class time a week in small-group discussions. Groups changed during every class meeting, as an attempt to socialize and integrate the larger group. Student were also introduced to *protocols* for small group interaction, intended to provide some structure and organization to the discussions. Though protocols for discussions are commonly used in asynchronous courses, there is little discussion of their use in synchronous, collaborative spaces (Gilbert & Dabbagh, 2005; Moore & Marra, 2005). Protocols are a set of guidelines that generally regulate the scope of discussion and the role of each participant. During this course, a simple protocol was used to introduce students to this technique. The protocol established one mediator and one note-taker. After a specific task or

question was given, students were sent to their breakout groups and were asked to follow the steps presented on Table 3.

Table 3. *Sample online discussion protocol*

Time	Objective
Two minutes	Whole group grapples with the question and agree on its meaning and scope
Two minutes each	Each student presents his or her point of view on the topic
Two minutes	Mediator provides a summary to the discussion
Two minutes each	Each student has an opportunity to respond
Two minutes	Mediator provides a summary to the discussion

The results from the undergraduate evaluation of the course indicate that the instructor-led lectures in the main classroom were particularly useful in understanding the concepts discussed in class (Q1: $\underline{M}$ = 7.7) but did not have such a strong impact in the success of their in-school, service-learning projects (Q2: $\underline{M}$ = 6.1). The major criticism was an overload of information on a weekly basis that could not be applied clearly to their in-school projects. Students indicated that though the information was very useful, they would have better benefited from more practical connections between the material and their application in the field. A similar pattern can be seen in the graduate student feedback (Q1: $\underline{M}$ = 8.4, Q2: $\underline{M}$ = 7.9). As one student indicated: “I needed help connecting the specific ideas of writers to my in-school project”.

Undergraduate students had reservations about their online group work/discussion, with substantial variation in responses (Q3: $\underline{M}$ = 5.7, Q4: $\underline{M}$ = 5.5). Though the instructor attempted to organize the students and focus their discussions to course concepts, many times the breakout room discussions veered into discussions on the school projects. Students generally indicated a lack of focus on the discussion, even after the instructor presented protocols: “"breakout discussion[s] were hard to deal with because they were so poorly structured. Although efforts

[were] made to have a clearly designated leader and talking points, it ended up being a lot of chit chat and waiting for someone to take charge". All graduate students reported very positively on the breakout rooms (Q3: M = 7.9). As one student indicated: "I liked the breakout rooms. One thing I have taken from this class is not only our students are all individuals, but our colleagues have to be considered that way as well…So talking in the breakout rooms helped me to hear other peoples (sic) point of view, which were often quite different from my own." A few mentioned the use of protocols explicitly: "'I loved the breakout discussions, especially the last one where everyone had a specific role." Like the undergraduate students, there was also indication of a looser connection between the breakout group discussions and their projects (Q4: M = 6.7). Still, some found that the discussions assisted with their projects: "Many people gave me interesting ideas for adding to my project in the breakout discussions. I wish we had spent a little time sharing our activity reports in breakout rooms as well". Others saw no connection between the breakout groups and their project: "We did not discuss our in-school projects in small group many times. I can only recall one time". Open-ended responses clearly indicated a higher level of appreciation of group discussions by the graduate student group.

Undergraduate students strongly indicated that the course changed their perspective on culture (Q5: M = 8.1). Comments indicated that engaging in class with students from other nationalities strongly helped modify their perspective on their own culture: "I think it was fantastic to see my own culture from another angle and see other people having impressions about it as I am having about theirs" (author's translation). Graduate student comments indicate change in their interpretation of culture (Q5: M = 8.3), but also education (Q5: M = 7.9), and technology (Q5: M = 7.9), the last two of which was not asked in the undergraduate student questionnaire. One student indicated that "culture is much much more complicated than I had

thought. While I thought I was pretty aware of things, I know now that I had radically oversimplified the role of culture in people's lives as well as how it can and should influence educational practice." Another student related this change to the issue of diversity: "This class made me more aware of assumptions I make about minority students and minority cultures". Undergraduate students who traveled abroad and graduate students who remained within their country reported similar scores on the transformation of their conception of culture. While traveling abroad can be a powerful change agent in understanding culture, there is rich cultural diversity locally. This understanding can surface as the student becomes aware that culture is not in itself equal to nationality (American culture) or race (Black culture), but is a combination of a number of socially-constructed, abstract concepts. While studying abroad might provide pervasive and powerful cultural experiences, local experiences might be able to provide similar conceptual change, at least for the short term.

An asynchronous discussion forum was provided via WebCT for students to post their assignments and ask question. During the undergraduate course, students were at times asked to reply to postings made by other students, to provide feedback or engage in discussion. This practice proved to be quite artificial at times, as students felt required to post substantive comments even when they did not feel they had anything to say. This requirement was later dropped from the course, and was not implemented during the second iteration with graduate students. No specific requirements or guidelines were offered to graduate students. As a comparison, the students engaged in the undergraduate course posted 403 messages ($\underline{N} = 23$, $\underline{M} = 16.1$, $\underline{s}^2 = 4.79$) and collectively read 6160 postings ($\underline{N} = 23$, $\underline{M} = 246$, $\underline{s}^2 = 176.5$). The students in the graduate course posted 391 messages ($\underline{N} = 12$, $\underline{M} = 32.6$, $\underline{s}^2 = 35.79$), and collectively read 3947 messages ($\underline{N} = 12$, $\underline{M} = 328.9$, $\underline{s}^2 = 185.91$).

These data are presented to indicate quantity of engagement, not the quality or content of the messages. The point to be made is that graduate students engaged in substantial use of the forums, posting nearly twice as many messages per student even though no requirements were made. Messages included resource sharing, debating ideas from class and projects, and providing each other with feedback on assignments. This aligns with previous findings related to their engagement in discussing and sharing ideas in the synchronous breakout rooms.

Offline Engagement

Out-of class activities were meant to provide students with contextual understanding of the often abstract concepts discussed in class. Students in the undergraduate course indicated that the short out-of-class activities were very useful in understanding the concepts discussed in class (Q8: $\underline{M} = 7.5$), but less useful in assisting with their school-based projects (Q9: $\underline{M} = 6.5$). This aligns with previous results, demonstrating that students did not always see a connection between the class and school project. Student comments strongly indicated that these short activities (lasting one or two weeks) were done too quickly for the scope and complexity of the topics under discussion. Feedback suggests that some activities were more useful to the projects than others. For example, examining the concept of *religion* and its relation to the cultural diversity had a stronger impact on learning the concept of religion than on modifying student projects. While a number of students described a disconnect between the short activity and their projects as a failure, most achieved the basic premise of the activity: connecting with, and understanding the complexities of cultural diversity in a student population. Comments included: “the activities helped me analyze what types of people the students I worked with were” and “the researches (sic) we made about the school and the interviews with the teachers helped us to understand the school we were working with a little bit more, as well as the students we were working with.”

Graduate students indicated an overwhelming support for the out-of-class activities (Q8: M = 8.6). One comment supported the contextual objective for these activities: “The activities allowed me to put a face on what we were talking about in class”. Another student indicated that “The activities were very, very valuable--maybe the best part of the class--although the activities alone would not have been enough… Reading about other students' experiences was almost as valuable as the experiences I had”. Students were asked to post their activity reports in the bulletin boards. While students were not required to read or provide feedback to others, many chose to do so in the graduate course. The connection to the semester-long project was unclear for many and once again more heterogeneous among the respondents (Q9: M = 7.7). One student reported that the activities did not “…apply so much to our project, except for a couple of them. I still think they were very valuable.”

Undergraduate students generally found the articles in class interesting and informative, with one particular student (an outlier) who found the articles “the worst part of class” (Q10: M = 7.6). Most students indicated that the articles filled their purpose, as they “helped [me] gain an understanding of the ideas involved in our week to week topics”. Still, undergraduate students found that the articles, which were journal-based and academic in nature, to be difficult to read. Comments included: “they were all interesting with the exception to a few really dry readings” and “yes, the articles helped, but the problem was the level of complexity of some of them” (author’s translation). Many graduate students were more critical of some readings as dated, wishing for more current readings (Q10: M = 7.4). The course included some articles written in the mid-80’s and mid-90’s, and student clearly disapproved of them as being dated, which sparked discussion in class. While appreciating the articles, students also pointed to the complexity of some of the journal-based or philosophical pieces. As one student indicated: “The

articles were also very helpful. Wow, they were also very challenging. I especially liked the weeks where more than one viewpoint was presented. It made for heated discussion, and in the end deeper understanding."

Conclusion

The model presented here provides a blended learning approach to learning in the communicative domain. It leverages the benefits of online discursive technologies and the authenticity of offline experiential learning. This implementation of the model, coupled with a semester-long project, allowed for constant evaluation of concepts *in situ*. As instructors of this class, we felt satisfied that we were able to achieve our goals of conceptual understanding in the three broad areas of education, technology and culture. Further, the students felt that they not only learned these ideas, but were able to make use of these broad concepts in their work or projects in the schools. Similar experiences with teaching courses involving multicultural education as content and process online have also demonstrated success (e.g., Limburg & Clark, 2006).

Others who are trying to create online courses that are in the communicative domain, with ill-structured problems and complex conceptual knowledge, may benefit from designing the course to require for the articulation of their understanding of the concepts, permit open discussion of each other's ideas, and provide a service learning experience with real world situations in which to make use of the ideas being learned.

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CHAPTER 5

TRANSFORMATIVE EXPERIENCES THROUGH INTERNATIONAL SERVICE-LEARNING

Abstract

Study abroad programs are often seen as a way to provide powerful learning experiences to American students traveling to resource-poor nations. Many programs end up being nothing more than study tours where students are spectators to poverty. This study reports on an alternative type of study abroad: international service-learning. The program combined study abroad to Brazil along with a semester-long project aimed at connecting public schools in Brazil and the United States using educational technologies. The case of three undergraduate students who participated in the seven-month program is discussed. This longitudinal, multiple-case study analysis provides a model of transformative learning that is comprised of five dimensions: *spiritual, educational, cultural-global, socio-political,* and *personal.*

Introduction

There is a strong push, at least in academic circles, to revitalize the educational system. Part of this change has to do with an increased attention to globalization and the role of culture in education. This can be evidenced by a continuous interest and increased participation in study abroad programs (Gardner & Witherell, 2004).

Studying abroad is seen as a transformative, life-changing experience (Germain, 1998; Laubscher, 1994). Still, when asked about their reason for studying abroad, students report more instrumental objectives including improving their language skills, career prospects, and learning about another culture (see, for example Opper, Teichler, & Carlson, 1990). Indeed, many international programs have limited impact or do little to leverage the transformative potential of sojourning abroad. Because of the many types of programs, it cannot be said that any and all study abroad programs will provide the same (or any) benefits to the student. Indeed, Riedel (1989) reports that some students *regress* on their language skills after traveling abroad. As Chishold (2003) contends, traveling abroad from one university to another might constrain the sojourner to a similar age, socio-economic status, and interest group. Traditional study tours that include many of the short study abroad programs available through universities, greatly limit the transformative potential of studying abroad in contrast with programs which emphasize cross-cultural immersion, service, and social-justice (Engle & Engle, 2003). There is considerable anecdotal evidence of the transformative potential of study abroad, and research has documented its benefits in a variety of areas including language development and learning about global cultural patterns (Kitsantas, 2004; McCabe, 1994; Opper et al., 1990).

A particular type of study abroad program has reported substantial success in powerful change in participants. International service-learning (ISL) programs blend community service-

learning and study abroad (Annette, 2002). Though the field of service-learning itself is quite new (Kenny & Gallagher, 2002), there is evidence that community service-learning has a significant impact on academic achievement, civic engagement, and personal development (Astin, Vogelgesang, Ikeda, & Yee, 2000).

International-service learning, as a subset of the field, has begun to elicit some of the same concerns. Kraft (2002) contends that, "research on the effects of international service learning is limited and often anecdotal in nature" (p. 303). The limited studies on ISL have reported success in promoting lasting transformative experiences in participants (Kiely, 2004, 2005; Porter, 2003; Porter & Monard, 2001). There is still a lack of research to examine what changes and how this process of transformation occurs. This study addresses the question of *what* transforms by examining the case of three undergraduate students who participated in an ISL program in Brazil. The methodologies employed here answer the call for more explicit and systematic methodologies to investigate service-learning. It employs a longitudinal design to investigate the impact of an ISL program and provides insights to the factors which might lead to transformation.

Studying Abroad: A Transformative Experience?

Many contend that studying abroad will broaden the mind and increase ones' knowledge and competence in understanding other cultures. This personal development has been called cross-cultural competence, inter-cultural competence, cross-cultural understanding, global perspective, international understanding, global citizenship, or global understanding (Banks, 2000; Carlson, Burn, Useem, & Yachimowicz, 1990; Engle & Engle, 2003; Kitsantas, 2004; McCabe, 1994; Opper et al., 1990; Tsolidis, 2002). Jenkins and Skelly (2004) criticize the "vague wording" (p. 8) of terms such as the "global citizen" in light of study abroad programs

that simply target exotic destinations and superficial cultural experiences. Indeed, a clear definition of these terms is often necessary to make the goals and objectives of study abroad programs obvious.

A popular classification of the phenomena described above is termed *intercultural sensitivity*. The development of intercultural sensitivity posits a move from ethnocentrism to ethnorelativism (Bennett, 1993; Greenholtz, 2000). The ethnocentric-ethnorelative scale begins with *denial*, which is described as not perceiving, or denying the existence of other cultures. This is followed by a *defense* state, where one acknowledges the existence of "other" cultures, but they are seen as inferior – an "us" versus "them" mentality. Finally, during the *minimization* phase their perception that one's culture is universal: other cultures are considered to be only superficially different.

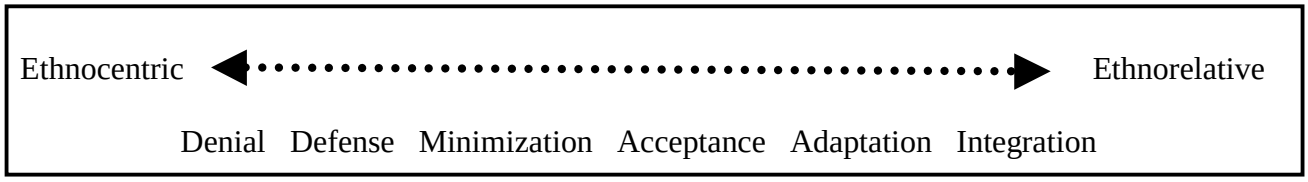

Figure 10. Ethnocentric-ethnorelative scale

An individual at the ethnorelative stage begins accepting that other cultures exist and hold legitimate views of the world, but is now able to experience the world through different values (acceptance), moving to being able to shift cultural perspectives depending on the context (adaptation), and finally viewing oneself through a multitude of cultural perspectives such as "global nomads" or those who ascribe to different identities (integration) (Hammer, Bennett, & Wiseman, 2003).

A considerable amount of learning must take place in order to reach a more ethnorelative stage. It is not sufficient to simply accumulate more information. Instead, something closer to an

epistemological shift is called for (Kegan, 2000). It is imperative that individuals begin to reflect on of their *ways of knowing* and begin to accept the possibility of alternate (but not necessarily better) epistemologies.

Mezirow's (1990; 1991; 2000) *transformative learning theory* is particularly useful in describing the process of change that can occur by participating in significant events such as sojourning abroad or participating in service-learning programs. Transformative learning is defined as:

> "…the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action" (Mezirow, 2000, p.7-8).

The process of transformation begins with a *disorienting dilemma*, what conceptual change theorists would call *cognitive dissonance* or *conflict* (Limón, 2001). Mezirow (2000) proposes that the dilemma is generally followed by: 2) self-examination with feelings of fear, anger, guilt, or shame, 3) a critical assessment of assumptions, 4) recognition that one's discontent and the process of transformation are shared, 5) exploration of options for new roles, relationships, and actions, 6) planning a course of action, 7) acquiring knowledge and skills for implementing one's plans, 8) provisional trying of new roles, 9) building competence and self-confidence in new roles and relationships, and 10) a reintegration into one's life on the basis of conditions dictated by one's new perspective. In line with this process, characteristics of a more developed meaning perspective include being more inclusive and understanding of differing

points of view, accepting of consensus as a judge in validity claims, and basing knowledge on critical examination of assumptions (Mezirow, 1991).

The literature on international service-learning is growing. Most research has been limited to discussing specific programs and outcomes, or providing guidelines to conduct ISL programs (Chisholm, 2003; Grusky, 2000; Kraft, 2002; Porter, 2003; Porter & Monard, 2001; Sternberger, Ford, & Hale, 2005). There is a need to extend the current body of research from mere context-specific accounts, to theory-generating and theory-validating investigations, especially in regards to the process and outcomes of change in students who participate in ISL programs.

Kiely (2004; 2005) developed the most robust model for the investigation of the process and outcomes of ISL. He derived an empirical model based on Mezirow's theory to describe the process of transformation undergone by students participating in a Nicaragua-based ISL program with a strong social-justice objective. Kiely's (2004) model includes six "forms" that transformed within students participating in the program: *political,* an increased sense of social responsibility and citizenships; *moral*, a sense of solidarity with locals; *intellectual,* questioning the origin, nature, and solution of problems; *cultural*, rethinking U.S. cultural patterns and values; *personal*, rethinking one's self-concept, lifestyle, career, and relationships; and *spiritual*, increased understanding of self, purpose, and greater good. There is evidence then that the theoretical framework provided by *transformative learning* can by applied to describe the process of transformation that occurs through ISL programs. This study attempts to investigate the merits of this model to describe the process and outcomes of this ISL program.

Each ISL program is unique, and the results of research based on each program will not necessarily apply directly to other programs. Still, generalizability is not beyond the reach of

case-study research. As Hecht (2003) contends, providing detailed information about *context* or the "characteristics that make the program unique" is essential to increase generalization of findings. I begin by providing detailed information about the program, the context of service, and the students. This will be followed by a discussion of the major findings of the study and its implications for ISL research.

The Program Context

This study focused on one wave of student exchanges that occurred as part of a four-year exchange program between an American and a Brazilian public university. A group of eight undergraduate American students traveled to Brazil to participate in courses and the service-learning project. At the same time, a group of five Brazilian students came to America. The program focused on partnering the university students with school teachers in order to design a semester-long educational technology project. Students were expected to connect the two schools in America and Brazil in order to promote cross-cultural dialogue and discussion. In order to do so, students would design and implement a lesson plan in partnership with the school teacher with the assistance of the program coordinators (Amiel, McClendon, & Orey, accepted).

Students lived in family homes for the entire seven months they were abroad. All students lived in different homes, in different parts of the city. Students had to make use of public transport every day and were given a great deal of freedom to go about their business as long as project and course work were completed successfully.

Researcher

I traveled to Brazil with the students, along with another American doctoral student to coordinate the project with local faculty. As the researcher and program coordinator my relationship with the students oscillated from "friend" to "interviewer". First and foremost, I was

one of three major coordinators for the exchange program. As such, I participated in the selection process that included the three students who participated in this study. I also coordinated a semester-long series of seminars on study abroad and socialization in Brazil that occurred before their travel abroad. During this period of time, I made an effort to portray myself as *program coordinator*, particularly because of the small age difference between myself and the students. Because of this I established a certain level of authority over the students.

When the exchange program in Brazil began, my relationship with the students became more complex. I was one of the coordinators for the project, along with another graduate student and a local professor. I taught one of the mandatory courses for the students participating in the exchange, the multicultural course, therefore taking the role of *teacher*. I also assisted students regularly with their service-learning course/project, regularly visiting the schools and facilitating their projects. Finally, during this period, I began the data-collection process, which added another layer to our relationship, as I took the role of *researcher*. Later, one of the students became an assistant in one of my classes.

Courses

The first two months of the program focused on language learning with a certified Portuguese as a second language instructor. Students enrolled for a semester in a public university and undertook three required courses and one elective course. The first required course (*multicultural course*), taught by me, provided a foundation in multicultural education and its relationship to educational technologies (Amiel & Orey, submitted). Topics covered included the relationship between culture (race, gender, disability, etc.), education, and technology as a socio-historical system. A second course (*field course*) was taught by the second doctoral student and focused on scaffolding the implementation of the service project by assisting students in the

design and implementation of the lesson plan. A third course focused on building educational learning objects, which was taught by a project leader and professor at the Brazilian university. A fourth course was an elective to be selected by the student, taught by regular university faculty. It was meant to provide background on Brazilian culture, education, politics, or economics, depending on the student's interests. Students were not able to complete the elective course since the university went on strike within two weeks of the beginning of the semester.

City, School, and Service

The university is located in Fortaleza, the capital city of one of the poorest states in Brazil. While it is a large city of nearly three million inhabitants, it presents stark contrasts between the rich and the poor (Amiel, 2006) Students lived in the homes of families with middle and middle-high class status in different neighborhoods. The school was located in a busy urban location, distant from the city center, in a predominantly middle-low class neighborhood. The school served 1st-8th grades and projects were directed towards these grades. The school possessed a resourceful computer laboratory that included approximately a dozen computers, a television, VCR, and DVD player, along with a scanner and one printer. It also had one small library, and a covered basketball court where students had their "break". However, it had no science laboratory. Meals were provided to all students during lunchtime. It was considered by local professors and teachers to be one of the better public schools in terms of resources and quality of instruction. Undergraduate students were required to visit the school at least twice weekly. In a typical week, students visited the school at least three times depending greatly on the phase of the project.

Method

If the anecdotal evidence of transformation in the field is to be taken seriously, there is a need to build an empirical body of knowledge and design theories that can help explain the impact of service-learning programs (Ziegert & McGoldrick, 2004). Case-studies are particularly useful in building theoretical models because of the depth and complexity of data. They are also useful in the verification of existing theory, providing data that can falsify existing hypotheses (Flyvbjerg, 2006).

Students

Purposive sampling was used to select participants (Patton, 2002). Of the original eight, five were not chosen because of previous experiences traveling abroad. The remaining three students were the focus of this study, since none of them had traveled abroad at the time of the exchange. It was expected that the novelty of the experience would make it easier to identify personal transformative experiences in students who have not yet traveled abroad. Malcolm was a Persian-American undergraduate Computer Science student who had a low level of proficiency with Portuguese. He did not report any service activity prior to his travel to Brazil. Mark was an African-American undergraduate Romance Languages major who learned Portuguese on his own and had a middle-high level of proficiency with the language before the sojourn abroad. He reported participating in a summer camp for students wishing to learn Spanish and French prior to his trip to Brazil. Patricia was a Caucasian undergraduate Education major who had only taken a mandatory semester of Portuguese before traveling abroad. She mentioned doing service activities during high school and student teaching or assisting in schools twice before traveling to Brazil. All participants were evaluated for language competency prior to travel and participated in pre-trip orientation activities. Within the first two months of their stay abroad, participants had

reached a high level of communicative proficiency and were able to communicate with local teachers and students independently.

Data Collection and Analysis

Two questions guided this study. First, what cognitive, affective, conative, and behavioral transformations occur in students participating in a semester-long international service-learning program in Brazil? Second, what experiences during the sojourn abroad contributed to these potential transformations? In order to examine the participant's transformative experiences, this research followed a multiple-case study methodology (for a detailed explanation, see Appendix A). Three students participated in qualitative interviews before, during, immediately after, and seven months after their sojourn abroad. Students also participated in two focus groups with the group of eight students, one immediately upon arrival and another just before their return to the United States. Participant observations were conducted at the school and field notes were recorded. Selected reflective assignments from the multicultural course were also included in data analysis.

Once all data collection was complete, descriptive categories were created through iterative cycles of coding in order to refine the labels and categories. This first process of data reduction was inductive, data-driven (Boyatzis, 1998). Next, important outcomes and changes were identified. A retrospective analysis was conducted for each participant and each of the resultant outcomes, looking *back* in order to identify possible causes and sources of influence. A "case" was built for each of the students around these outcomes. The theoretical framework provided by Mezirow served as a guide to evaluate the *process and type* of experiences that could be considered transformative. A final model was developed to describe the *outcomes* of transformative learning (see, Appendix B-D).

The use of these methods answers the call for more systematic data collection and analysis in service-learning research (Anderson, 2003; Ziegert & McGoldrick, 2004) and the need for longitudinal research investigating the long term impact of service-learning (Howard, 2003). In order to increase the reliability of findings, multiple methods of data collection were used along with multiple rounds of coding which examined emergent themes. A formal member check was conducted before the final interview, allowing participants to critique and re-examine some of the formative conclusions generated by the researcher.

Outcomes of International Service-Learning

The longitudinal nature of the study allowed for the accumulation of a significant body of data to document the development of student's perceptions of their stay abroad. Based on the process of data analysis outlined above, major themes were identified for each case/participant. The major themes where transformation was evident for each student are presented in Table 4 (see, Appendix B-C for further detail). Though there are specific exceptions, there is remarkable similarity in what students identified as the most important experiences of their sojourn abroad. The *outcomes* under each of these themes (see, Appendix C) were compiled into a list and categorized according to the *type of transformation* that was evidenced within the themes (see, Appendix D). In line with the literature, transformation was identified as a process whereby participants questioned their taken for granted frames of reference resulting in constructions that were more inclusive and open to multiple perspectives. The resulting transformations were categorized. The major emerging categories are shown in Table 5 as a model for *what changes* through participation in an ISL program. The major identified perspective transformations were *global-cultural, educational, personal, social-political,* and *spiritual* (see Table 5).

Table 4. *Thematic outcomes for each participant*

Perspective	Student Outcomes		
	Malcolm	Patricia	Mark
Cultural-Global	America-Americans Brazil-Brazilians	America-Americans Brazil-Brazilians Globalization	America-Americans Brazil-Brazilians Globalization
Educational	Education	Education	Education
Personal	Friendships Identity Values	Identity Values	Friendship Identity Values
Socio-Political	Privilege Civic duty		Privilege Reconstruction of Race SES System Media Power
Spiritual	Religion	Religion	

Table 5. *Transformative dimensions*

Perspective	Explanation
Educational	Questioning the sources of education and the structure of school, developing a critical stance towards educational practices and educational technologies
Spiritual	Investigating the nature of divinity and the role religion should play in guiding behavior, a more inclusive and accepting view of religion
Cultural-Global	Student re-evaluate their knowledge of national (especially Brazil/USA) cultural patterns including values, behaviors, media stereotypes, and influence
Socio-Political	Increased perception of the complexity of society and one's role within it
Personal	Students look within to investigate personal abilities, identities, objectives, values, and interests

Multiple moments of dissonance that varied in intensity and duration (Kiely, 2005) occurred to produce the type of change identified by these dimensions. The domains are not exclusive. For example, changes identified within the *cultural-global* domain had significant interaction with changes occurring under the *personal* dimension. These dimensions are explained below followed by illustrative examples. While the *process* of change is discussed, a procedural model is not within the scope of this article.

Educational

One of the explicit goals of the program was to modify the student's concept of education and educational technology. Much of the *multicultural* course was focused on providing a more critical perspective on schooling through discussions on democratic, critical, and multicultural education and its relationship to educational technology. Students applied these principles in the projects they conducted in schools over the period of one semester. The context of application was a school that had far fewer resources than the schools students had experience in the United States. Students encountered a less rigid educational environment. Within the classroom students were often free to walk around and interact without the intrusion of the teacher. Students also had to adapt to the difficulties of working with teachers who worked multiple jobs and often did not keep to meetings or schedules.

These elements and others provided the context for change along the *educational* dimension. This implies an expansion of the definition of education that goes beyond the walls of school. It involves seeing education from the eyes of students and teachers, and consequently the complexity of the teaching-learning process within different cultural contexts. Because of the overt critical stance being advocated by the course and program objectives, it was expected that students would be able to expand their concept of education in this direction. Patricia, an

Education major with prior teaching experience, exhibited the most direct and profound changes in regards to the process of teaching and learning. Though each student modified their understanding in different directions, all were able to expand their thoughts on education to intersect broad political, economic, and social concerns.

Throughout the program Patricia compared and contrasted schools in Brazil and the United States, and struggled to find answers to persistent educational questions. She exhibited a high level of affective involvement, which was clear from her regular visits to the school. She assisted her teacher even when her own project was not taking place. She often expressed frustration in completing her project and garnering student participation. Connecting two public schools in the United States and Brazil was not a simple task. It demanded coordination and skill (Amiel et al., accepted). This task was made more difficult because of her work with very young children. Her angst was catalyzed into identifying the factors that could lead to such difficulties in a Brazilian school:

> "I've worked…and observed…three like kindergarten classrooms, and that's what I'm doing here at (the public school), and, it's weird…why aren't we getting anything done, why I mean does it take why, why are we taking so much time copying words, or why are these students still struggling, grasping this concept and I can't think like how really it's done differently, I mean, I can, but it's just, it's weird I mean it seems like I know there's challenges for teachers in the U.S., I guess, I mean, I never realized how important, how important like, um, a student's family environment, or, you know, home environment is, if their parents encourage them to do their homework and give support…and, um, sometimes I

> think well, maybe it's just because they're only in school for three or four hours, and....it's just different how they let them run around."

Here Patricia considers the teaching practices, classroom environment, parent involvement, and school policies. Later she would develop her thinking to the broader problem of under-funding of schools in Brazil and the lack of resources available to her teacher. She returned to the United States to assist in another kindergarten classroom. Months after her arrival, she continued to grapple with these issues as she compared her teaching experiences in Brazil to those in the United States.

She gained an expanded understanding of multicultural education and educational technology while in Brazil. She returned to her university courses within the college of education where she felt frustration towards classmates who exhibited a simplistic approach to multicultural education:

> "…it's so annoying when you teach about culture, you don't just wanna be like, yeah in Mexico this is the way, you know, they listen to this kind of music, and they have these festivals, and in China, you know, they eat this kind of food and this is their main religion, like, but, and I ask them how can we not do that!... it seems like my classmates are more simple."

She recognizes this "human relations" approach to multicultural education (Sleeter & Grant, 1994) as an incomplete and limited standard in teaching for diversity. She demonstrates a higher level of understanding during one of the interviews by proposing a scenario where a new Asian student joins her classroom, and stereotypically does not "look the teacher in the eye". She indicates a more carrying approach, and the need to:

> "…investigate and do your homework and, and find out what is, but if I did know that that's why they were doing it, you know, the student wasn't looking at me because that's their culture…I'm sure, maybe I would just…talk to the student… and tell them about the relationship I would like to have with them, and you know, then they might go and say, my parents told me not to…so, maybe talk to the parents about it…"

She goes on to consider the repercussions of this intervention, and the importance of scaffolding the student to the local/power culture (Delpit, 1988). Though she admits that she still grapples with these concerns, she adopts a more flexible, context-dependent approach to finding solutions to educational dilemmas, moving away from simplistic cookie-cutter solutions.

Spiritual

Brazil has the world's largest Catholic and one of the largest Christian populations in the world. Though evangelical and charismatic religions are clearly on the rise, Catholicism is nearly accepted as a state religion. Christian symbols adorn shirts and stickers, and show up in the form of personal accessories and home decorations. The town of Fortaleza is no exception to this rule. Schools unabashedly adorn their walls with crosses and images of Jesus or Mary. In our partner school, a large open bible lay on the teacher's meeting area. But unlike other metropolitan regions in Brazil, Fortaleza has limited religious diversity. While churches of an extensive array of denominations can be seen on every corner of town, other temples are nearly non-existent. A change along the *spiritual* dimension indicates a greater or more critical understanding of the metaphysical, such as considering what constitutes a "good life" or the concept of organized

religion itself. Both Patricia and Malcolm were deeply affected by the religious context, but in very different ways.

Though he did not consider himself a devout Muslim, Malcolm attended Mosque in the United States with his father every week. Living in a Catholic country, in a city where exposure to Islam was negligible, removed what Malcolm called religious "reminders":

> "I feel different about religion, it's kinda weird…like in (the United States) I would normally go, like every Friday I'd go with my dad to the mosque, and it's kinda this reminder, always going and thinking about Islam and stuff and, but now here, I'm surrounded in like Christianity and, it's not, it's not a bad thing, it definitely makes me think, it's kinda taken me away from these reminders…it's not like I've lost religion completely, like I still think about…I guess theology, that sort of thing, but…I've come to, like I've try to I guess look at the religions here and find similar, I guess, a common base to kind of…not level with it but and feel kinda the same reminder…um…I guess I always think about, think about God in the sense of…but it's not the same, sense, it's not the same sense as it was in (the United States) then I was going to, not in an Islamic sense…it's more, it seems to be more free… I guess just theology, free from any…any defined religion."

Being surrounded by Catholics, Protestants, and other religions prompted a search for underlying connections between different religious practices, in search of these "reminders". When I conducted an interview with Malcolm seven months after his return, I expected to have him report on being less dedicated or abandoning his religious practice completely. Instead, upon his return to the United States Malcolm became more dedicated to his religious practices. He

indicated using religion as a moral "guide" to a good life, a source of "education" which he can use as a guide in conducting his life. While there were limited opportunities to discuss religion with others, he conversed regularly about religion with a Christian friend, and complained about Americans who were unwilling to educate themselves about religion.

As a practicing Catholic, Patricia presents quite a different case. She explained how Brazilians perceived her:

> "I live with a Catholic family and, you know, most of the Brazilians here that I know are Catholic too, but…well I'm Catholic too…I feel like…people, if I wasn't Catholic I feel like people, um, like they're glad I'm Catholic, you know, I feel like maybe they're not open to other religions here, I, I don't know, its just weird…I thought before I came here that I was really become a stronger Catholic, cause Brazil is really Catholic, and I'm gonna live with a Catholic family, and…you know being away from home, maybe, rely more on God and stuff, but…things got more confused."

Patricia expected to find symmetry in religious practices in Brazil, knowing the country to be predominantly Catholic, and her host family to be of practicing Catholics as well. She was astounded by the differences she encountered in the practice of her religion, such as the pervasiveness of Christian symbols and how shamelessly people "advertised" their beliefs by wearing t-shirts or bracelets. It surprised her to see rituals in Christian churches in Brazil which she considered to be in line with Protestant practices in the United States, such as "waving their hands" or other overt demonstrations of faith. As part of an activity in the multicultural course, Patricia visited an Evangelical temple, seeing similarities between the practices of Evangelicals and Catholics in Brazil. Upon her return she continues to reflect on these differences:

> "…it made me realize how, like…you know, close minded I was, or just lay judgment down because I'm like…protestant or, I think, they're weird because they do that, my own kind, do it too …I guess I've never really given a lot of thought to religion, when we did the religion class, or when we did that activity, it's just weird how there're so many different ways, so many different religions and beliefs."

Her perspectives are more open and inclusive as she realizes the fragmentation in Christianity, and multiple approaches to religion.

Cultural-Global

This is perhaps the most common and well documented change which occurs not only through ISL programs, but through many study abroad programs as well (Bacon, 2002; McCabe, 1994; Petras, 2000; Porter & Monard, 2001; Walsh & DeJoseph, 2003). When traveling abroad students are almost guaranteed to experience a different social system that includes language, institutions, behavioral protocols, dress codes, among many other elements that comprise culture. While similar dissonance can be experienced by traveling within one's country (Sternberger et al., 2005) the disparity is almost certainly greater when traveling abroad. This process is the result of comparing and contrasting initial and emerging constructions of Brazilian culture, followed by an examination of their latent understanding of American culture.

A change in *cultural-global* perspective indicated a re-examination of cultural patterns especially in regards to the United States and Brazil. Students evaluated the merits of traditional American values, including a strong work ethic, a life that is organized in a series of systematic steps (school, college, work, children, retirement), and the ownership of possessions as a measure of success in life (Krans & Roarke, 1994). Change in a *cultural-global* perspective is

the most immediate since the sources of dissonance are abundant, highly visible, and do not depend on proficient communication and dialogue. Patricia discovered one of many differences in patterns of behavior that eventually led her to transform her perspective of the Brazilian identity and later, her own:

> "I expected people to be more open, you know…kiss in the cheeks, and I hear their bathing suits are much more, you know, revealing…but like…at the shopping (center) couples would like, kissing each other standing in line, and I just couldn't believe it! And like I talked to Joana and she's like, why, what's to be ashamed about? …people will even go to the mall just so that they can kiss."

Small moments of dissonance such as this accumulate over the span of months to produce modified interpretations of the local and native cultures. This process is the result of comparing and contrasting initial and emerging constructions of Brazilian culture, followed by an examination of their latent understanding of American culture. Malcolm realizes an alternative lifestyle that is not as frantic as the one he experiences in the United States. He considers that:

> "… (a) person's life is maybe simpler (in Brazil), but I think sometimes that could be better, like, I don't know we rush around a lot like in the US, there's a lot of that, they don't have I don't know, the culture here is a little different, it's a little slower, just, the family…ties seem stronger, I like that, I mean that they're more fortunate in that sense."

Unlike a temporary tourist, Malcolm's interpretation of Brazilian lifestyle being "slower" holds substantial validity. He was an active member of Brazilian society, adopting a lifestyle similar to the college students he interacted with in Brazil. He is able to compare two very similar conditions in the US and Brazil (university student living at home in both situations) over a

substantial period of time. This legitimizes his interpretation of Brazilian life, in the sense that it presents itself as a viable, even if difficult to achieve, alternative to his American lifestyle.

Mark lived in a middle class neighborhood in Fortaleza, which in his interpretation "would be considered the ghetto" in the United States. He usually had to ride in a crowded van (public transport) for one hour in order to arrive at the school. Having to take public transportation and living in more modest conditions were some of the most important factors modifying his perspective of cultural patterns:

> " …it just makes me question you know, what are the important things a lot more, when I've seen those things, you know, in Brazil I see like more value placed on friendships and your family and here in the United States I'm seeing a lot, I'm seeing a lot more, um, value put on you know more of your material things, the more money you have, you know, what kinda car you got…and, I'm sure there's, exceptions everywhere but that stands out most, you know, I really see like a lot of difference in the value system…um…the value systems of both countries."

While all three students had already modified their interpretation of Brazilian culture while in Brazil, there is a process of consolidation that takes place upon return. Once the students return to the United States with their modified perspectives, the perspectives need to be accommodated to their home culture. For example, they are suddenly aware of factors that were concealed by their initial frames of reference:

> "I just hear, I hear all these people complaining, I'm like man I took a shower, a cold shower, for about you know, six months, you know, I got maybe about…maybe about five or six occasions when I was able to take a hot shower, for the most part it was cold showers, you know…"

Mark modifies his perspective on American students and begins to question the disparities between the two countries. He continues to question the values and priorities that are implicit in American and Brazilian societies.

Socio-Political

Change along the *socio-political* dimension is evidenced by a more complex and systemic understanding of society and one's place or role within it. Learning about disparities in socio-economic conditions was one of the most important factors in modifying student's perspective on the *socio-political* dimension.

Disparities between rich and poor were evidenced within the city, home, and school. As an activity for the multicultural course, students were guided through an investigation of socio-economic status and its relation to culture. Two activities took place. During the first, students participated in a lecture delivered by a local community activist and author, who had written a book about his life and experiences in *Lagamar*, a local *favela* (shantytown). Students were asked to read his short biography (PPJoel, 2005) in preparation for a tour of the neighborhood with the author during the following week.

Though the city of Fortaleza is remarkably poor in comparison to the life conditions of the students in America, participants were aghast at the disparities they encountered at *Lagamar*. Students contrasted seeing poverty on TV, at a "distance" and how dissimilar it was from seeing it upfront. Patricia contrasted the levels of difference in socio-economic status between the residents of *Lagamar* and other parts of the city they usually navigated: "it’s weird to think that that’s how they’re life is and it’s so different from mine different from…the city". Mark described his reaction:

> "…when you really have to sit there, and see it in your face, you smell that air and you see these kids running in the street, they're all like kids, you know, trying to have fun, but you see like there's problems at home, you know there's, you know, you see the kids got little bumps, but she's still smiling, she wants to play with the little Barbie doll and… I mean it just really, you really get the chance to put it in context, wow I knew this before but I, I really can say, now I can kinda see what's going on…cause you're not living, but at least you, get the chance to put into context."

Though students lived in relatively modest conditions in Fortaleza, encountered poor panhandlers on a daily basis, and worked in a very modest school environment, the encounter with *extreme* poverty was crucial to igniting their understanding of how deep the disparities between rich and poor can reach.

The second part of the activity on socio-economic status involved participation in a guided visit to one of the richest private schools in the city. Students were asked to take extensive notes on the resources, design, structure, staff, and students while touring the facility. When the school took a snack break, Patricia had a brief moment to ask students some questions:

> "I asked them about public school and it was interesting how anxious they were to inform me of the poor, even horrible, quality of them. The girls seemed aware of the problem, and just accepted it and were glad to be in private school instead. I haven't talked to any 13 year-old girls at (the public school) as I did, but I would imagine that it would be difficult for the two to be friends because of their different backgrounds."

And Mark pointed out that:

> "…here in Brazil, there's such a great, um, social contrast, that a public school and a private school are two completely different realities. Public school…there is so much lacking resources, then you look at a private school, we went to one private school here, and it was like an educational fortress they had absolutely every single resource you could need from computers up until counselors, psychological counselors to the students."

Though our students recognized that these children were likely similar to the children at the public school, there is a clear divide in terms of resources and possibilities.

Similar events took place within the student's homes. All students lived in homes with *empregadas* (maids) or other assistants, which is common in middle-class (and higher) homes in Brazil, but not within the United States. Malcolm had regular conversations with the *caseiro* (person responsible for the upkeep of the house) at his host family's home:

> "Caseiros…they have a pretty simple life and…or like, um, or maybe like the guy that works in my house…he's my age, and he's learning to read…people like this I don't know just makes me I don't know I guess…I don't know, I guess feel like…I've had a good opportunity in life…I could do more with my life."

These experiences around the city, school, and home began to contextualize and expand their understanding of socio-economic status and its implications. Students began to ponder the life chances that were afforded to them in contrast to the people of Fortaleza, children at the public school, and the *caseiros* and *empregadas* living in their homes. Malcolm reflects on his privilege as a member of a higher socio-economic class and increased sense of civic duty:

> "…seeing…that I have a chance, to help...people that are begging, probably don't have a lot of free time to help others, they have, they really have to work to keep themselves, but, I mean, because of whatever, um, advantages I have, because of family, or, whatever, I have more free time, I mean, **I** can do something, that I can, um, I don't have to worry so much about helping myself, I can concentrate on doing something good for other people."

For Mark the question of privilege is applied to racial concerns. Mark had an expectation that he would learn more about his African roots while in Brazil. Though African heritage is evident in the phenotype of its citizens, Fortaleza has a relatively small population of citizens who identify themselves as Black (Funes, 2004; IBGE, 2006). During two short trips, he was able to find these "roots" and a great deal of affinity with Salvador (in the state of Bahia), the epicenter of Afro-Brazilian culture. He reflected on the relationship between socio-economic status and race as he noticed patterns of discrimination between the poorer and richer schools and different neighborhoods within the city:

> "…it definitely makes me feel different…now I really see like, its not just...some say it's not a black and white thing but and its, its, its, people who got a lot of money, people who don't, and the people who don't have a lot of money usually end up being the…poor Black and Indians…"

He began to see through the myth of Brazilian racial democracy (Hanchard, 1994) that he expected before his sojourn abroad. Observing the level of poverty and lack of opportunities available to Black Brazilians made him re-position his attitude towards African-Americans. He considers that there is "no excuse" for African-Americans to under perform with the level of human and physical resources that are available to them in the university environment.

Personal

Changes along the *personal* dimension were evidenced when students compared and contrasted their experiences with their latent identities in order to question values and priorities. A change in the personal dimension seems to be directly related to changes on the other four dimensions. As students begin to construct a new sense of how society is structured, and examine important cultural dimensions, a series of personal constructs begin to change. A change along the personal dimension involves a process of change in *identity.*

For Mark, the question of race and socio-economic status re-positioned his attitude towards Black Americans as privileged in comparison to poor (Black) Brazilians. In spite of the prejudices he evidenced in the United States, Mark began to see himself as a privileged (Black) man. The experience of living with a large level of autonomy along with a modified *cultural-global* perspective increased Mark's sense of individuality:

> "I have a little more clear idea myself than I did before like, I, I feel like more an individual now…cause a lot of times before I'd just kinda go with the group or whatever like that but I feel like more…more independent but…I'm still trying like, find what my place is..."

Most evidence of change along the *personal* dimension arises from the last interview that took place seven months after their return. All students reported viewing their close associations in a very different light, be it their friends, family or colleagues. This modified their perceptions of friendship and associations, which in turn transformed their identities. To all students, Brazil emphasized the value of spending time with friends and family rather than over-prioritizing work and making money. Students found increased value in emphasizing meaningful relationships

over more shallow encounters. Mark noticed the frantic pace of his friends at the American university and re-evaluates his close friends upon return:

> "…it just seemed like a lot of my friendships is just, I started seeing, in more of the light of acquaintances, acquaintances rather than you know, friendships, and I don't know man, it just seemed real different the whole meaning of definition of friend... someone I can sit, you know, it doesn't have to be real long, but at least I can feel like I can talk with them for a little bit and it's not too much of a rush involved."

Students gained a new understanding of their priorities and the type of people who they wished to be surrounded by. Patricia was part of a sorority before leaving for Brazil, though she had given thought to abandoning the organization. Upon her return, she left the sorority for good and distanced herself from students she considered to be superficial, materialistic, and shallower.

She talks about being more liberal, and expresses an interest in reading the news more in order to be more able to take a "stance" on political issues. Living with another family, and observing the "ecology" of different families provides her with a new understanding of her own. Patricia becomes highly critical of her family relationships, especially in the role of her father as a very dominant figure. She talks about being more liberal and able to take a stance: "I think I'm really different, um, like, with my Dad, um, I guess just with him. Instead of just being like yes, yes, you know I'm more, like I'll respond to what he says". These examples demonstrate a pattern of identity-change towards a more affirmative and autonomous self.

Malcolm takes a similar stance, distancing himself from stereotypical college student values, focusing on a stronger work and study ethic he observes in men at the local Mosque:

> "…it seems like a lot of the people who I know they're…pretty successful like...they study a lot...I mean they're, they're doing very well in school, so it's seems like yeah I'd like to be like that too, I mean...I study, but I probably can study a lot more, so it seems like if I had, I don't know...if I could be more like them, that them, not them, those people, like those guys I know, then I would probably be doing, better."

Malcolm's change in spirituality intertwines with his work ethic and his objectives for the future. He finds a new set of role models within the Mosque. Malcolm's spirituality intertwines with his notion of time, work ethic, and his view on what constitutes a "good life". He catalyzes this notion when he describes going to the Mosque on Fridays:

> "…there's this weird sense when I go on Friday, that everything like, that this life is so like, clean and perfect. Because, and I think the reason is that like when I go on Fridays, I always like, I mean there's always like, [I mean] off course, like I take a shower, so I'm always very clean, I've always put on clean clothes...um, I don't, I never rush myself…I always make plenty of time so I want the life like, Fridays for me are always very clean and relaxed and very, tranquil. So I guess that gives me the idea that this is a really good life."

His interpretation of a "slower" life more focused on family and friends in Brazil is translated to a change of habits upon his return. The "good life" finds itself exemplified on a Friday at the Mosque where priorities are shifted and *time* takes a new meaning.

Conclusion

The persistent benefits of service-learning should ideally go beyond reported changes in the attitudinal, cognitive, conative (volition) domain. For the cycle to be complete, students

should ideally use these transformed perspectives to find a path to personal and societal change. The longitudinal nature of this study allowed for a glimpse at student's lives approximately seven months after their return to the United States.

During our final interview, Mark was clearly searching for answers in regards to "his place" and what his future would be like. He did not indicate participating in any service or volunteer activities, deciding to focus instead on schoolwork. At the beginning of the program, he had mentioned an interest in working in international issues, or working abroad. He reported greater interest in the history and politics of poor nations and spoke eloquently about the colonization of African and South East Asian countries. He attributed great value to his experiences, and discussed promoting study abroad to other minority students or teaching English abroad. It was clear that personal change had occurred, though Mark provided no evidence of greater action within the university or larger community.

Upon her return, Patricia continued her work at a local school assisting a kindergarten teacher. She applied to student-teach abroad the following year, hoping to travel to either Mexico or Australia. While in Brazil, Patricia seemed focused on her academic goals. Patricia had reported doing service work during high school and was frustrated at the type of charity-service emphasized by her sorority. Approximately six months after her return, I emailed my students in regards to an opportunity to volunteer to the Youth Serve America organization. Patricia joined the organization and became part of the planning committee of the National Global and Youth Service Day. Independent of her previous experience in service, choosing to participate in this specific group demonstrates an interest in global concerns.

I returned to the United States approximately five months after the students came back home. An opportunity arose in one of my classes (which the students had taken prior to going

abroad) to provide assistance to a student suffering from cerebral palsy. Since I had kept in contact with the students, I made an offer to both Patricia and Malcolm to participate, and Malcolm ultimately took the job. He demonstrated an incredible amount of empathy for the student, working with her beyond the requirements of his assignment and meeting the student outside of class time. Malcolm went on to volunteer in a community organization which re-assembles computer parts into working computers to be donated to the community. He re-considered his career path, moving away from Computer Science, a field that "doesn't really help people". Instead, he is considering the possibility of pursuing a master's degree in education or instructional technology.

Implications

The objective of this study was to provide an inductive model of transformation describing the outcomes for the participants and to validate the existing model proposed by Kiely. Students demonstrated transformative perspectives in dimensions, which though specific to this study, demonstrate remarkable alignment to those identified by Kiley (2004). Some key differences should be highlighted. The *educational* dimension is specific to the program described here and parallels the *intellectual* dimension identified by Kiely. In his study, students worked to organize and implement health clinics, which led to the *intellectual* form to focus on "questioning the relief model of service" (and broader issues). This result might point to the need to identify a category (perhaps *intellectual*) to describe outcomes, which are specific and are directly related to programmatic objectives. The *global-cultural* dimension aligns with Kiely's *cultural* form though it expands it to encompass the *host* culture. In this study, participants clearly modified their perspectives on Brazil and Brazilians. This change in perspective led to transformed identities and value systems.

Evidence of change in regards to the host culture is embedded in Kiely's *moral* form. Interestingly, evidence of a change along a *moral* dimension was not clear in this study. Students were "turned-off" by the population of Fortaleza – they had expectations that were far more "glitzy" than expected. As one of the other students mentioned, he expected to see what he saw in the film "Bossa Nova", a romantic movie that was placed in Rio de Janeiro. Most students suffered a measure of prejudice because of their nationality, or were stereotyped based on specific characteristic such as being Muslim or Black. Being stereotyped and developing negative feelings towards the local population is a common factor in study abroad programs (Krans & Roarke, 1994; Landau & Moore, 2001; Talburt & Stewart, 1999; Twombly, 1995). This does not mean that students did not befriend Brazilians and empathize with many community members. Students built strong affective connections with their host families and made many friends. But in a city the size of Fortaleza, students were bound to meet a plethora of people who were not informed of their purpose and ambitions. In the end the results do not point to an increased sense of empathy towards Brazilians. I speculate that more specific pre-departure information in regards to what could be expected in Fortaleza could have better aligned their expectations. Moreover, the smaller community in Nicaragua and the multiple waves of American students in Kiley's study could have contributed to a different reaction by the local community.

Both *personal* and *spiritual* dimensions closely align with Kiely's model. Importantly, the *spiritual* dimension is extended here to include a questioning of the concept of *religion* itself. Students not only begin to question the metaphysical but also the role, position, and definition of latent sources of religious knowledge such as organized religion.

This study also supports the need to consider the important mediating factor of the *affective* domain in reflection (Felten, Gilchrist, & Darby, 2006; Kiely, 2005). Students often experienced moments of dissonance that were not simply "thought through", written down, or communicated. Students reported "shutting down" and not wanting to talk to anyone about moments of dissonance. Mark reported beginning a diary only to quit soon thereafter because of all the negative things scribbled. It is important to investigate the dialectical relationship that seems to exist between cognitive and affective reflection that may occur after moments of dissonance. Encountering extreme forms of poverty, economic disparities, and systemic social problems results in the potential, but no guarantee of change – catalyzing these experiences is key to promoting transformation.

Future Studies

Study abroad programs such as "study tours" are missing serious opportunities to provide students with potentially transformative experiences. Study abroad programs aimed at poor nations are usually nothing more than tourism with a language-learning component. Professor John Barbour discusses the "moral ambiguity of study abroad" programs aimed at poor nations:

> "Guilt trips are organized exactly like commercial tourism, and they can become simply a spectacle: a momentarily shocking vision of life that makes us feel guilty about our privileges and our lackadaisical responses to suffering, but that leaves us basically unchanged. An educational program should do more than tourism. It should deepen students' moral sensibility, elicit their compassion, arouse their sense of injustice, and sharpen their understanding of world problems, including our society's role in creating and perpetuating suffering.

The results of this research indicate that study abroad does not have to be a spectator's sport for the rich. Well-structured ISL programs with a social-justice orientation can not only "elicit compassion" but also elicit action from the non-poor. This study, therefore, supports the strong transformative potential of ISL (Chisholm, 2003; Grusky, 2000; Kiely, 2004; Kraft, 2002; Porter, 2003; Porter & Monard, 2001; Sternberger et al., 2005) and validates the model proposed by Kiely. It is recommended that further case studies be conducted to evaluate the transformative potential of ISL. It is expected that ISL programs emphasizing similar social-justice principles will promote transformation in at least *some* of the dimensions outlined above.

Future research should attempt to gather data longitudinally with more points of data collection. By doing so, researchers can "track" major occurrences and their possible connections to moments of dissonance that will lead to transformation. Though this study describes some of these sources and their relationship to outcomes, it comes short on defining a complete process model (see Kiely, 2005 for a broad process model). Future studies should aim at building case-based models of transformation such as those reported here. With a larger collection of case studies, conducted in different locations and under different conditions, researchers will be able to produce a collection of models that will produce a reliable model of transformation in ISL.

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CONCLUSION

These studies investigated values-based educational technologies in schools. A collaborative project between universities in Brazil and the United States was the focus of a series of investigations. These collected articles presented this framework and proposed a vision for research in educational technology.

The first article presented an overview of current research in educational technology, arguing for values-based research. Design-based research presents a viable and valuable methodology to guide the research in the field. This article has broad implications in regards to how research is done in educational technology. If the guidelines presented here are taken seriously, research in our field will move away from testing devices to promoting value-centered instruction and research through development work.

The second article analyzed the case of the Brazilian digital divide. It was argued that the integration of educational technologies into school is not a viable way to promote equity and close the divide. An alternative based on technology fluency and literacy will promote a generation of students who are able to make use of ever-changing technologies. The article suggests the use of existing technologies to enhance the knowledge of students about technology as a system.

The third piece described the application of the principles outlined above in a four-year collaborative program between universities in Brazil and the United States. A model for

development work was devised, based on two years of school-based projects. The model presented here can serve as a guide for future university-school partnerships involving undergraduate service.

The fourth article presented the analysis of a new course, which evolved from the four-year partnership described above. *Multicultural Perspectives on Technology* was a seminar-format course intended to provide the foundations for undergraduate students to design their projects. The course blended instrumental and communicative learning while connecting students in both countries using educational technologies. The results indicate that educators using distance education tools should promote experiential learning methods when discussing abstract concepts such as education, cultural, and technology.

The final article discussed an empirical model of transformative experiences in international service-learning. The case of three students who participated in the Brazil-USA cooperative program was analyzed. The results indicate that participating in the collaborative program had lasting and profound effects on the students. Educational technology research and application can have a values-based, socially-responsible agenda. By working directly with local schools, within the framework of design-based research faculty can promote valuable collaborations that have profound effects on those involved.

APPENDICES

APPENDIX A

EXPANDED METHODOLOGICAL FRAMEWORK

Introduction

This section provides further detail on the methodological framework used to conduct the study entitled "Transformative experiences through international service learning". This study investigates the experiences of three students participating in an international service-learning program in Brazil. As part of this program, students lived abroad for seven months during 2005. The first two months of the program focused on language learning with a certified Portuguese as a second language instructor. Students then enrolled at the Federal University of Ceará (*Universidade Federal do Ceará*, UFC). It was projected that our students would undertake four undergraduate-level courses. One of these courses, an independent study, guided their service-learning project in local public schools. A second was taught by one of the Brazilian professors involved in the exchange project, and it focused on the design of learning objects. The third course was entitled “Multicultural Perspectives on Technology”, which I taught synchronously online, to all four institutions involved in the exchange. A final course was chosen by the student, and generally focused on issues pertaining to politics, economics, or education, especially in relation to Brazilian society. Unexpectedly, the professors and staff at UFC went on strike during the Fall semester, which did not allow students to complete this final course beyond the first two weeks of study. The impact of this development was multi-fold. Student received less exposure to teaching and learning styles in Brazil. Important information on social, economic, educational, and political issues which would have aided in understanding the context and the country was not given. Finally, the strike removed much of the students and faculty from the university campus, substantially reducing the contact with other students and faculty in and out of class.

The course which I taught was of particular importance to this study. Every week students investigated topics related to multicultural education (race, gender, power) educational technologies (schooling, technology, digital divide) and culture (critical perspectives, nationality, among others). Students had a small set of readings related to these topics in both Portuguese and English. For about half of the course, students had external activities that attempted to provide in-country context to the issues discussed in class. For example – in order to prepare for a class discussion on socio-economic status, students were taken on a guided visit to a richer private school to contrast with their project experience in poorer public schools. Students were regularly asked to reflect on the concepts discussed in class through writing (only shared with the instructor), and use online bulletin boards (share with all students) to discuss their experiences outside of class time.

Method

Questions

1) What cognitive, affective, conative, and behavioral transformations occur in students participating in a semester-long international service-learning program in Brazil?

2) What experiences during the sojourn abroad contributed to these potential transformations?

Participants

The study benefited from a population of eight students from the University of Georgia who participated in the exchange program. Of these eight students, three were not chosen for this particular study because of previous experiences living abroad. Of the remaining five, one is a foreign national, another has spent a summer abroad in France, and a third was born in Brazil, leaving the country at the age of five. The remaining three students were the focus of this study, since at the time of the exchange none of them had traveled abroad.

All three participating students were undergraduates though undertaking different degrees. All students had taken Portuguese language courses, differing in proficiency. Two were at a very basic communicative level, and the third was at quite a high level of proficiency.

This selection was based on two primary motivations. First, it is expected that the novelty of the experience will make it easier to identify personal transformative experiences in students who have not yet traveled abroad. Second, within the time frame of this study, a small sample would allow for cross-case analyses which could enhance the understanding of the transformative experiences. A focus on a single case would not provide this facility, and including all cases would not have been manageable considering the time-frame available.

Design

Data for this study were collected through four primary methods: interviews, focus groups, participant observation, and assignments completed for an online course (see Table 6).

Table 6. *Timetable for interview/focus group data collection*

Date	May 2005	June 2005	October 2005	December 2005	December 2005 February 2006	September 2006
Label	[1] Pre-Interview	[2] Pre-Focus Group	[3] Mid-Point Interview	[4] Post Focus Group	[5] Post Interview	[6] Delayed-Post Interview
Method	Interview	Focus group	Interview	Focus group	Interview	Interview
Interviewer	External	Me	Me	Me	External	Me
Location	USA	Brazil	USA	Brazil	USA/Brazil	USA

Data Collection: Interviews/Focus groups

A series of four interviews and two focus groups were conducted for this study. The focus groups were conducted by me, along with the mid-point and delayed-post interviews. The

pre-departure interviews along with the one conducted towards the end of the study were conducted by an external evaluator (see Table 6). The presence of two different interviewers provides different dynamics or negotiations between interviewers and interviewee. The evaluator is less involved with the project which could provide participants with an added level of comfort in speaking their mind. On the other hand, the evaluator is also a less familiar figure, which could lead to more cautious responses.

The use of a pairing of focus groups and interviews by two different researchers has many benefits including interviewer and method triangulation (Patton, 2002). The choice to conduct focus groups over interviews relies on the idea that group conversation yields information that would not otherwise emerge from private interviews, encouraging participants to articulate and defend opinions and thoughts. Moreover, issues that might be brought up by one participant can lead others to respond, or perhaps reflect on previously unexamined ideas.

The first interview (1) and pre focus group (2), and the post interview (5) followed a semi-structured format (Patton, 2002, p.22). This initial cycle of data gathering focus on their views during the initial stages of their involvement in the project. During this phase of inquiry, students were asked questions regarding their perspectives on the program and its constituents; the process of study abroad in general; their views on Brazil and the United States, and a series of topics unearthed from the study-abroad literature. Questions were purposefully designed to target the cognitive, conative, and affective domains (Snow, 1992). A review of the literature focused on factors influencing *contact* between sojourners and persons in the host county, a crucial factor in studying abroad. These dimensions included *language* (Bacon, 2002; Cressey, 2000; Koskinen & Tossavainen, 2003; Riedel, 1989; Ryan & Twibell, 2000; Teichler, 2004; Walsh & DeJoseph, 2003), *prejudice, stereotyping, and standing-out* (Anderson, 2003; Kiely,

2004; Klineberg, 1970; Klineberg & Hull, 1979; Landau & Moore, 2001; Laubscher, 1994; Nash, 1976; Stephenson, 1999; Talburt & Stewart, 1999; Walsh & DeJoseph, 2003), and conflicts in *values, beliefs, and lifestyles* (Bacon, 2002; Bergerson, 1997; Kline, 1998; Knight & Schmidt-Rinehart, 2002; Stephenson, 1999).

The mid-point interview (3), post-focus group (4), and delayed-post (6) were designed as an interview guide (Mishler, 1991). The objective of these interviews and focus-groups were more specific in nature. The guide focused on attempting to get the students to think of instances of great impact and influence during their study abroad and any possible personal outcomes of these events. The design of the study guide was influenced by the literature on transformative learning (Kegan, 2000; Kiely, 2004, 2005; Mezirow, 1990a, 1990b, 2000).

Data Collection: Participant Observation

As participants in this study, students were engaged in semester-long projects in public schools in Brazil. This service-learning project was the focus of their class work and was intended to be the core of their efforts during the exchange. Their interaction with K-12 students, teachers, and administrators occupied much of their time in Brazil.

Two main objectives arose from participant observation in this project. First, to collect procedural and contextual data that would enrich the description of the setting and student engagement. Second, to provide some validation of data collected through interviews and focus groups. It is important to go beyond the participants' perspectives of the occurrence of events, which can be limited by selective attention, lack of self criticism, interpretation of events, time constraints, and remembering. Data from participant observations were used to corroborate data obtained from the participants regarding their experiences in school and to provide context during analysis and interpretation. Any analysis is an act of interpretation (Denzin, 1990), an

assertion which is valid for the participants' interpretations of their own experiences. Interview, focus group, and class assignments will originate from the perspective of the participants and are therefore limited by their own perspectives and biases. Through direct participant observation, behavior can be examined *in loco*. Though this does not lead to any form of certainty, it could increase the validity of the conclusions (Rommetveit, 1980).

Observations ranged from passive to active, depending on the particular situation (Spradley, 1980). At times, observations took place during a teaching session, and others, during negotiation between the teachers and the students. The objective of the observation was to document the actions and interactions of the international students during their engagement with K-12 school constituents in the form of field notes. As a native speaker and coordinator of the project, my role during school visits was often to facilitate the conversation between students and teachers as they designed their projects. Attempting to maintain a more distant, passive stance, would eliminate my role as project coordinator and probably the effectiveness of the projects.

The setting for observations was the public schools involved in the service-learning project. For each student, two focused observations took place during the semester. Though I visited the school with the students periodically, I scheduled the observations to occur at moments when I could take more extensive notes and observe their interactions with either the teacher or the classroom of students. The observations occurred at disparate moments in time, as projects for each of the students followed different schedules. In the process of observing, I took extensive notes of actions and utterances along with the actors involved.

Data collection: Course

Through the Multicultural course students were asked to reflect on their experiences. Students were asked to post their thoughts on the concepts discussed in class, such as race,

religion, and technology. Moreover, a reflection paper was required every time an out-of-class assignment was completed. For example, after completing an activity on the digital divide by surveying the school they worked in, students were asked to draft a report and discuss their views on their report. These documents were used to examine student's understanding of the topics discussed in class or the effect of certain activities in their cognitive, affective, conative, or behavioral development.

Data analysis

Once data is collected the qualitative process usually involves description, analysis, and interpretation (Wolcott, 1994). Miles and Huberman (1994) re-define these tasks into data reduction, representation, and interpretation. These processes are not independent and sequential. Through the process of data collection the researcher is describing, analyzing, and interpreting data. Data were coded on a case-by-case basis, analyzing students independently at first. Next, cross-case analyses were compiled, examining patterns and relationships between the individual cases.

Once all data collection was complete, descriptive categories were created through iterative cycles of coding in order to refine the labels and categories. This first process of data reduction was inductive, data-driven (Boyatzis, 1998), a "descriptive sense of what each section of text is about" (Mason, 2002, p. 151). A large number of themes were identified that could describe what the text was "saying" (see Appendix B).

Once these were coded, a retrospective analysis of each of the themes was conducted. For example, the theme of "materialism" was examined longitudinally, beginning with the latest data available, the delayed-post interview, returning to the initial pre-departure interview. This scheme focused on examining the complete set of data available for each descriptive theme. If

evidence of change was found, two further determinations were made. First, a closer examination of identified *triggers* was conducted, examining *contextual* factors that could lead to a causal explanation of change. Finally, *post-conditions* were categorized according to the *type of change* that occurred. I wrote a summary of each of the themes in narrative form identifying potential changes, their sources, and contextual information (see Appendix B).

Finally, the narrative for each of these themes was reduced into two sections: *identified changes*, and *potential sources/context* for change. An outcome model for each of these students was designed (see Appendix C). A final model of transformative learning outcomes was generated from cross-case analysis and comparison to the literature on transformative learning (see Appendix D).

Perspective and Bias

As a question of principle, qualitative researchers accept and acknowledge the persistence of bias in any research project. Beginning with data collection, and especially with data analysis and presentation, research is bound by the perspectives, limitations and choices of the researchers. It is useful then, to reflect and struggle with biases in order to identify one's position in relationship to the participants, setting, and the context of the research project.

As the primary researcher for this study, there are certain biases that I continuously struggled with, and particular perspectives that have led me to engage in this project. First and foremost, I was one of three major coordinators for the exchange program. As such, I participated in the selection process that included the three students who participated in this study. I also coordinated a semester-long series of seminars on study abroad and socialization in Brazil that occurred before their travel abroad. During this period of time, I made an effort to portray myself as *program coordinator*, particularly because of the small age difference between

myself and the students. Because of this I established a certain level of authority over the students.

When the exchange program in Brazil began, my relationship with the students became more complex. I was one of the coordinators for the project, along with another graduate student and a local professor. I taught one of the mandatory courses for the students participating in the exchange, the multicultural course, therefore taking the role of *teacher*. I also assisted students regularly with their service-learning course/project, regularly visiting the schools and facilitating their projects. Finally, during this period, I began the data-collection process, which added another layer to our relationship, as I took the role of *researcher*. During the final (post) interview, I had established a close relationship with one of the students, who became an assistant in one of my classes. I had grown in my relationship with the other two students, one of whom I saw regularly at social functions.

These formal relationships were mediated by more informal encounters and conversations that I have had with students, especially beginning during their stay in Brazil. The relatively small age difference between the participants and I led to unplanned encounters in student gatherings and bars, and very informal conversations. I would not consider my relationship to have reached the level of friendship with any of the students during our sojourn. Still, the formal aspects of being a *teacher, coordinator,* and *researcher*, was constantly mediated and influenced by my increasing intimacy with students outside of formalized roles.

From a research perspective, it became important to strike a balance between these personas. It was essential to establish a level of trust with the student-participants in order to elicit valuable information regarding their experiences. The authoritative role of coordinator and (traditional) teacher hence contrasts with a more informal and friendly role as fellow student. It

became important to maintain a respectful distance as a teacher and program coordinator during the study. I often chose not to go out with the group of students when they went to clubs, bars, or traveled to other locations. Since we already had substantial formal and informal contact during the program, I felt that maintaining a small distance was desirable. This, I believe, established a balanced relationship that would be best described as a component of age differences, a *graduate-undergraduate* relationship. My choices (and the student's choices as well) exacerbated the age differences between us.

As a teacher in the multicultural course I expected students to question and reflect on their values and perspectives, something that I did do as a teacher and researcher. As a Brazilian national and foreign resident of other countries, I am passionate about my country and facets of its culture. Living abroad has taught me to examine and criticize it as a (partial) outsider. I worked with students from the United States in this research project. Through often heated discussions with my co-coordinators, and friends, I became quite aware of how my unique perspective (as anyone else's) permeated the entire research project. Some biases were evident in that they define my values and attitudes. As a Brazilian national, I was always concerned that students might limit or control their criticism of Brazilian people and society when talking to me. Data demonstrated that students were quite overt in their criticism of Brazil, though at times "apologizing" for making negative comments regarding Brazil. Being a White man in Brazil, and a Latino in the USA provided me with a difficult duality. One of the students being interviewed was African-American, and I chose to be overt about my limitations (as a White male) in understanding his experiences as a Black man in Brazil. I am also Jewish, though quite liberal. One of the students was Muslim and interestingly, the student which I built most rapport and friendship with. Though issues of Muslim-Jewish tension did not come up during interviews, I

also chose to be overt about my views and liberality on religion when discussing the topic of religion.

These are only a partial list of traits, a complete listing of my perspectives would be difficult to list and unnecessary at this point. I followed Peshkin (1988) in the decision to keep a longitudinal account of my own outlook and experience throughout this study. I did not go as far as conducting an autoethnographic account of my experience. Instead, I took notes following two guidelines. First, whenever I engaged in formal data collection I created a post-event reflection memo, actively questioning how my biases might be affecting the things I write and how I interpret them. Second, I made reflective notes whenever I found myself in value-based conflict with students, courses, or other aspects of the sojourn abroad. These reflections were used to assist in the process of data collection and analysis.

Interviewing as a negotiated enterprise

The process of interviewing in this case, takes on the form of mutual reflection instead of data-gathering. Power relations were overt during the interview process. Two of the interviews were conducted by an older, male, white, and clearly labeled “external” reviewer. The labeling of the researcher as external was made to imply a level of independence from the project that would theoretically allow for more honesty between the interviewer and interviewee. Still, I recognize my status as a White male researcher and the implicit power-dynamic that it might evoke. During the first interview and focus group I conducted, I was also their teacher. Between the first round and the next, my relationship with the students became progressively more intimate. I encountered the students in bars, coffee shops, meals, and events, and we shared common friends. In conducting the final interview, it would seem artificial to attempt to distance myself from the interviewees. During the delayed-post interviews, their observations and comments

were so candid, I had no choice (nor need) but to accept my role as friend/colleague/student and act accordingly.

Feminist and gender researchers have pointed out the artificiality of this imposed and often cultivated distance between researcher and interviewee (Fontana & Frey, 2000). In conducting the interviews, I gradually adopted a more open and conversational tone. While this was done by design, it was fueled greatly by the notion that adopting a more formal and distant stance would only elicit strange looks from my interviewees, who would react with puzzlement at my role-playing as researcher. It was therefore desirable and quite unavoidable to adopt a more conversational and open stance as the level of intimacy between researcher and interviewee progressed. Becoming a more approachable researcher became an ethical concern. As the interviews developed, it became clear that my “research” was their space for reflection. Many students clearly made use of our time to reflect on ideas that they simply did not reflect on a regular basis. Being an educator before a researcher, it was necessary to help scaffold their reflective practice at times, even when it diverged from the objectives of the data collection process.

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APPENDIX B

SUMMARIZED THEMATIC ANALYSES

Table B1

Thematic Analysis for Mark

Theme	Summary	Sample Transcription Text
American people	Has an expectation of some prejudice against him for being American or speaking English. He left to Brazil expecting to return to origins. When he gets to Brazil, he encounters stereotypical views, but many more related to his American-Black connection than simply a tourist/foreigner prejudice. Stereotypes fueled by the media. Sees the influence of the media in creating wrong impressions of American people.	I'm not really sure what to expect, but I think I might experience some prejudice, you know, if ahm people might here me speak in English and ask me if I'm American I just tell them… make sure they understand America is a country of many different types of people, I try to share…my own culture Guyanese yea I saw it on Fantastico, that's, the TV show, or I saw something on a movie, I'm like there's a problem at looking at TV you're in the US you think, you see stuff on TV, same thing you see stuff no TV, you think you know this country we need to change the way, we show ourselves to other people I've gotten to see the way, America spreads its image towards other peoples or how that image manifested itself in the way people see the US Black people here in the United States there is a lot more discrimination, I mean, there is, still ahm good deal of it but it's really not, oh man (high), the White man's holding me down

Brazil impressions	Goes to Brazil realizing that there are stereotypes of the fun-loving Brazilian. Expects them to be open and free spirited. Mother from a third-world country. Changes impression of Brazil when he encounters poverty in Lagamar, sees parallels to his mother and differences that the media does not portray, you can only feel up-close. Had an expectation of Brazil in his head, in regards to ethnic variety, and open-mindedness that did not happen. Led to a lot of frustration. Travel, especially to Salvador, led him to see variations he *expected*, which created a bit of anger at being in Ceará and Cearneses in general. He is able to connect this to the poverty, limited travel, and experience of Cearenses. Had difficulty explaining all this to Americans when he returned. He wanted to dispel the myths of Brazil, but sometimes felt frustrated and just let it go. Capoeira group – mentions viewing the "real" capoeira and not some fake master. *Some evidence of the media – the sale – of images of Brazil in the US as well.* Talking to people from Ceará not useful, since they would get mad, so he talks to people in the program.	I know there's a lot of negative stereotypes like when people see carnaval in Rio they get this idea that all Brazilian people are like this, and I don't really feel that I just run into it here and I figure it's (by?) this much American culture that they run into I think they would know a little bit more The problem with the Cearense people, I mean, you got positives and negative aspects to everybody (unint) there's a lot of one-track thought, I know how my mother, cause she came from a third world country too, she would get on my all the time, you know, wasting water washing the dishes and stuff I notice a lot of envy amongst many Cearense folks towards other people like Rio or Bahia the way class or, controls how the whole social group, you're social interactions There's really so much here, driving on the bus and stuff when I was there I really felt like now I'm in Brazil I probably only had a few deep conversation with Brazilians here in Ceará you don't wanna give 'em glitzy, but you don't wanna give 'em gloomy image

Country comparisons	America as land of opportunity. People work themselves to death and don't enjoy life. People in Brazil know how to balance. Materialism and capitalism as ideologies in US. *He expects a lot from Brazil…* People in the US (especially Blacks) have to take advantage of what is available to them in light of the conditions that others face in developing countries. Blacks in America as having an obligation to do well. Expectation of having access to technology – was broken, and became a serious issue for him. Sees that in Brazil people, always find another way of doing this, which seems to appeal to him, this ability. He gets upset about Americans who complain at the slightest problems in light of Brazilians who in the midst of difficult always try to find another way – he identifies with this. But at the same time he treasures being able to be comfortable in the US and the stability it brings. He catalyzes this as an obligation do well and complain less, be more humble.	And in Brazil I see, you know, they're work, they know what work to do, but they also know how to enjoy they're life as well. we really need to ahm take advantage of what we have right now, cause people, people in another countries might not have that bunch of stuff you know. here in Brazil I know, a lot of people have told me, there's always another way, so you gotta keep trying and…wow, we really got it good in the US our life is very stable, you know, we don't have such a large social contrast, where you've got people living in condos here and people living in shanties right here, I mean, we have, even though we have a lot of social problems that, I mean, relatively life is, pretty decent in the US, overall you you can't deal without those amenities like there is, always another way man
Courses	Always concerned with language learning – mentions the course online and English dominance. Sociology course teaching a bit about how Brazil came to be Brazil. 4600 teaching about how culture functions in society, pretty informative. He mentioned that the course has an impact on him, thinking about race and other issues. *Impact on his connections between SES and Race and how they mesh?*	the sociology course, it really helped me ahm get to know the history of Brazil and how that history kinda manifests itself into the Brazilian culture like, where Brazil is today ahm, it's only that I didn't get to go really in depth cause then the strike came about course, I learned a great deal of information from that course. Ahm, it really, gave me ahm…the liberty to look more into what makes…how a culture functions in society

Education	High school, he switched to a predominantly white school (M-to-M program). Race is prevalent in his discussion of education, but see more under *school.* Highlights the GB/FB connection with race and FB students' attitudes in light of their privilege, which has an impact on their education – a more "client" relationship which he does not see at GB. Interview with teacher helped him see how education must relate to the individual student (a theme from class, and an activity from class). Towards the end, talk about formal education as one way to learn. He seems to have a more open understanding of education, one that is mediated by SES-race factors, and therefore opens him to a critical view of education/schooling.	they might take the students to the computer once in a blue moon, but not always for learning purposes, just kind of as a reward. My high school was part of Georgia´s M-to-M program which was aimed at getting minority students out of "bad" schools and putting them into schools that were predominantly white and "good". I felt that the interview definitely brought to light some very important points that I think many educational theorists tend to forget when it comes to learning. That is that every student as their own way of learning and each student learns at a different speed from the other Since the school was built around the philosophy of catering to the student, these students, I felt kind of capitalized on this. Well a formal education like, that you get in elementary school and the university ahm, I don't think like it's exactly what you learn, like in your class
Exchange students	Saw students as support in new environment in the beginning. Later saw it in a similar fashion, a positive experience in support, since they "understood" each others conditions, projects, difficulties. Their support for each other is likely in contrast to the support they could get from the PIs and faculty. *Strangely he does not mention the lack of friendships or meeting people here, which was a problem for him at least through the second interview.* He did break off from the group towards	we have kind of a support system, you know if people are willing to ah help out their fellow Americans students I met like a lot of students of student who come here from a lot of the ahm, ex-Portuguese colonies in Africa I run into them and you know, hey how's this going, how's your project going, we (unint) communicate those things cause we all understand what the other person is going through

	the end (other students told me) which I think is a reflection of his interest in bonding with a more "black" culture, or more "authentic" culture he did not "see" Fortaleza (not matching his expectations).	after, once you get a little more comfortable…you kinda break away, start forming other friendships
Family	Class conflict within the family – working parents who try too hard to keep a lifestyle for their children, who are in an expensive college and see themselves as distant from the middle class neighborhood they live in. Mark ends up identifying with one of the student's host family. *HIS hosts are against his expectations of Brazil as less "work,work,work" and his own value system brought from his Guyanese mother. Especially his host sisters, whom he classifies as lazy.* When he returns, there seems to be some distance form his family, which he says is more geographic than anything, but he seems to have become more independent and unwilling to see/talk to his parents as often. Felt suffocated when he returned.	like my family for example, my host family here, ahm, I would say they're middle class…very very hard working, like you barely ever seen 'em in the house they don't, feel the need to mingle with the common folks in the neighborhood. parents work so so (emphasis) much, they have to work to keep up that lifestyle. sometimes I would say that, you now my folks worked a lot, but I mean, I think there was more time like, family time and stuff like that.
Foreigner	Expected that he either would received special positive attention as a foreigner, or negative attention by being left alone. Neither happened. In school his students saw him as very different, in the sense of unique (very tall, black man), and in the street too. He took to defend Baianos since many people in the street thought he was from Bahia, and many have negative stereotypes of Bahia. In the end, did not feel very welcome in Ceará – seems like he was turned off by the dissonance of what he expected to see in Brazil versus what he	people will be a little kind of treat you differently where wow we have a foreigner here, let's show them, invite them, show 'em what our culture is like…but at the same time as a foreigner, you know, you can get taken advantage of, you can get cheated, you know, people will just plain not give you the time of day there wasn't a whole lot of ahm receptivity I don't think I just kinda, got this impression that I wasn't really ahm, you know, very welcome here

	got, and a general sense of being "closed" off from society which most of us felt in Fortaleza.	people here are a little bit more different than I expected. people have a lot of like stereotypes, negative stereotypes that they (unint), that they apply to Bahia people
Friends	Didn't make a lot of friends in Brazil, considered many of the people in Fortaleza to be immature. Hung out a lot with folks from the group, but towards the mid-end of the program, spent a lot of time on his own – he mentions making friends with people from African nations – which goes with his quest for "roots". He had general disappointment with folks from Ceará. *This could be a function of prejudice – he mentions keeping things to himself a lot of times, as a function of prejudice and ignorance towards Americans.* But in the end mentions the shock of going back to the US and finding that most of his friends would not give him their time, in contrast with friends in Brazil. Had a renewed view of friendship and what it means to be a friend. Made more friends who can speak Portuguese now that he is back in the US.	because if I'm around American students, I'm gonna be tempted to speak English and I wanna make sure that I'm getting all of the…practice in Portuguese that I can get. he put on some forró and he's like ahm oh I'm sorry no rap, [and] I'm like, look at him, like wow, see if I wasn't black he wouldn't have told me that I just keep it in my head cause I know it's a waste of time. They're not…some people, I can see some people really wanna learn I also started to notice a lot more like, just how different ahm, you know, relationships I think are with friends in Brazil and America friend for me started something to be more like, this is someone I can (net?) with, this is someone I can sit, you know, it doesn't have to be real long, but at least I can feel like I can talk with them for a little bit and it's not too much of a rush involved I think I just didn't notice it before, because I hadn't been exposed to any other, you know, c, the way, any other cultures, you know, and like, being immersed in a culture I wasn't able to talk to them…I never really usually got to, you know, what I was actually doing

Future goals	Previous experience in summer camp with French and Spanish. Initially trying to figure out what to do with his major, thinking about something international, tourism. Midway, he considers teaching English, or something with social work, emphasizing travel. Traveling abroad "opens" the world to him, not specific. In the end returns to idea of teaching, English, English Education and wants to get more minorities into study abroad.	doing something international, like tourism Being here has just really opened me up, you know, kind of the world outside the US, literally I'm thinking maybe tourism, getting ahm, getting some kinda ahm, English class or somethin' started, thinking about English education, there's a whole lot of ideas going through my mind right now, I can't focus on anything solid
Global perspectives	Being in Brazil has led to seeing problems with political corruption, which leads him to consider the systematic problems around the world that he *does not* experience in the US (people blowing themselves up, for example). When he returns to the US he feels the need to read more and know more about the problems and concerns of other poor nations. *Does not make any connection to corruption and politics in the US. Perhaps this has a connection to his Guyanese identification or even minority identification.*	plenty of other countries that are going through the same thing, so I don't know it really makes me wanna start seeing what's going on in all these different countries everywhere in the world it's like all these problems man, it's…it's scary man…I'm like and then you think, I'm living in the United States, you know, somebody [blowing themselves up in the street] nah man (high), I'm gonna go to Wal-Mart (giggles)
Gratitude for being	Returning to the US, having a sense of the resource (physical and human) that are easily available in the University setting. He seems to be happy to be in America generally, a land of opportunity for him. Compares this to systematic problems in third world countries. *Again, does not reference the US in a negative light.*	just tons of resources and not even technological ones like, academic support and everything like that and I was really starting to see all that and ahm paying attention to just like how corrupt a lot of governments are in a lot of different third world countries
Identity	Feels more like an individual now, less part of a "group". Is more independent since he came back, largely referencing his experiences in Ceará, doing	I just don't, go home that much, I don't…I, I think that's where I've kinda changed too I just feel like a lot more independent

	things on his own, contrasting to the experience of returning to the US to be in his mother's house for one month, which he did not enjoy. *Could this have something to do with his experience in class? Though more likely as he mentioned earlier to his ability to move about and spend his money as he wished in Brazil.*	I have a little more clear idea myself than I did before like, I I feel like more an individual now, ahm, cause a lot of times before I'd just kinda go with the group or whatever like that but I feel like more ahm…more independent but ahm you know ahm, I'm still trying like, find what my place is
In-group	Has a strong black identity, which makes him bond with the other Black student who went to Brazil (lives with him when he comes back to the US). There is evidence of an in-group of people who have gone to Brazil, as part of this new identification. This also creates an out-group of those who did not have the same *social-justice* sort of experience he did, people with whom he cannot really talk.	I talk with some of them like, general stuff, you know, this club, you know like, you know, college student stuff (excited), you know the clubs and stuff (excited) and, [you know] just, anything being like one of the very few people, black folks, who've been in Brazil for such a long time, and seeing a lot of things that we saw from our perspective, it's really hard, it feels (some?) really awkward to express you know, how we saw those social inequities, and racial ahm, inequities, in Brazil, and then try to explain that, you know, to people who aren't you know, from the same ethnic background
Keeping in touch	Does not seem to have kept in touch with anyone strongly, which goes in line with his complaints about friendship building in Brazil, which was not strong. Wants to make sure he contacts his family, though his relationship did not maintain the same level of closeness. He expresses great compassion for his host mother (saw little of the father) and some contempt for the sisters (who were nice, but spoiled). He has kept in touch via MSN and Orkut, and such with one of his African friends, and the sisters.	I don't really have a lot in-depth phone conversations with a whole lot of people but…you know, if any, if anything like, I really like to make sure my host family new that I was still thinking about 'em, you know, it wasn't just, I stayed at your house (high), here's a little bit of money (high), bye

Language	Came to Brazil confident in his Portuguese skills but a bit afraid that he might not be able to respond to something someone else said. Wanted to be skilled in colloquial/giria Portuguese so that he could communicate with younger crowd. When he got there, realized he didn't understand much – dialect problems. In the end, became very comfortable, "bilingual". Applied language in real context.	Right now, right now I feel pretty confident my Portuguese I actually call myself bilingual now I know how to speak Portuguese before but ahm it it knowing that I'd have to all the time non-stop was definitely a culture shock, ahm, so yeah life has gone pretty good for me
Materialism	Within a week of being in Brazil he is alert to materialism issues and discusses how it humbles him, how Brazilians have an "alright" life nonetheless. Sees how Americans buy too much that they don't need. *Uses example of a microwave to describe how you can do without, instead of much larger things. This demonstrates a bit naïve view of it so far*. When he returns, he sees it more systematically – resources (not only material, but human) at UGA, and how this relates to a whole value system and priority (family versus consumption).	but just being here does kind of humble you, you know, cause you start feeling like ok well you know, we don't have all these (unint, coisas boas)… that we have back in the US but you know what… its alright some of the lack of resources, that you saw like at U F C (spelled out in Portuguese), you know like, you know, damn (high) we got the SLC, man I was like, man (high) I don't even need to get Internet in my house.. and everything like that and I was really starting to see all that and ahm… I'm seeing a lot, I'm seeing a lot more ahm, value put on you know more of your material things, the more money you have, you know, what kinda car you got…and, I'm sure there's, exceptions everywhere but that stands out most, you know, I really see like a lot of difference in the value
Media-Sources	Media playing an important role in his analysis of Brazil and US. Others in the group had similar views of the media portraying the US in a bad light. He thinks that the media do a poor job in detailing the US, and later, he realizes the same happens in regards to Brazil. His previous information lists newspapers, and	Where do they get this information from? ...: The media ...: Exactly (strong) ...: Hateful Mark...: Fantastico I'm like man, maybe we need to…we need to change the

	internet radio, none of which gave a concrete understanding of Brazil as Fortaleza – though he did read OPovo.	way, we show ourselves to other people you have this side of Brazil that you see on TV, then (loud bang outside) there's this other side of Brazil that these other people are going through.
Personal change	People don't really wanna hear the things students do abroad – and he was interested from the get-go to see what personal changes could happen. Says he feels a change during [fg1] quite fast – just like his perception of materialism. Has an expectation of living in a different country with different cultural values. Talks about being more critical, examining the issues himself instead of just believing people. Mentions "jeitinho" and, in face of difficulty, finding another way to do things. Quite positive in his evaluation – if something goes wrong, am I going to start being negative (i.e. sell drugs) or am I going to try and pull myself up? *Attributes this to Brazil – a mentality of individualism that seems to be more related to the US.* Learned a lot about Brazil and Ceará, though not all of it was positive.	when we get back to the US you know. Because you keep hearing, you keep hearing that people don't wanna hear what you did abroad, uh "give me just the good" that's fine I don't wanna here (unint) what about what takes place as far as you being changed as a person if I try to talk to a Brazilian here they're gonna get, or someone here at Ceará, they're gonna get mad (laughs together with "mad") so…. I just leave it alone, keep it to myself, most of the time (low)…talking has really helped out… Bahia, I really wish I could've gotten a chance to know it better cause, I heard so much and I've always been interested and I only got to stay there a few days doing the work that we do and, and then, you know, w, working in schools but then take that, you kinda take those…those conflicts outside into your, maybe your social life I did the research myself, I didn't come back to 'em but I mean, I knew I had to know (unint, 2) just be critical about it. it really, it really encourages me to you know, start to see other places

		I learned about Ceará, I got to know, you know, just what makes them them. And that changed my perspective my perspective on Ceara, Northeast, and Brazil as a whole
Politics	His experiences in Brazil has prompted him to want to investigate the situation of other third world countries and the politics in these countries which might have led to underdevelopment. Does not mention the same interest about the United States.	I'm realizing just, like I paid a, paying attention to just like how corrupt a lot of governments are in a lot of different third world pay attention to politics and I'm really starting to starting to like investigate the history you know of those obscure countries A lot more like, I really am interested in investigating the history of a lot of, you know, a lot of third world countries and why they got to be the way they are
Privilege	Coming back to the US, going to visit his sister's school, he noticed how people would complain about resources, which, compared to Brazil, were quite plentiful. He didn't talk to anyone in school about this. People at UGA, students, complain a lot about things he considers to be small – compares to his plight in Brazil. Mentions that his house would be considered a ghetto in the US, but there it was middle class – very reflective on SES issues, confused. Realizes his privilege, feels like needs to take advantage of things here but also bad that other people don't have what he has. Actively, he tries to be "modest".	computer labs in here, like ahm, this is pretty good man like, to the kids back in back in Gustavo Barroso it was like a whole (long) bunch of kids, in a few computers I'm more, just more like man we got, a lot of little rich kids running around on campus I'm noticing like, man like, American people we got it real good here over here, it'd be considered the ghetto or something, I'm like it, I don't know man it's, social, economic status and all that, it's it's, it's still you know, astounds me sometimes I figure like, just now like, because I have this privilege, like

		I'm more aware of it, it makes me alright, I do have this so I need to, you know…just take advantage of what I have here I try to be real modest and stuff
Project	He expected to teach kids about language learning – but ended up talking more about Race and America. He worked with a teacher who was very "loose" and let him do whatever he wanted to do – a complicated scenario for someone with such little experience in education. He felt anxious, and realized that not enough planning took place on his part – but he also wanted to program to emphasize more planning. He came in late once, which reflected a larger lack of concern for time and planning/organization on his part. He wonders whether he was wasting the students' time, being effective in his lesson – since the teacher trusted him with her students. *Doesn't talk about the dynamic for the teacher who was probably very happy with his presence*. *Needed more scaffold – but it shows his connection and interest in doing a good job, in providing good service and connecting.*	technological aspect as well, ah just seeing how we can get kids to use computers more, just any kinds of media I'm, really afraid I'm wasting the teacher's time, I'm wasting the student's time I think that I'm not showing enough of what I'm trying to do ahm…I'm not giving her organized is really big and I think it requires a lot of planning, I think we could've done more planning
Race	He was an M-to-M student. He went to Brazil looking for his roots (personal conversation) and when he arrived in Ceará, he did not find it. Found it in Bahia. Notices clearly the complex patterns of SES-Race that occur in Brazil. When he visits GB/FB he points out the difference in attitude and the fact that FB has far less brown/black students. At home, he notices racial difference when he goes to private school with girls and sees how he doesn't	Again, I noticed much fewer Black or Brown students in F.B. than G.B. black folks here we really don't have anything we have all these resources here in America, and yet, black folks are still kinda lagging behind so now…but, his main point is ahm, we need to, we need to do good, because we have, a lot of resources

	belong in the school – even though other kids in the school were dark – they were "considered white" there. He sees a connection with kids in CAIC and GB. Connects MVBill with McWhorter on the disparity between US and Brazil in terms of the playing field for Blacks and comes with the conclusion that Blacks have to do well in the US. When he comes back, he pays more attention to poverty in his own city (he realizes city patterns are different in US and Brazil and who lives in suburbia). *There is a sense of revolt for having stuff in the US, and resources – but he never explicitly mentions the racial tensions in the US – though he acknowledges the problems, he talks as if the folks in the Ghetto in ATL could simply get things done – though at times he does restrict himself to the University environment. Thinking about Ogbu. I think he was clearly in tune with this subject – he was reading McWhorter before – and concerned with the differences between Blacks in US and abroad, but he got the sense of SES-Race in Brazil, the complexity of the issue and problems at home.*	only in Brazil do you really get to see it and you know, you see all these racial mixtures yet there's still separation. A lot of people say this is a racial democracy, I'm like, you know, I look at these, I look at these favelas and I'm seeing like, the majority of the people are my color and the people who don't [have a lot of money] usually end up being the (speechless?) poor black and Indians a lot of, a lot of my Black friends, you know, they were real surprised to hear, you know, exactly how I perceived those relations to pay more attention to the poverty that exists in our own cities and then, like Atlanta for instance was different the way it manifested itself like it wasn't like a really overt discrimination was like, you know this real subtle but I mean look at the, you know, economic distribut, the socio-economic ahm, variation amongst the people the interplay between the income, and ahm, and the racial thing just the whole history of what happened whole things of ahm victimology I call it, ahm I read this book called ahm, loosing the race let's get an education or something like that you know, make something of yourself the playing, the playing ground is very leveled

School	Thinks of public schools as a difficult place to learn compared to the private schools. Thought that schools in Brazil (public) would be like the public schools he had in the US, which he realized not to be true. Feels like only when he got there, after 3 months, did he feel prepared. *He didn't have experience teaching*. Talks eloquently about ET and the difficulties with teacher prep and students wasting time – thinks it is good, but sees the complexity of integration. When he comes back to the US he realizes that kids are kids, but the schools here have a lot more resources. Teachers in US seem to have to follow more rigorous schedule but in Brazil it is more flexible.	Most of the parents, if they have financial conditions, they pay a private school for their children because they know that, there, their children will learn. working in a public school, the type of challenges I would have to deal with, because I'm thinking you know maybe it's like a public school, just like the public school I went to, but here in Brazil, there's such a great ahm, social contrast, that a public school and a private school are two completely different realities just working in that environment, I don't think I was prepared, but once I started, to get myself accustomed…I needed to be here to actually be prepared. even if you get all the technology in to school, [I mean] the teachers either don't know how to use it, they're either afraid to use it, ahm, they don't know how to incorporate it into their lessons, and then the kids just want to play on it
Service	Service in summer camp before he leave to Brazil in Language. He does not mention doing any kind of service after returning, says he's focusing on school.	
SES-Poverty	Mother coming from a 3rd world nation – probably exposed him to different values/standards. He had to do chores at home, and his mother was conscious of waste (he would get reprimanded for washing dishes and wasting water, ex). Family divide – parents as hard working and middle class living, but sustaining a life-style for the children that is above their own – private schools.	they're hard working so just like anybody else in the neighborhood, so they mingle with the people in the neighborhood, the kids like, because they feel like they're so high up at colegio, they don't mingle with any when you can smell that fetid air and you see that sewage running on the street, that´s when you start realizing what is going

	Children do not mingle/interact with neighborhood while parents do. In the US, their neighborhood would be considered the Ghetto while it was middle class in Brazil. They work hard and don't have time to spend with their family. Trip to Lagamar changed a lot of things – gave some context. Saw problems there which helped him see Fortaleza in a different light, but also put this in the context of 3rd world countries. One thing is seeing it on TV, the other is being there and seeing it. He realizes with this that there is always someone else worse than you, and you have to do the best with what you've got. He "defends" the public school students and Brazil in general. Students from GB can still be somebody, some of them are very capable. *At other times he defends Brazil by comparing them to their "rich" American counterparts.* Sees the Cearneses as hard workers, and not making a lot of money, people that have to work hard since Ceará is a resource-poor location. *This interestingly conflict with his notion of Brazilians as more easy-going people and Americans are workaholics, though in other places he mentions his identity with one of the student's family as a balance.* Wants to be sure he is not wasting kids' time in school, since there's positive energy there, kids want to learn. *There seems to be an identity here.*	And just kinda, what kind of problems, not only in Fortaleza, but the rest of Brazil, and the rest of the countries in the world that we talk about as third world. there's always somebody else that's got it worse than you…So try to do the best that you can with what you got. looking at the environment, how close its come from, the environment that surrounds us, the physical environment, that we have to deal with or the social environment, I mean here in Ceará, there's nothing But where do you think being that smart can get them though? Mark...: It can get them jobs with translating, I know one girl who (unint, run) their will always be a class of people who are living very comfortably and a class of people who are living, just…utter poverty. Right here in the northeast, people are, generally, people aren't making like, a whole lot of money, so I mean, I don't think they get the chance, they're so busy like trying to work we really got it good in the US, got convenience, things at your disposal, at your very fingertips and here in Brazil it's not like that seeing a little kid like my little sister who's seven years old out there on the street, [you know] trying to clean windows or juggling balls, I mean, that, really, you gotta go outside of your country to be able to understand just how touching that is

	Personalizes the experience of seeing kids in the street, which could be his little sister. Realizes how family is very important in Brazil, and something US could learn about. US is relatively stable, and people don't have to worry about school going on strike etc. *Seems to realize the complexity and difficult of the lives of those in Brazil.* Found it difficult to talk about Brazil to people when he came back – the contrasts were large and he didn't want to make it sound too gloomy, but also not to glitzy. Ends up noticing patterns of poverty in the US – older folks, as opposed to whole families and kids in Brazil – a much higher intensity level. Shows compassion by saying that only by talking to the folks in the streets in Atlanta would he know what the problem is (not assuming it's alcohol, for example.	Every little simple thing that you have in Brazil you might not have a big SUV but if you have, you know, four wheels to get you to work, you might have to pack the whole family in but at least… I'm seeing a lot of poverty here's like…when I see like a lot of these guys on the street like, cause I don't, let me start that over…a lot of the guys, people I see bumming around the streets like older people
Stereotyping	In the beginning is trying to bring a positive image of America, one of multiple identities and types of people. Encounters lots of stereotypes with race, nationality – including music and food. Most of the stereotypes seem to come from random people, no one related to the project or schools, though he did get some of it as basketball player in school – nothing confrontational. He mentions somebody at PET. When he comes back, people ask him about Brazil, loaded with stereotypes which he considers "annoying" as well.	make sure they understand America is a country of many different types of people, I try to share my culture, my own culture Guyanese we need to change the way, we show ourselves to other people

	Influence of media in building the "image" of a country.	
Students	Describes students as really excited to be participating in the project. Is disappointed at not being able to connect with the US with VC. He has one of the most advanced English classes in the school. He considers the students to be bright, interested, and motivated. The observations agree to a point – though students did their work, Mark didn't have much control of the activity, and planning, which reduced the effectiveness. *He seems to have a very positive attitude with the students, an interest in helping them, doing his best.* He doesn't consider them to be his students, he doesn't feel comfortable enough and is intimidated by the experience	The students are usually very friendly with each other and sometimes with their teacher too. As you can see, students can show some public affection for their teachers and friends and this doesn't mean something horrible as may are in other countries. every time I'm in there they'll ask the same questions, like have you been to a Avril Lavigne show they (like me?) as American, I think slowly as I keep coming, it's [gonna] start to wear off a little bit, which is good just these students…they're ahm…they're really enthusiastic to do stuff like this…I just wanna let'em know that I appreciate that] there's a lot of positive energy there, I mean…I know a lot of those kids come from, [you know] really, really poor backgrounds and stuff
Teaching & Teaching	He feels a bit intimidated by her and the kids as well. She gave him the class for the full month of October and did not provide much guidance, pedagogically. She seemed to be enjoying it greatly when I was there, and Mark was quite nervous. They interacted nicely though, and Mark was left alone there to work at times. Teacher was interested in the assignment, but didn't provide a lot of feedback. Does not reflect much on teaching	I feel intimidated by her and her class, I'm like uhhhh, so that kinda freezes me up not what I need to do but give me some kinda feedback, what you think I could've done better, and ahm…you know, so I'm gonna try and get that [through to her]

	as such, but does talk about his learned philosophy in Education.	
Technology	Expected to find access to technology/computer easily, which did not occur. He did not deal with it well in Brazil, did not used paid services and ended up in frustration. Same with his project – expected to connect, but technology "is on the rise" and needed a lot more planning to use it correctly. He talked about technology being used as a "reward" in school before the project began. He saw examples of that in Brazil, including the lack of meaningful computer integration. This leads him to a more critical view of Ed. Tech.	I don't have any concerns that I'm not gonna be able to ah access computer resources or things like that I'm sure that they have, you know…they're software is real uptodate and they have pretty much the same stuff we have here. So I tell them, you know, we're going down there to see how we can get kids to use technology more. they might take the students to the computer once in a blue moon, but not always for learning purposes, just kind of as a reward. Brazil, becomes technology, technology is starting to come on the rise You have to think about how's it gonna work with your lesson plan…you have to think what kind of resources do I have available, and then what do I wanna teach even if you get all the technology in to school, [I mean] the teachers either don't know how to use it, they're either afraid to use it, ahm, they don't know how to incorporate it into their lessons, and then the kids just want to play on it I like technology as a way to kind explore different parts of the world
Time & Efficiency	Starts with lots of frustration on not doing enough planning for the projects. Not having enough time or not planning well. In the beginning he attributes	I don't feel like I've organized myself enough, [I don't] feel like I've ahm done everything I should have, you know, planned properly

	this to his own lack of planning for his project. Later he talks mostly about having more time to plan (external, as opposed to internal source). He catalyzes this into the "jeitinho" and learning to be a lot more flexible – realizing that problems happen and you have to deal with them – find another way. *Interesting to correlate with Technology*. Later he talks about this new understanding of time and efficiency when he returns to the US and everyone is in a rush – he misses the way it was in Brazil with his friends – and eventually leads him to a new understanding of "friendship".	I've learned to be more flexible here like, ahm…time, and finding ways to do things American society for the most part, especially in this university setting, it's like you know, very, you know, puxado né, you know, it's like, you always got something to do
Tourism-Tourists	Before his trip, he is aware of the stereotypes of Rio and does not want to be seen like a tourist – though he does realize that at times he thinks that way (other quote). *He doesn't know anything about Ceará, and it hurts him later*. He realizes that most people only know SP and RJ, and he is glad to know the Northeast for himself. When he returns, he gets comments about Rio, and expectations about Brazil that match the traditional cities (SP/RJ). Instead of dispelling the myths, he doesn't want to spoil their image of Brazil.	I'm not really sure what to expect, but I think I might experience some prejudice, you know, if ahm people might here me speak in English and ask me if I'm American, you know, they're gonna immediately think that I'm just down there as your typical American tourist, who's just trying to see, you know, the carnival side of Brazil and that's it, you know, not trying to experience the culture, not trying to connect with the people. cause not a lot of people, who've been, who haven't, who have yet to come to Brazil, not a lot of them really care about the northeast, many people are just thinking about Rio and maybe São Paulo
Values	Family conflict – empregada in the house while three kids are there. Doesn't relate to family values since they conflict to his own family in the US – doing house chores. Conflict with house-daughters, laziness – spoiled girls who don't take care of the	I don't really like some of the values that they have, they, like again the parents are very hard workers, they got the empregada in the house, they don't take of their house and stuff like that cause they leave everything for the empregada

	house, that bothers him a whole lot. Identifies more with the values in Pedro's house – work a little, enjoy a bit. Doesn't value the culture of materialism – see this as a question of value systems between Br and US. Ponders how his mother and family do not want to go back to Guyana for financial security. Makes him wonder what is more important. Cultural or financial security.	I see a lot laziness, and that's not what I was grown, I was made to wash the dishes every night I identify a little bit with that. His host brother, Pedro, you know, work a little bit, enjoy yourself a little bit, and just, that's that. when I've seen those things, you know, in Brazil I see like more value placed on friendships and your your family and here in the United States I'm seeing a lot, I'm seeing a lot more ahm, value put on you know more of your material things, the more money you have

Table B2

Thematic Analysis for Patricia.

Theme	Summary	Sample Transcription Text
America-Anti	Noticed anti-Americanism while in Brazil in the form of "Bush-bashing". Because of this she has a fairly narrow view of the problem, attributing it mostly to current war issues, and not a larger historical/critical perspective. Beyond the present issues, she does not try to empathize or understand this condition, instead considering the confrontation disrespectful. She has a hard time defending her position and recognizes that many Brazilians might well know more about politics than she does. Wishes she had prepared more for this. The presence of so many franchises and American media in Brazil prompts her to consider the concept of a global economy and influence.	They don't like our president. I liked him, like, half-way (unint), and I tried to defend… I feel they should be more respectful, you know, I am from the United States, they shouldn't be saying all these things, or, they should say it nicer." are in a love/hate relationship…they look up to us…they love renting Hollywood movies, and then they're like criticize I think they like to feel like they know everything it's just cause of Bush and the whole war thing just like how they follow everything so closely never really thought about like the global economy I just didn't know it was as big and bad as it was. I went to Brazil, [it's like oh you're] American but to no (high) just like get to know me
American people	Leaves the US with the idea of America "salad bowl" metaphor, a land of immigrants. Makes an effort to fight the American stereotype (see above)	"I also think that Americans are very goal-oriented" Americans are more about believing that they can achieve

	while in Brazil and has difficulty with people who immediately think of her as a typical American. She is very "thrifty". Recognizes Americans as very independent, and herself as very much an independent person. Returning, she notices how superficial and image-obsessed people are in America.	anything and that it can be done on their own I tell her that I can't believe that couples were like kissing at the mall, she was like, Americans are very distant, you know I hate (loud) having to depend on someone throughout the time I did feel, like I was representing, you know, our country American culture, but then, but Americans are so different cause it's always like a mix are like so obsessed with like image
Brazil impressions	Expected Brazilians to be nice and laid back and did not envision suffering any form of prejudice other than being viewed as a tourist and being taken advantage of. She was stereotyped quite often. She like Nick, expected more diversity (perhaps in terms of color, race) and noticed that Fortaleza was limited in that sense. There is a fairly homogeneous population which caught her by surprise and went against her expectations. She was also surprised by the level of openness. Though she expected people to be nice and welcoming she was not able to get over some of the more open social habits (kissing in public, family relations, closeness) that she experienced in Brazil. She realized Fortaleza was a large city and that factored into her sometimes "colder" relationship with people on the street. She mentioned difficulties adapting to the social customs,	I've heard they're the nicest people in the world Very fun and [like] laid back but still ahm you know dedicated and determined to their work and what they believe in "I expected people to be more open, you know…kiss in the cheeks, and I hear their bathing suits are much more, you know, revealing…[at the shopping?] couples would like, kissing each other [standing] in line, and I [just couldn't believe it!]" "and the guy gets it for you, and just you know, you can't do it yourself." it's just like they have no shame of anything…even if like, you know, you're overweight, they'll where little bikinis!"

	but see discussion about values and her willingness to adapt to different cultural practices in the classroom. She gives evidence of believing that Brazilians are more sincere and less superficial than her American counterparts which can be evidence on her evolving understanding of materialism and American people.	I had this feeling that I would never wanna live in Brazil…and I asked them if the buses ever went on strike and they're like they've been on strike before, you can't take a bus? I'm 21 and I've hung out with a lot of people who are that age, but also lots of people are married here I have felt like the lack of diversity…I just feel like they they want to stick to that thought that it's the best…They're not gonna change… Just the same kind of people you know, really straying from my expectations. it seems like so many people are from Fortaleza, and I know there is diversity here but, a lot less remember how we talked about how, here in Fortaleza it's not as superficial
Country comparisons	Compares the two countries in terms of schooling (see below) and customs (see above). She uses the experiences in Brazil to ponder how things would occur in her life in the US, as in the example with Internet breaking, schools, poverty, and family. She progressively has an understanding of cultural values that is more critical, especially when the Brazilians return to the US and she can see their actions here. Should people adapt or not to customs of others? In the beginning she was clearly of the opinion that all cultural practices are valid, and that She is more inclined to say they should.	I would never force them to believe that my culture is superior or better. On the other hand though, I am undoubtedly going to think that my culture IS superior; however, even though I might prefer my culture to Brazil´s due to the custom of kissing for a greeting, I am not going to say that my culture is superior. I know it is practically inevitable to believe that your way is the right way; that is fine just as long as you are still accepting of other people´s beliefs as well. if anyone goes to the United States goes to to New York or…Los Angeles, or any other big city, I mean aren't they

		gonna feel like they know the United States think like everything about the the at least the schools that I've been (to?) in the US, are just, are just better about how the the Internet went down, did you hear about that, I'm like would that happen at Bellsouth provider…would there be like a fire or something would they have backups so should you when you go to another culture, adapt to their culture standards
Courses	Enjoyed her experience with EDIT and figured she would have difficulties with courses in Brazil. This didn't materialize since the university went on strike, and other than one course, they were taught in English – and all were not focused on the tool itself. She did not undertake any more EDIT classes upon her return, but the COE has a notoriously difficult schedule.	I like to continue with the EDIT classes since I really enjoyed the 2000 level one [I am a little concerned] about that like taking the classes in Portuguese
Culture	Considered herself a person open to new cultures, even through high school, hanging out with different crowds, including international students. In Brazil went demonstrated a bit of intolerance and surprise at common behaviors such as demonstrations of affection. Within the family, noticed their openness in relationships. Family (mother and host daughter especially) a source of cultural knowledge. Had difficulty accepting these cultural behaviors, and towards the end still struggled with the idea that her cultural values could be superior. Catalyzes that in an example from the classroom where she demonstrates	I was really open, I loved meeting people from other countries, and talking to them I don't wanna be like that, you know I wanna and I I I can't accept it it's just a weird feeling inside, thinking that like my my customs or my cultural ways are better, or and are right. but I think that you have to understand that that's their culture and should you like, make them do it, just cause they're here

	an understanding of multiple cultural values and the struggle to reconcile them in one nation. *Thought she made an effort to talk and interact with foreign students at the university, but realized that she did not do it as well as she thought. She realized that Brazilians reacted to her with little questioning, and that perhaps, she behaved similarly in the USA – wants to change that.*	
Education	Expected school to be "tougher" in Brazil, partially because of the language, but also in regards to rumors (quite common) that school outside of the US is tougher. Her experience in GB confuses her understanding of what leads to educational achievement. Her teacher is quite good (PO confirms teacher's engagement, attitude). She does not like the fact that students spend substantial time copying things of the board, and are very "loose" inside and outside of class. Midway, she affirms that from her understanding, schools in the US are superior in every way she can think of. Begins to tease out important issues in education: family involvement, out-of-school environment, school resources, teaching methods. Focuses greatly on teaching "resources" as the source of the problem. She contrasts her experience to what she learned in Brazil when she returns. Notices that the teacher is working with has lots of resources, but is not a good teacher. Considers that in the hands of her teacher in Brazil, those resources would have been useful. *Some indication of a more relativistic mentality – US schools are not*	I just don't really understand the whole idea like, why (strong) why why is the public school not as good as the private school here I might talk to my parents here, my Brazilian parents, cause (they tell me how?) public school used to be fine, cause did they receive more money, is that why it used to be better? a student's family environment, or, you know, home environment is, if their if their parents encourage them to do their homework and give support…and ahm sometimes I think well, maybe it's just because they're only in school for four three or four hours, and....(it's just different) how they let them run around, and… I think like everything about the the at least the schools that I've been (to?) in the US, are just, are just better I mean many kids don't do their homework, and my teacher says she calls the parents, and she just stop cause they don't respond I'm a whole lot more confused, like I remember, schools

	necessarily better. Realizes the differences between US schools/SES and intends to visit but does not do it upon return. She takes a course on multicultural education when she returns and is frustrated by the "cultural heritage" approach to it (Mexicans eat corn…). Same when she talks to colleagues in the US about technology. Considers her knowledge base superior and exhibits great frustration. Though she continues to be "confused", she does exhibit a Delpit-like approach to her teaching in a very relativist approach to teaching, allowing students to "keep" their culture while also learning the culture of power.	are confusing the whole like system, I took, foundations in education class don't use it to use it, but be sure it's being beneficial and has the right objectives in your class but like get down more into it and as a teacher you should really, ahm…be educated in all cultures so that you can understand your students and get to know them. it just made me mad how, like, they're just so, it's kind of confusing (low), it seems like my classmates are more [simple] I do just kind of feel superior from our class I have found though that just because all these materials and resources exist, it is still the teacher who makes learning happen
Family	Soon after she arrived, already felt quite comfortable in her home. She had a host sister who was about her age. The experience of living with the host family made her reflect on her own. She portrays them as happy and balanced, in opposition to the family of another one of the exchange students which she commonly interacted with. Seeing different families (her American boyfriend's, and the two families in Brazil) showed how messy her own family was. She came back realizing that her parents were very simple (something she knew), but to a greater degree. She stands up to her dominating father, a facet which can be attributed to a more general	Yeah, even though it's only the third day I don't feel like I'm gonna be staying at a hotel, I feel like I'm at home, I can open the fridge when I want to, I can do what whatever I want my host family here, like, they'd all just be (unint) talking and laughing, my family [doesn't really do that] and it would be an experience to live with another American family my view of my parents is kinda different.

	quality of “affirmation” she expresses elsewhere.	I always knew my parents were really like simple, gosh they're so simple a change for the worst, my view of them ahm… I went to Brazil for crying out loud (excited) and they… well tell me everything! you know, but they never did that. I would write emails telling them all about it and then they would write back just, glad your having fun (light) I realized how screwed up my family is after seeing those two families, ahm…you definitely draw back to your ahm own I think I'm really different ahm, like, with my Dad ahm,..Instead of just being like yes, yes, you know I'm more, like I'll respond to what he says I'm just more apt to like, respond to something he'll say or stand up for what I know is right
Foreigner	She felt she had a very high level of empathy towards foreign students before her trip. She mentioned making an effort to talk to foreign students and to be friendly towards them. She complained about the lack of interest Brazilians took on her presence in Brazil – they would ask simple questions and would not want to know much more about her. She re-construct this when she returns. Her friends do not interact with foreigners as much as she expects (and does), and she notices that perhaps, she did not do as much as she thought she	at the sorority house there is ah this lady from Mexico who works there and …I came back and and met here, and no one had talked to her the Mexican lady, told me like that some girls don't even like say hi to her a lot of people are uncomfortable speaking to someone who's English is not very good now I guess I can see, [I don’t know] I guess I can see how

	did to interact with foreigners. The experience of being a foreigner in Brazil gave her a new identity – a foreigner in Brazil (American) a native (America) a "becoming" native (Brazil) and one she does not elaborate specifically, but is evident – a foreigner in America upon her return. She realizes upon her return that the people she thought were unfriendly were actually quite approaching/approachable.	people do see me as a foreigner, but I am kinda feeling it I'm really not, cause I'm fitting in more. it'll be interesting meeting exchange students, now and I'll (be sure?) to ask some more questions I [needed] to go somewhere so [then be like?] oh I am from the United States I'm American, I think you identify who you are more who you are when you're taken out of, your comfort zone and definitely now being back here, I just think back on all the times when I would meet strangers and then how open they would be …I just noticed that they are very friendly
Friends	Lived in a sorority house. Before the trip, had already considered the possibility of leaving it, and so decided to be on "leave" for the semester of the trip and decide to continue or discontinue her membership when she returned. She returned and stayed for another semester, which ended up being a terrible experience. She did not make many close friends in college, which she attributes to her interest in not being part of a clique, since being in high-school – always being part of many groups, including the "excluded" ones. Though she was undergoing change, perhaps due to maturation, her experiences seem to have functioned as a catalyst in re-modeling her view of her friends, adding perhaps a different (foreigner) lens. She mentions becoming more "liberal" which contrasts to the conservative views of her sorority-friends who are also very single-minded and perhaps "unaware" of their surrounding and bigger issues in	I I know why I don't have any close friends, cause like in high school I didn't either I think I just like tried to be friends with everyone I mean people are today so clicky I never really had that many close friends up here just care about more like superficial things or, just, having fun guess just not as open, you know, they're more like closed some of their attitudes, are, ahm, really single-minded, or, ahm, just…different from mine maybe the trip did like helped me see it more I don't want to put my classmates down, I don't know I do

	life (work, school – only "fun"). She reports feeling a bit superior in class, because of her increased knowledge base in education. While not considering herself an intellectual, she has re-affirmed her interest in being with a more "geeky" crowd (boyfriend-teacher influence, but past history too).	just kind of feel superior from our class so single minded, and like, really conservative they would go on a study abroad trip they would just hang out with other Americans and like, and go to the disco,techs, or whatever, and not really care about, you know, knowing other people there's such a large population here, like the not-intellectual, I mean, I mean I I'm not super intellectual, but I like to hang out with the intellectual people I mean always makes me mad too in classes when people complain (long) about the work and stuff
Global Perspectives	Expected to learn new perspective about the world before leaving. She does not report on a concrete set of ideals. Her construction seems to be at its initial phases, being a bit shocked at the level of anger Brazilians have for American policies. She attributes this to current policies in Iraq/war and does not see the larger pictures.	learn to have new perspectives and opinions of the world I never really thought about like the global economy
Gratitude for being	When problems occurred in Brazil, she would compare to her condition in the US. When the post office went on strike, she considered the possibility of this happening in the US and pondered to what degree these things (like the university going on strike) could happen in the US. There is an element of surrealism to the idea of "strike" which she analyzes very briefly and takes a very instrumental approach to. Upon returning feels grateful for her background and current situation. Though she does	grateful I feel, just to be at UGA, and, ahm, you know, for my whole I think, educational, experience and my life, public schooling has been excellent but like they would think like things aren't as important, like just like family is more important you know they go and see p poverty, but then they like you know, see how people can be happy

	not consider herself materialistic, she is happy to be able to purchase a car (contradictions are many here) – at the same time, seeing poverty has opened her eyes and humbled her spending practices – though she has no regard for "where" she shops but "how much" it costs – being thrifty. She considers that she'll consider giving money to poor organizations still, but find that though it would potentially "call" her to action, she does not report "wanting" to do anything.	there's poverty in the world maybe that would've given me the calling to do something…but I mean I, you know I still like, wanna give as much money as I can to certain organizations to help
Identity	Has felt like she had to hide her identity as a sorority girl to avoid negative stereotyping before. She is relieved not to do that now that she left. Considers herself a more confident person, on the inside. This is evident on her treatment of her father. She attributes this to maturation and her boyfriend, and slightly to Brazil as "surviving" in a different country.	I almost like hate that I was in it, like I hate being associated with it sometimes you know now I'm one of the people labeling (laughs) but I I hated like I mean I've always been a confident person, and like on the outside I think, just more confident on the inside now
Language	Had only one semester of Portuguese before going. Her fluency level was low, but she could communicate in very basic terms. Improved her language abilities faster than anyone in the program. Her biggest frustration occurred in class. She worked with very young kids, learning to read and write – which made it extra difficult to understand her accent (PO). During one of the interviews she cried at her frustration in being understood by the children. She is a perfectionist and hard worker and felt bad that she could not overcome this barrier more quickly – she blames herself for not dedicating more time to the language (unrealistic). Her appearance "gave away" her status as foreigner, which prompted many	I would have better control like if I could speak perfect or if I was a…you know, in an English classroom how so many people , even though I'm speaking Portuguese with them they can't understand me I hated Portuguese for that… and I feel like I've been like forced to learn Portuguese and that made me not like it I'm very please with where I am with that now expectation that I wasn't speaking Portuguese cause I don't look Brazilian

	to "see her language" differently. *This might have had an impact on her perceptions of being a foreigner.* In the end, she is pleased with her Portuguese-speaking abilities.	
Materialism	Is surprised by the lack of resources at home (*though these were usually substituted by manual labor, which she doesn't comment on, perhaps because of similar status in her sorority house*). She has considered (and recognized by others in the group including myself) as being very thrifty and not over-spending. She expects people who go abroad and see poverty to change their perspective on spending, though she does not include herself in this category since she wasn't a big spender from the get go. She uses examples like Walmart and Target as a contrast to buying name-brand things. *But does not consider the economic consequences or origins of buying extra-cheap clothes.* She seems shocked at the value-materialism in the US, pointing to it many times and with strength – she is upset at how much people spend to support their "image" which she correlates with being superficial, and to a degree with the stereotype of the "sorority/fraternity" person. Brazilians are less superficial in the sense that they live in a less "superficial world" (other student's words which she agrees to). She also equates this to the larger issue of consumerism and individualism in American culture, contrasting that to Brazil and other countries. *This seems to be in its initial stages of thought.*	Do you guys have washing machines, anyone, (people answer with expressions, most don`t) no? I don't like to spend a lot of of money on things. think a person, w, when they go to a different country, like maybe, not as nice, in a city, that that they would change,…be like you know when I go back these things aren't gonna be as important to me. I was always pretty thrifty before their perceptual change, [they'll be like] that's really not that important, I I can get a shirt, from Walmart but like for me I mean [I wasn't using Polo] having a car (strong) and, other necessities, they're not necessities remember how we talked about how, here in Fortaleza it's not as superficial so I am like picking up on things, more like there people are more materialistc and more like, superficial it seems walking around UGA I get like so sick like seeing… all these people with little expensive things

		I think it's being wasteful, ahm, I think people are more conscious of it now with the whole gas prices when they went up and everything…everyone's just so self-sufficient…I can't share, I need to have my own stuff.
Media-Sources	Is really surprised by the level of penetration of America media in Brazil. Shows a naïve, intial view of the American influence in other countries, and the popularity of the American "way". Feels like she could've better helped her teacher in Brazil with her new experiences in classes at UGA. When she returns, she reports a bit higher level of activity in paying attention to news, but nothing pervasive. She seems to have done it more just after returning, but it declined later, with school taking priority. *It does not seem like she felt an urge to know more about global issues, though it is clear that she felt inadequate no being able to argue about politics and such in Brazil, and feels an urge to get more educated on these issues. Mentions her boyfriend, a history teacher, as a possible source of influence.*	there's so much (strong) American things here. Music, and clothes, I can't believe you're in the grocery stores hearing Avril Lavigne…(unint), it's like you can't believe it! I think over the past year, I've become more (unint) seeing the news more I think about how, so many people do know, they're like [so many people focus especially in the US], I never gave a single thought thought about Brazil or like, so that's funny. wish I would've prepared myself ahm, more like, read some of the books that I've read check CNN.com, or ahm, I don't watch it on TV as much here in Athens but ahm, well last semester I did, I would like watch the news at night wouldn't say that I watch the news, or that I watch it daily but…or regularly, (as?) I did before…and ahm…just like trying to ahm…education myself more about…issues and everything
Personal change	She is very conscious of the potential "change" that can occur by going abroad. But she exhibits very naïve reactions to common differences in customs (kissing on the cheeks, American music, public affection). She ends up realizing that it is difficult to accept the values and habits of others that are	a big focus on the students and their learning in not only the classes that they take but, you know, learning more about themselves and their world as their, they most likely are from a different cultural ahm setting but I wanna try and fit in as much possible and not stand

	different than you. *She recognizes the struggle, she does not close herself off to others.* Upon her return, she comments on being more assertive and liberal, which leads to conflicts with her father at home. She attributes this to her experience being in Brazil and "independent". She feels an urge to know more and to "step down from the fence", instead of being able to understand everyone's opinions, she wants to be able to have her own, a new-found level of assertion. Expresses interest in taking part on clubs and being active. *But only later, she becomes active in an organization which I mentioned to her.*	out ahm, and just really immerse myself in their culture and not, not be afraid to try anything new or keep any of my ways of living here in the United States I don't think you can go abroad and be in a different cultural culture and not change and or not have different perspectives and new realizations of the world and of yourself I don't like to admit it…before I did have like some…prejudices, I guess, people who are different from you, like, I thought I was so open you know, I realize that its hard, to be very accepting of others Yeah, I think I'm more liberal. I am the way I am because of the way I was raised, like how my dad is really dominant, and so it's like just, it's like you know, be submissive and everything, and so, I didn't want to like formulate strong opinions I'm not pationate about, on a on a lot of issues, you know, I'm not passionate about one side or the other yet, but ahm…I would like to be Brazil cause I'd be there, and people would ask me about things, ahm…and…you know, I didn't always have the best response, and I was like gosh I don't want them to think that I'm a stupid American a lot of things that I wanna do, I just don't do, like you know, be a part of more…clubs, and more like active groups and stuff

		not so much teaching, but just overall, like before I went down, I met a lot of many people form other countries….now that I've been a foreigner, you know, I can kindof related more and ahm…I I I've been in their shoes, so, I'm more understanding aspect.
Politics	Does not develop a stronger opinion of American politics or politics in general. More aware of global economy.	It also seems like there are less opportunities in Brazil, which is a large result of the way the government is. everyone's view about the US, how (people?) are in a love/hate relationship I think I'm more liberal
Project	She felt frustrated with her project while she was in Brazil. Felt like the kids did not engage as much as she wanted, and as a result, she did not get a "student-centered, constructivist" environment she expected and wrote about in her lesson plan. She decided to do snail-mail letter exchanges, abandoning the idea of scanning the letters. This failed partially, as letters took quite a while to come back and forth between the schools. Upon her return she realized what she had accomplished did have an impact on the children who likely would have not had the experience of connecting with other children and understanding a more global perspective.	in this theory, kids will like choose what they wanna do, and, ahm…work together, kinda more constructivism, and that's great you know, but now that I'm seeing it, we haven't really done it it was great for them [you know] maybe, we, they, may, have not ever have been, thought of Fortaleza as a city and their country as Brazil, and then learning about the world and other countries The students didn't participate as much as I wanted them too. I just feel like my experience at GB was just so invaluable In regard to the progress that was made in my classroom, I was always bewildered. Some days the class would spend almost the whole time on just one lesson/activity

		I feel that the progress made in my class at GB is slower than say the first grade class that I am interning at this semester
Religion	Goes to Brazil as a Catholic, to a Catholic country, expecting to have her religious beliefs reinforced. Instead, finds a very different expression of her own religion, which is most similar to Protestantism, which while in the US she saw in a pejorative light. It shocks her quite a bit to see people "raising their hands" and focusing on the image of Mary so much. She gets the feeling that people would treat her worst, had she not been a catholic, and feels more animosity between Catholics and Protestants in Brazil. Through the class activity on religion and her own experiences she gets to see a different set of religions, and comes to the conclusion that while we have different practices, we have similar values – though she does not explain what she thinks those values are ("a good life"). Takes a more open view, a more tolerant view of different religious beliefs, especially through the lense of her *own* religion. See discussion on values.	I think that what we all have in common are our values It´s also strange to think why I really believe and do the things I do in my church, or why anyone does for that matter. For me at least, I feel like I believe in the things I do simply because I was raised to be this way Aspects of other religions seem "wrong" because they are different than mine. I still think they should be respected though. like they're glad (long) I'm catholic, you know, I feel like maybe they're not open to other religions here its just weird to see like my religion in a different light…then what I'm used to. I thought before I came here that I was really become a stronger catholic, cause Brazil is really catholic, and I'm gonna live with a catholic family, and …being away from home, maybe, rely more on god and stuff, but…things got more confused. I thought I was so, open…but it is so different, …being kinda like on my turf, you know, in my culture, but being here… when we did the religion class, or when we did that activity, it's just weird how there're so many different

		ways, so many different religions and beliefs and…complicated! I felt like such a hypocrite, ahm…so, that was, I mean that's just a good lesson in itself to never, you know, not that I don't think I judge them…assumption like oh you know, well Catholics don't do that
School	She has a very positive image of school at GB. She gets exposed to teacher's lack of resources and funding which leads her to believe that resources play a big role in teaching (see Teaching). But most importantly here is her struggle to figure out why public schools in Brazil are "so bad". She gets that impression from her GB/FB activity, when kids at FB make it clear that public schools are terrible, for example. But her personal experience, working with the children gives her more clues, as well as talking to her host parents as part of an activity we did. She notices many factors: limited achievement, time in class, limited curriculum, resources, family involvement, investment, government corruption, and many others. She also interprets the kids seeing the school as a place that is "not to study" – reflecting on the unstructured school, limited time, and limited curriculum, including the "openness" of the classroom and teacher (tia)-student relationship She does not *conclude* but her search is quite strong, and she makes an effort to compare it to how things are back home.	Gustavo Barroso is, from what I understand, one of the best public schools around. I am not sure of the size, but the atmosphere seems very friendly, comfortable, and safe for the students and teachers/staff. cause (they tell me how?) public school used to be fine, cause did they receive more money I asked them about public school and it was interesting how anxious they were to inform me of the poor, even horrible, quality of them. I'm forgetting kinda like how, how, school goes there I assume that at FB there is a stronger work ethic since their working conditions and salaries are better than at a public school like GB. I think that teachers have to have more schooling in order to teach at a private school, but other than that, I think they are very similar between the two schools. can't understand was the whole like, why are public schools so bad. We did, we did one activity, and I have talked to my dad about it

		it's just because they're only in school for four three or four hours [sometimes she like] uses her own money to make copies, the copy machine is broken, and…(sigh) like…they copy things off the board more, than they do in the US kindof hard to ahm, understand how we have great public schools here, for the most part
Service	Had been involved in service activities since high school. In her sorority she got involved with service that was mostly focused on "giving" or donating, rather than actually doing service. She seems to be relatively active before college, but does less during college, possibly because of time. She talks about the Lagamar experience and poverty in the city as potentially moving to action, but her response is the *donation* method of service rather than actual service. She does get involved in an organization at UGA 7 months after she returned.	do a mentor program for, I mentor elementary age students I was in high-school and other clubs I've been in, you know, you really do something more than just asking for money I still like, wanna give as much money as I can to certain organizations to help…ahm…the poo
SES-Poverty	Experience at Lagamar, GB/FB, and seeing people on the streets and home interacting as important factors. Favela experience and beggars as desensitizing factor. Family doesn't give to the poor, but Alice's family does which she contrasts as seeing them "taking a stance" on what to do in face of a situation that does not seem to have an easy solution. She did not spend much time reflecting on the Lagamar experience, though she did think about it in unstructured ways. In the end, exposure to poverty led her to see little solutions to the problem, or even how her work our work might be steps in terms of	I would imagine that it would be difficult for the two to be friends because of their different backgrounds. going to the favela, I mean I had never seen anything like that. I went there and I was there for I don't know how many hours but then I left and it's like I could just forget about it if I wanted to and and then I would keep thinking how they're just sitting there, doing what they do all day and it's weird to think that that's how they're life is ad it's so different from mine different from like, the city and how

	assisting in solving that problem. She feels powerless in face of such large issues and can does not come up with an elaborate understanding of her personal role and capabilities in assisting with the solution of the problem. Considers that American people might be too materialistic, spending money on frivolous things, and that they might be superficial, or living in a "superficial" world.	things just keep going She said that a lot of them go to school and are on the street, even some kids at Gustavo. I never had thought of it like that. I think it would be impossible for me to identify with someone who lives in favela, or (long) with someone who has a chauffeur High status kids would have other connections to remain at their level even if they did not complete their schooling. It's sad, but money really does affect your culture and way of living and thinking this urge to help, but then you can just sit back and not (unint) if you don't want to seeing people on the street, (I think) is he (strong) going to walk home to a favela or maybe Lagamar when he's going home desensitizing factor you know, you just kinda push it away I've seen it with my own eyes am I gonna act differently, I don't know. I still think that I'm a person that lives like [who will?] wanna get close to the poor and help out, [I don't know], maybe after some time so I am like picking up on things, more like there people are more materialistc and more like, superficial it seems

Students	Had a positive but difficult relationship with students. Language, mostly in terms of accent and not vocabulary, was an issue (PO confirms). She was very frustrated with this. The contrast between her interaction and her teachers' interaction is visible, but also expected as she was new to the students. She ended up "blending" in quite nicely, and was able to help consistently. She realized that students in GB were possibly the same people she saw on the streets, though she does not elaborate on that issue. She does not talk specifically about the children outside the context of class.	the kids have a hard time understanding me as well, and I get so (long) frustrated so I don't think they really respected me at first
Teaching	From the get-go, has a very positive impression of Olympia. She gives Virginia a lot of room to participate and create in the classroom and is described as a partner. She gets frustrated at seeing students copy things of the board mostly, and being seemingly bored, which she attributed to a lack of resources on the teacher's part, not questioning ther competence. When she returns to the US she values the teacher's skills even more, as she sees an example of an American teacher who is "full" of resources and does not know what to do with them. Olympia was also a source of information on the educational system and it's maladies.	First of all, I think she is a very good teacher and my opinion about this is only higher now after having had this kind of discussion with her. she's very passionate about it, you you know, get's upset, and ahm…so its its great to have her point of view in some of the things back and, been able to introduce new ways, of teaching to to engage the children, cause…like day after day they're just copying things off the board It was surprising too just how open and friendly Olympia was. I've worked with several teachers here, but none of them have invited me to their houses or weekend vacations like she did.

		if only Olympia had more supplies/materials... to save the kids' time from copying things off the board.... books and activity books to teach from, better classroom setup (i.e. tables vs. individual desks), then MAYBE the class would progress more and the students would be more engaged. On the other hand, I'm observing a first grade class this semester and my mentor teacher DOES have plenty of supplies and resource materials; however, I've learned that just because a teacher does have all these materials, it doesn't mean that the students will learn better or behave. The teacher must be effective as well.
Technology	She expected a higher level of computer/Internet availability that came to be in Brazil. This led to some problems in her project and a bit of frustration, which she curtailed by using less technologically advanced solutions. Mostly she gained a new understanding of technology as part of class. She gained a more critical perspective which she shares now at UGA upon her return.	know it seems like everyone here all students and even ahm families they always have a computer in their house, it'd be really weird if [excuse me] (air) people didn't have a computer in their house and I don't know if its that way in Brazil or in Fortaleza I thought it was gonna be, you know, go down there and learn how great technology is for education, you know, you should use it, it has so many benefits, ahm, I'm off course an education major, and, I was like you know ok, I think I'm gonna learn how to incorporate it in your classes but we talked a lot about how technology is not always…you know, the right tool to use, and that often teachers, use it, just for the sake of saying oh yeah (light,2) I use technology in my class...ahm, so that was really surprising and gave me a different perspective and a way of thinking about it, in terms of that ahm, so, I think I'm more, more of a critical think, thinker, ahm when it comes to using technology.

		a lot of my classes now are saying you know, use technology, and I'll bring up the point well, you know, just don't use it to use it, but be sure it's being beneficial and has the right objectives
Travel	She ponders the difference between *this* experience and those of traditional study abroad students. She distances herself and our program from the traditional set, by talking about how here she got to know and connect with people, something that traditional study abroad participants do not do.	improving the language and really making great relationships with the people there When they would go on a study abroad trip they would just hang out with other Americans and like, and go to the disco,techs, or whatever, and not really care about, you know, knowing other people
University	The courses at the University were a source of shock in the beginning, as things moved in a slower pace. When she returns she misses taking the time to get to know the students in class and how professors were personable in Brazil. What was a source of shock in the beginning ended up being a way to learn about cultural elements that she began to value.	cause we had the whole day (emphasis) just to introduce ourselves and I thought that was really different and, [dealing with the whole?] how things are more laid back like Aires was really personable with the students and it's just like oh we don't do that as much here
Values	Had conflicts with the way of life of richer and poorer people in the country. Could not relate to either very well. She has a strong work ethic and the idea of an "assistant" in the house is confusing, though she does not, and neither to do others, try to understand the context for this.	that whole thing is so weird to me, having an empregada. I see a lot of, I mean I'm gonna be really, blunt about it, I see a lot laziness, and that's not what I was grown, I was made to wash the dishes every night Virginia...: Aham, definitely. I know it is practically inevitable to believe that your way is the right way; that is fine just as long as you are still accepting of other people´s beliefs as well.

Table B3

Thematic Analysis for Malcolm

Theme	Summary	Sample Transcription Text
America-Anti	Expected Brazilians to bash Bush. Was anxious about the possibility of being the target of negative feelings towards the American government, which occurred as with others.	I hope no one will feel that strongly that they have to hurt me or yell at me somehow about you know American government.
American people	Seeing the level of influence the United States has in Brazil, made him think of the lack of influence other countries have in the US (it almost seems like we are closed off from the world). This influence happens in music, food, news, movies. Individualistic, need for own space and privacy, without reliance on others. Punctuality is important, which makes it feel like life is all about rushing around from one activity to the next, day by day. Distances himself from the American identity at times by mentioning Iranian identity. Not leave home after college – which he identifies as possibly relating to weaker family values. Americans as glorifying their achievements (Santos Dumont vs. Wright Brothers), which he learned in PORT 1001. Materialist people, dreaming of having possessions, but to an extent this isn't bad. While at the beach he notices the interaction between young women and tourists - sexual tourism and ponders whether friends of his and other people who talk about "hot girls" in Brazil might actually be	it almost seems like we are closed off from the world, maybe to keep our minds on how great we are this it feels like life is all about rushing around from one activity to the next, day by day an exception in my family having Iranian traditions, is that many children leave the home after high school we glorify our own achievements so much yet give little to others Some Americans are quit materialistic you're going to Brazil there's a lot of hot girls, it like makes me think, you know, are my friends there are they just as (bad?), if they came here would they be doing the same stuff?

	capable of engaging in sexual tourism in Brazil.	
Attitude towards traveler	Returns to the US and people treat him very similarly. *He says it in a way that expresses an expectation to be seen differently, but a conformity or acceptance that it wasn't.* Relates to this with an experience of other friends who went abroad, and annoyed him by talking about their experiences abroad. Thinks that now, after having similar experiences, he'd be able to relate and have more questions. *Which perhaps is why he expected to be treated differently.*	The way it was like people, the way people dealt with me wasn't even different, ah, I mean, why should it be, but ahm... But and, you know, if I have questions I'll ask you, you don't have to keep going on about Spain or whatever. but now, I would probably look at my own experiences and try and compare and find, [you know] how was it there, is it similar to this, I would have a lot more questions based on my own experiences.
Brazil impressions	Brazilians as friendly, hard working people. He expects that being an American will lead people to want to talk to him, and he will suffer no particular form of prejudice. His impressions of Brazil seem to be general and spaced. Within one week of being in Brazil he notices how hungry Brazilians are for American things/consumerism, which affects his impression of America. Throughout he has very positive views of the Brazilian people: friendly people, less homophobic, cleaner, women having more respect from themselves, Brazilians as less rash and violent, and less likely to be speak behind others' backs. Poverty balances these impressions. Talking to fishermen and a worker in his home stay makes him feel bad	I think they work pretty hard, like, all the ones I've talked to they're taking a large amount of classes. I think it will be interesting cause people will want to talk to me, that will make it really easy to ease into the culture…ah… just probably stereotypical type views that you see in movies for TV…just Brazilians at the beach all the time…things like that… Yeah, they are all very hungry for our things, our culture, so. I know they take a lot of pride in their job, even though they are just a waiter They're very clean

	about the disparities in opportunity he has had in comparison to those who are obviously hard-working people. Considers that people in Brazil are lazy though the only thing he can connect with (hard for me to justify) is the fact that Brazilians have maids and the concept of jeitinho. He recognizes that he came to Brazil with strong misinterpretations, following many stereotypes (capoeira, for example). Considers that without some basic cultural elements (food, language) Brazil and US people would be quite similar. In the end he feels the way of life in Brazil had a great impact on him – the idea that they work to live not live to work, a contrast to the daily routing of Americans.	they always let you know, how they don't like Bush. Yeah they don't plan staying, plan on going to Europe or the United States or, like ahm…I just need to invest in myself cause I'm just gonna go somewhere else. I don't need, I'm not gonna stay here. It's like the job is too big, I don't know. your expectations match your environment Well there's a lack of diversity, not a lack a culture Although Brasil is known for it's beaches and the immodest bikini clad women that cover them, most women seem to have more respect for themselves here than in the United States From the circles I have been in while in Brasil is also seems that the people have more respect for one another, they don't insult each other behind each others backs nor pick fights as I've seen in the U.S. I feel bad that like, they can't like my the opportunities I've been provided can't be provided for other people, or it's not so simple In the United States I used to think that ahm, our politics were corrupt, but here, talking to the Brazilians here, it's terrible it was interesting to see they're life outside of the colégio cause the colégio, I mean, it's not their home…

Courses	Unlike the other students, he was able to take his elective course at the Computer Science department. He was not particularly excited about the course, which he took as an audit. He seemed to have enjoyed the Multicultural course insofar as it gave him a wider perspective on school-issues. He did have difficulty attending some classes fully as his teacher was only available to meet during class time. LObjects course did not add much to his knowledge, as he already had experience in programming, and he did not mention anything about the pedagogical/teaching theory side of the class.	interesting to see, it kinda gave us a wider view of what was going on here in schools it was [kind of a joke?] to teach Flash, ok, we're gonna teach Flash for the next three weeks, and then we're gonna get started but, no one will use it.
Education	Sees education as an essential (if not the most important) determinant of economic prosperity and life chances. Through his experience in public schools in Brazil he notices his own educational privilege. He compares his life options, which are broad and open, to the perhaps limited options of children in public school in Brazil. He is skeptical about their future, but not his. He is considering pursuing a masters' degree (was before as well) in a field like education, and not computer science. He feels like he needs to benefit other people, which computer science inherently does not do.	Education is something that can be gained through wise words from others, life experiences, but the most widely accepted form of education is through a school. this wont just be the things i learned related to my classes, but anything else, social experiences and any other experience or observation I think that, no matter what, things will be pretty good, from like, experiences I've had and ahm, I guess education…opportunities. I place a lot more importance on education, like, especially when you're here I feel like what would be more important is using what I learned to, I don't know, computer science is more like.. the work is only for the purpose of, I guess, improving computers and computer technology…] it doesn't really help people, so I wanna, I'd rather do something that would benefit…

Exchange students	The exchange students functioned as a support group in the beginning of the program. Later on, smaller groups began to form within the exchange students as they found other students outside of the group to hang out with. Feels like if these students had not come together he would had an easier time meeting outside students. Even though the program was designed to be online and students met regularly either in their project groups (UFC-UGA) and other institutions, he found it difficult to establish these distant relationships, preferring local ones.	sometimes I think, relationships are drifting apart …more relationships are being formed, kinda the broader one is loosing…it's substance I mean, we help, we help each other a lot. 'I don't wanna say we're not friends, but we're not as close as the group here there's not so many chances to build a relationship if they're not here, cause we're all (friends?) just communicating through the internet^ , if I wasn't here with them, if I didn't have ready made friends, I would probably work harder to make, to meet people out
Family	People in the family became a source of Brazilian culture that they did not get from the younger folks (history, music). His closer connection was with the host mother, who treated him like her son. He experienced a great deal of liberty in Brazil, and later on built a closer connection to the host father. The relationship was more feeble than he expected. When he called back, he was surprised that they didn't have a lot to talk about (language is not a factor here), but also feels bad he didn't call, but does not do it within the multiple ways that are available. Families are stronger nit in Brazil as evidenced by	so yeah talk like to the older people if you really wanna know about Brazil I don't fit in with, not quite fit in with my family's social status, like, I think they do have ahm, more money culture here is a little different, it's a little slower, just, the family, ahm guess ties seem stronger I mean she treats me like her son like this new gift, [which was like] oh new family, new car, you know, all these new elements of this life are back

	their commitment to eating lunch together. Contradicts his previous notion of things being slower in Brazil by having a family where mother and father are always out working. He does not seem phased at the lack of interest his parents exhibit about his experiences in Brazil.	again. 'they didn't ask a lot of questions either… they didn't care, it seems like they were just, they were just glad cause I was back I thought I would have more to talk to them about whereas there I really didn't have, if I didn't want to, I really didn't have to do anything at all ,I feel bad that I haven't contacted my family
Friends	Friends in Brazil helped him see different aspects of the city and the local environment. He feels like they (family and friends) were very important to him and feels bad he neglects getting in touch with them. He planned to keep in touch, which has resulted mostly in small messages in Orkut, MSN, etc. with closer folks. Contrasts with his previous notion that keeping in touch at a distance was a bit difficult with UGA and other students using online technologies. When he returned to the US, his friends (like his family) did not ask him a lot of questions. If they did, they were shallow, which frustrated him a bit. He wanted to talk about many things (unspecified, but deeper) and did not get a chance to do so. When he does want to talk about Brazil, he talks to people with similar experiences, an in-group. He doesn't discriminate if people do ask him about Brazil, but he finds it easier to talk to folks with similar experience. Relates to his own comments in regards to students returning from study abroad (Spain	they show me I guess different angles, in the city I hope I can stay in contact with ahm all the friends my family I expected, things to change as well, but I guess it doesn't make sense that they, they should change too I imagined they might have have more questions for me, but it's just like oh, you went to Brazil, cool they pretty much just wanted to hear that it was good, and that you know maybe a funny story or something, but, I didn't exactly have...to tell them what they were wanting I think I had a lot of good relationships, like friends or family I like talking to them, prefer talking to them cause it's like, ahm, there's a lot of agreement^

	example).	Yeah I mean it doesn't, I'm not discriminate against that ahm...no, but I mean, I'm allowed to talk about certain things with certrain groups of people that know what I'm talking about yeah I talk to them every now and then through the internet
Future goals	In line with his views on the importance of education. He feels like his future goals will take him to something more social and later to the field of IT since it mixes a bit of technology with psychology, and it is similar to his work in Brazil. He feels his work had value, and added more value to his life.	I've seen how much work it is, and I've seen you know, I've gained some experience, so its definitely helped me consider that I'm thinking about Instructional Technology, cause I think like, it's a good mix what we did there, it seems, it gave, like it felt like, I had a lot more value to my life
Language	Language was not the top priority for entering the program. He was interested in the culture after he entered the PORT1001 class, and then capoeira. He was a bit weary of his vocabulary skills but very confident that language was not going to be a problem for him in Brazil. Generally it was not. Though contact with the Americans and English-speaking in class hampered his learning of the language, a complained echoed in different light by another student.	I've always wanted to be immersed into a different culture to really learn the language I imagine the first month will probably be pretty hard Language isn't a problem. Probably talking to people that don't speak English I think if I were speaking Portuguese all the time. I would probably, most definitely I would improve quite faster
Leisure	When he returns, valuing some experiences over others – traveling and spending time with his host father swimming more than traditional (for his group and age) activities. The later having more value.	I wish I had gone more now, thinking back, cause that was such a cool thing like, like, of the experiences that I had, like traveling and, you know [interesting things] like that, like you don't swim out in the ocean everyday, so, I wish I

		had done that more, and not gone out with Marcelo to, boates, BS like that
Materialism	During the first week, students notice interest in material possessions (car, laptop, etc) which they have, but Brazilians only aspire to. In the beginning it sounds like a criticism. At mid-point it sounds like an awareness of privilege. He notices the disparities between what he has and Brazilians do not – the differences in his life resources in both countries. He exhibits a less-materialistic personality by keeping his old car and having an interest in carpooling – minimizing expense. But when he arrives in the US he misses riding the bus, considering it to be fun.	they are all very hungry for our things, our culture, so…Consumer culture. I'm talking to my parents now, my dad that car is kind of old, wanna get you a new one, and I tell like 'em you know, that car is fine (emphasis) I'll keep that of that car, thinking now, I can't even believe I have a car even though I'm gonna have a car I think I'm gonna ask for rides a lot more when I get back I won't take for granted ahm the things I have, having a car, I'll always remember, you know, that I had to ride a bus (strong) everyday for six months, when I got back, like I missed riding the buses around Fortaleza, which seemed strange but it was just fun
Personal change	More peaceful mindset. Unclear connections. Appreciates the idea of balancing work and other aspects of life.	I wish more people could do this, I (unint) realize, I realize like I've changed, in a lot of ways, just like, personally the way, the way I act with people the way I, [I don't know] I guess just…probably better, I don't know, [I don't know] maybe, maybe more peaceful [I don't know], but it's kindof hard to put all of this into words what if school, like [I don't know] maybe, what if schools were to implement like a mandatory study abroad
Politics	Before leaving to Brazil was aware of the possible effects that the US has on other countries. He does	I guess maybe see how our country affects other countries. See how other people feel about our citizens

	not develop a very comprehensive understanding of Brazil-US relationships or the role of the US in world politics. Returns to the US with very similar views.	I guess cause American politics has such a strong effect around the world certain actions that certain governments take, takes effect in other countries, so, seeing like, I guess, poverty here, makes me thing you know, maybe, this could be results of other countries, so, maybe when our government does something, we should, you know, think about how this affects everyone else our politics were corrupt, but here, talking to the Brazilians here, it's terrible they need to do something about their government My own views in politics? Nah, I think they're pretty much the same
Prejudice	Did not expect prejudice in Brazil, and does not demonstrate revolt against the stereotypical representations of his Iranian identity. He distances himself from Americans whenever he mentions his Iranian/Persian heritage. Upon return he suffers similar prejudice from people relatively close to him. He says he takes it all as a bit of a joke. He does not want to engage in discussions with people he deems to have very little knowledge about the situation in Iran – since he has family there and is quite aware that they lead normal lives. Prejudice might have helped him keep or create this distance between Iranian and American identities.	, they joke, oh you're a terrorist!... they say homem-bomba, bomb-man after a while with him I told him, like you know, I'll let him know this is, you know, what are you doing, I'll let 'em know I didn't really like it I mean normal people, they didn't really discriminate me Americans that are kindof anti, their [just a little], scared or like xenophobic… I mean, my general opinion of Americans, it's good, I like 'em, I don't know a friend of mine, her mom, is so, racist, I ca(n't), I never

		met anyone like that, towards me, I heard of people being racist towards like Blacks, and I'm like yeah, stupid southerns and all, but I've never met anyone who was so racist towards middle-easterns, a friend of mine, I work for his dad and he was, so is my dad now gonna be funding terrorists like whenever I bring up Iran to many Americans they wanna talk politics with me…: they're experts all of a sudden, ahm, or they wanna tell me all their views which is not bad, but, sometimes I just don't, care
Project	He had difficulties with his project. Started in one school and had to move to another because of lack of connection with a school in the US. The teacher-partner could only meet at the time scheduled for EDIT4600 and was not very cooperative or communicative. In the end, he felt like he could've done more. He actually went to the school until the last minute working on the garden project (I was there to help as well). The projects have given him a sense of accomplishment and a feeling for altruism/ service.	more fully fulfill it's purpose if we had more time, just to work in the schools I don't know if we could stand to stay in Fortaleza more I mean it gave me the sense that I was working for the kids that were in our project, so, it felt like I was doing work for other people. I guess that felt good, too, somewhat make a difference in their lives
Relationships	While in Brazil was under pressure to find and meet girls (relates to his leisure activity complaints). When he returns to the US, starts dating. He prioritizes this less in light of more important things. He says this in connection to Islam – and shows that he is mirroring his values on the folks from Mosque, which is a much stronger part of his rhetoric towards the final interview.	ther was always like this, like oh you gotta meet this girl think if I didn't even have a girlfriend, I'd be like yeah, that's fine, I'm thinking I'd probably prefer that, I'm thinking it'd be a lot better cause I'd concentrate on what's more important I know at the mosque, I don't think that they do that

Religion	Was not raised as a devout Muslim. Before leaving to Brazil did not have a strong contact with the community in Athens, but did go with his father episodically to the mosque. While in Brazil, dissonance in terms of his religious beliefs. He alludes to a lack of reminders of the religion, or those sets of practices and habits that kept Islamic values and rituals around him. He was immersed in other religions and did not have these reminders. His family as *espirita* and his host brother as agnostic. He mentions the religion activity in class and general immersion in other religions as the source of his schematic transformation to seeing common bases for many religions, a more free theology. When he returns to the US, he becomes a more devout or practicing Muslim, seeking information about the religion and fasting over Ramadan. He wants to align his practice, life, with principles of Islam – he sees the examples of males in the mosque which he considers know how to lead a good life. He questions many Americans who do not want to talk about religion, educating themselves about religions, as turning away knowledge or information.	it's not like I've lost religion completely… I've come to, like I've try to I guess look at the religions here and find similar, I guess, a common base it seems to be more free, like just…ahm… I guess just theology, free from any ahm…any defined religion will continue to think in the way that I was here in the fact that, my mind will be more open, it will still be open to other ideas I feel like an outcast cause I wasn't really, I always tell people that I wasn't like raised ahm, as a Muslim when I was in Brazil, it really, like I didn't have ahm, that sense of community, or that ahm, that kind of reminder Catholics and protestantes, I mean that was, it was interesting to see, to be brought, or surrounded in their views I mean that makes me sounds like I'm someone who goes to the Mosque everyday, but I'm not I wasn't raised as a Muslim so there's a lot I don't know make my practice, like, more aligned with it cause… every time I go on Friday, it seems like, to me I see like yeah this is, a pretty good Fridays for me are always very clean and relaxed and very, tranquil. So I guess that gives me the idea that this is a really good life

		makes me wanna ahm...be more devoted, devoted, what was the word you used?... Dedicated to those practices although, yeah, cause I mean I think, it's a pretty good life I talked to him a lot about it, cause we have a lot of simmetry, we go running together and, ahm, do a lot of different stuff together so I talk to him, just because he seems pretty similar to myself, coming back to this idea of similarity I don't know, they just don't wanna educate themselves on a wide range of information.
School	Going to visit the outside of school and students' neighborhood was useful to see the school as institution, not as home to the students. Many of the comments on projects apply here, and the disorganization of teacher-project, which do not directly apply to the school itself.	it's just, it's this government building and they come to it, but it's not, it's not, it doesn't really express, I guess it doesn't show what they're life is like. So it was interesting to go and see they're neighborhood. It was really…[I don't know], it was a nice [neighborhood] it wasn't like a terrible neighborhood but…
Service	Working in the project gave him an entrée to a different sort of work ethic – volunteer work, which he had not explored before going to Brazil. It has affected his career choices (see above) and his outlook on personal time and privilege. He considers that privileges granted to him by family, condition, SES, provide him with enough free time to help others. He subsequently joined IT of Athens and assist with Disability Services at UGA. He does not attend the Capoeira group as often, and did not mention the Palestine group upon return.	I'm in Athens justice for Palestine. It's like a, I guess it's just a group informing people of the social situations going on in Israel and Palestine… before…I never considered doing any type of social work I would like to do something in the area of social work. But ahm…I feel like it takes, a lot of ahm…takes a lot of, I guess a lot of, force or, people to really (emphasis) make some changes I wanna, I'd rather do something that would benefit

		it gave me the sense that I was working for the kids that were in our project, so, it felt like I was doing work for other people. I guess that felt good, too, somewhat make a difference in their lives. people that are begging, probably don't have a lot of free time to help others, they have, they really have to work to keep themselves,…because of whatever ahm advantages I have…I (emphasis), can do something, that I can ahm, I don't have to worry so much about helping myself, I can concentrate on doing something good for other people. what we did there, it seems, it gave, like it felt like, I had a lot more value to my life...so I would like to continue that.
SES-Poverty	Contact with poverty in the streets around town and the school and his home specifically, noticing large social contrasts. Trash on the streets and how his family/house was protected by his walls from the people and trash outside. Parallel to realizing his own privilege as a richer and more schooled person. He realizes he has more opportunities and comparing himself to the caseiro at the house makes him think he has not done enough with the privileged education and conditions he embodies. Realizes the disconnects between how much people in both countries make for the same jobs, but is not able to come to a conclusion about how things show be, or how this plays out in a macro sense. Focuses on his personal relationship to the system or to other people he can identify (close or in opposition to) with.	the reason I think, ahm, before they can start, ahm…they have to create a base of wealth to live on I don't fit in with, not quite fit in with my family's social status he's my (stronger) age, and he's learning to read…and [I don't know], people like this…I guess feel like…I've had a good opportunity in life…and ahm…I could do more with my life than what I've, I guess, I've been educated (unint), just status… And it was, and we passed really nice neighborhoods, the walled in kind with the huge houses, but they're house, I don't know if its ahm government, government built houses, they were, they were pretty small, they were all like right next to each other

		like the way the people, they work here, but they don't earn, they don't earn as much as they would in the United States, but hey, it's a completely different country so it's…but [I mean] what they earn is not right … things are so, it seems like things are so filthy like the way, some people have…like our house, it's walled in, we have a nice house, a nice yard, but outside people just throw trash like anywhere and there're people that live, like, very close to the…like they're not separated like we are, from the ahm, I guess from the streets, so they have to live in this so I think, I think that does have ahm and effect on just the way people grow up. I feel kinda guilty though, cause yeah, in some respects, if my life is a lot better, it's just like walking around and seeing people in the city, [I don't know] people like in the intersection… yeah seeing them, like...ahm...seeing people out in the towns like, just seeing the ways of life of the people, and seeing like the simple ways that they make a living for themselves…grateful to have...like, the resources I have here, like the university, mainly the university, this opportunity to study here.
Students	They established very good rapport with many of the students, in spite of problems with contacting partner teacher at GB. Many students participating in the project were not part of her class at all. Many school students joined because they were eager to work with them in something different or hands on.	They look like they had a good relationship with the students. Two of them worked hard at cleaning, including the boys, with the hot sun in Fortaleza - not an easy job. Afterwards we went out to eat after Bezerra de Menezes and one kid coming by said hello in a very light tone Getting them to come to the class like, not during

		their…like, they come in the afternoon, in the…after lunch time, so to get 'em to come at night or morning…you know, put up with me and David, do the things we have to do…that we've created, yeah, I think that's a good succ, that's a success Those three students are really, really, I really like them, they come, they're not even in Aparecida's class, they… I think they do enjoy it, they're they have a good time it seems when they're with us so, it's fine
Teachers & Teaching	With the project work, noticed the level of difficult involved in teaching. More under projects and students.	But I mean they're really small successes definitely made me see that, teaching is not as easy as I thought it was…in fact when I was these students, these ages, [elementary school middle school] seeing (?) there was a lot of planning that goes into it, there's a lot of thought that goes into it.
Technology	Has a very critical idea of technology to begin with, which is only confirmed by his experiences in the classroom. During observation, it was clear that he lacked the teaching skills to control the students and direct them, even though he was aware of the necessary technological components.	I don't think it's always necessary. I think you can teach a class perfectly well without the use of you know, you don't need a really high-tech ahm gadgets to teach a class. Tel's class we, he let us, we had to do readings, he let us know that technology is not really anything without proper ahm I guess instructions or training for technology you can give students computers but they don't know what to do with the computers, they're not gonna do a whole lot
Time & Efficiency	He has a strong work ethic and intends to get things done on time. He gets distracted by activities outside of the project with the other students, which bothers him some. The lifestyle in Brazil which is more	I think sometimes, that's, just, life here, just going to class or, like what we do on the weekends like this trip kinda takes the attention from what we're doing in colegio, and I think, I've been thinking man, I've been spending a lot of

	open on time issues and scheduling makes him consider the rushing American way of life (see American people and Religion). He seems to have transformed this into a goal for himself. Says that the Brazilian way of life had an impact on him, which seems to be evident through his practice in Religion.	time like talking to David, about this trip person's life is maybe simpler here, but I think sometimes that could be better, like, [I don't know] we rush around a lot like in the US, there's a lot of that but here, it seems like they're always out to lunch or something I though he kinda wasted a lot of time, he would, he he he lost a lot of time talking about ahm, just (?) get to know learning objects and things that are out there
Travel	Had very limited experience traveling abroad, only crossing the border to Canada. He enjoyed the travels he did in Brazil with some of the other students, and like the others, wished he could've done more. Especially since they were saturated of Fortaleza by the end of the semester. Considers this time to be the most important time of his college life because of travel and project work.	No, I wouldn't say so, but…I've been to Canada, but I wouldn't consider that abroad. when I think back about traveling, and like seeing all the places I just remember myself being in awe of like, looking at, different, like, I don't know, just like looking out the bus windows I mean like looking back, like I think one day I was sitting around ahm, I was waiting for a bus, and I was thinking back to all the stuff I'd done in college and it seems like, the only, really thing that was valuable, that was really a great experience was, what, going to Brazil, everything, just, even if it like was, a crappy experience, and like, we were miserable, it was just, so memorable, and like the work we did in the schools, and the traveling, it was , the best thing that I've done in the past five years.
University	UFC sold itself as more than it was. He does not consider this to be the fault of the program. He was glad to return to the resources at UGA. Points to the	But I guess it's just less technology than we have here, and maybe not as new.

	lack of students (strike) which did not give the university the feel of academia and no environment for studying which he was used to at UGA.	there wasn’t an environment of s, of like studying here, there was practically no one here] the university could use a lot of work, their resources are really, are not as good as I thought they might be, as I was used to at UGA. It was, a little different, the resources again

APPENDIX C

THEMATIC MODEL BASED ON OUTCOMES

Table C1.

Model for Mark

Theme	Context	Factors	Outcome
America and Americans	▪ Black-Guyanese heritage	▪ Experience of living under poorer (Brazilian middle class) conditions (no hot water, buses) ▪ Anger at Americans who complain about lack of small resources	▪ American college students as spoiled ▪ Difficulty in countering American's stereotypes of Brazilians upon return
Brazil and Brazilians	▪ Expected to return to roots ▪ Limited ethnic variety in Fortaleza, provincial ▪ Media-fueled expectations of homogeneous Brazilian population ▪ Limited knowledge of Ceará and stereotypical image of Brazil focused on Rio/Bahia	▪ Ceara counters expectation on ethnic heterogeneity and Black population ▪ Visit to Salvador expanding image of Brazil to match more of his expectations ▪ Prejudice from locals based on stereotypes of Americans and Blacks in America (hip hop, basketball) ▪ Difficulty relating to younger Cearenses, frustration ▪ Family value differences, host sisters as aristocratic, lazy, contrasting to his own upbringing ▪ Experience of living under poorer (Brazilian middle class) conditions (no hot water, buses) ▪ Anger at Americans who complain about lack of small resources	▪ Identifies with Brazilian family values, laid back attitude, and capacity to find alternative ways in light of difficulty
Education	▪ Limited personal experience in teaching ▪ Limited experience with technology	▪ Experience in GB, anxiety and feelings of ineptitude in completing project ▪ Interview with teacher at GB	▪ Education must be student-centered ▪ Education is also informal ▪ Realizing the complexity o

		▪ School and class discussions on technology	teaching
Friendship	▪ Black-Guyanese heritage ▪ Previous interest in Black-heritage and history	▪ Difficulty making friends in Brazil, frustration with "younger" folks. Considers Cearenses provincial, limited diversity and travel (hard working, poor state and citizens) ▪ Effort in making friends from African nations ▪ Upon return, frustration at American friends who are always busy and rushing ▪ Remembers friends in Brazil at UFC taking time to just “chat” ▪ Difficulty talking to groups of students about certain topics upon his return (new understanding of Brazil and of Race) ▪ Improved language opening possibility of friendships from Brazil	▪ New conception of friendship which demands more (time, attention, interest) versus "acquaintances" ▪ Selective conversations based on in-group identities and experiences (Brazilians, people who underwent similar study abroad experiences). Avoids topics with certain groups based on fear of ignorance or stereotype.
Globalization	▪ Guyanese heritage and identity ▪ Lower SES status in the USA ▪ Works on campus	▪ Lagamar experience, seeing extreme poverty up-close in the streets as heartbreaking ▪ Noting patterns of problems in government and politics among poor countries, finds it interesting and motivates him to know more, frustrated ▪ Upon return, enlarging investigation of poverty to the US ▪ Contrasting stability and resources of US to other countries	▪ Wider view of the world beyond the borders of the United States, focused on third world countries ▪ Increased interest in the history of third world countries and origins of socio-economic problems, particularly colonization

Identity	▪ Not a very organized, planner ▪ Living far from campus ▪ Not having computer access ▪ Freedom provided by program, distances	▪ Being self-sufficient and free to make decisions in Brazil ▪ Hectic host-family work schedule for parents sustaining a costly lifestyle ▪ Identifies with Brazilian *jeitinho*, ability to find alternative ways for problems ▪ Identification with other host-families balancing work, family life ▪ Living at home for one month upon his return	▪ Becomes more independent from his family ▪ Increased sense of "self" and less “groupthink” upon return ▪ Attempting to live more humbly, humble image ▪ Contemplating choice between benefits of American capitalism and Guyanese/Brazilian social values
Media power	▪ Attention to Brazilian media previous to departing ▪ Self-taught Portuguese ▪ Interest in Brazilian hip-hop (activism)	▪ Brazilian and American news media putting out distorting views of both countries ▪ Encountering distorted, stereotypical views of America, leads to anger/frustration, does not try to counter Brazilians ▪ Practice of capoeira in Brazil as more authentic versus USA ▪ Counters similar stereotypes of Brazil upon return, frustrates him, does not confront Americans	▪ Power of media in shaping impressions and fueling stereotypes
Privilege	▪ Lower-SES condition	▪ Notices lack of resources in Brazil ▪ Contrasting problems in poor countries to the stability and resources of US ▪ After talk with rapper MVBill, contrasting resources available to Blacks in Brazil and USA ▪ Visit to local school upon return – examining resources and comparing to	▪ America as a land of opportunity and resources ▪ Feelings of guilt for having resources while others do not ▪ Need to the best possible in light of all the benefits America provides

		GB/Brazil ▪ Returning to see the human and physical resources available to him at UGA	
Reconstruction of race	▪ Prejudice against Blacks in the USA, minority status ▪ Expected to return to his "roots" ▪ No expectation of racial prejudice ▪ Guyanese heritage (maternal) ▪ Population of Fortaleza of limited ethnic variety, provincial	▪ Media portrayals of Americans ▪ School students identifying him as "exotic" ▪ Stereotypes as Baiano, basketball player, hip-hop, because of his ethnicity while in Brazil ▪ Reading McWhorter on "victimology" ▪ Talk to rapper MVBill and resources available to Brazilian Blacks in comparison to USA ▪ Course discussions in 4600 (not specific) ▪ Trip to Salvador, a center of Afro-Culture within Brazil, contrast to Fortaleza (identification) ▪ Relativity of “blackness” mediated by perception and SES seen in kids at GB/FB/host-sister’s school ▪ Stereotypes of Black man not expected ▪ Strong identity with Blackness and Guyanese heritage separating him from “mainstream” America ▪ Differences between Blacks in Brazil and USA (via SES) fragments his view of Blackness ▪ Noticing differing patterns of city development, leading to social	▪ Expanded construction of Black ethnicity mediated by SES ▪ Black Americans having a level playing field, obligation to do well ▪ Emerging criticism of Black community in the US ▪ Increased sense of responsibility ▪ Increased interest in helping send minorities abroad

		exclusion of darker people's based on SES and location ▪ Returning to the USA, critical examination of Black population in Atlanta, poverty, and "laziness" ▪ Difficulty explaining the myth of racial democracy in Brazil to non-Blacks in America	
Socio-economic system	▪ Lower SES-status ▪ Guyanese heritage (maternal) ▪ Previous information on Brazilian SES condition (hip-hop, radio)	▪ Trip to private school ▪ Trip to Lagamar – very different from other parts of Fortaleza and media portrayals (first hand, up-close) ▪ Visit to private school where host-sisters frequented makes him feel "exotic" ▪ Identification with students from GB because of race, poverty. Get defensive at criticism of their possible future careers ▪ Identifies with Cearenses to the degree that they are hard workers ▪ Host parents excessive work pattern to keep up host-sister's lifestyles ▪ Visit to another student's family with stronger balance between work and family life, but less opulence ▪ Comparison between status of his home (middle-class) to similar home in the US ("ghetto")	▪ Increased understanding of how SES relates and affects racial, social, economic, and political factors in Brazil and USA ▪ Reflection on the urbanization patterns of Fortaleza and Atlanta and exclusion of race/poverty
Values	▪ Guyanese heritage	▪ Brazilian host families balance between family/work time ▪ Difficulty in planning school project	▪ Reorganized value system and priorities to focus more on family and friends

		▪ Inability to access technology easily in Brazil ▪ Brazilians always finding an alternative way to do things in light of difficulties ▪ Having maid at the house as an example of “laziness”, compares to personal work ethic (Guyuanese) ▪ Host-sisters as an example of “laziness” ▪ Host sister/parents different attitudes towards the neighborhood ▪ American materialism versus family values ▪ Campus climate of efficiency	▪ Ponders tradeoffs for immigrants who choose the American cultural values versus native values

Table C2

Model for Patricia

Theme	Context	Important factors	Outcome
America and Americans	▪ Thrifty personality ▪ Unsatisfied with sorority lifestyle ▪ Strong work ethic	▪ Interaction with poverty ▪ Instantly aware of lack of resources in Brazil ▪ Baffled at strikes at UFC, post office, Brazilian instability, compares to possibility of happening in the USA (remote) ▪ Upon return viewing image-conscious and materialism in America ▪ Implicitly creating a group of qualities she wants to avoid (superficiality, non-intellectualism, laziness) which she identifies in her friends and co-students ▪ Contrasts her project-based experience with those of traditional study abroad students	▪ A more distant and critical view of American college students ▪ Increased appreciation of American stability
Brazil and Brazilians	▪ Limited background knowledge of Brazil ▪ Politically conservative ▪ Strong work ethic	▪ Presence of a maid in the house (laziness) ▪ Living in a large city, everyone busy ▪ More liberal population than expected ▪ Homogeneity of the population, less diversity ▪ Instability (strikes, phone company problem) ▪ Affective connection with school teacher ▪ Professors more personal and more laid back in their approach to courses	▪ Reevaluation of Brazilian people in positive (sincere, less superficial, family-oriented) and negative lights (lazy) ▪ Reevaluates impersonal attitudes of Brazilians as due to being in a large city rather than cultural trait ▪ Learns to value sincerity, less frantic pace, more personable attitudes

		▪ Locals were colder than expected, but re-evaluated this upon return and contrast to Americans, reflection	
Education	▪ Previous teaching experience ▪ No knowledge of foreign schools ▪ No previous courses on critical/ multicultural education ▪ Strong work ethic, perfectionist	▪ Difficulty communicating with students – language differences, high level of frustration (cries) ▪ Difficulty in connecting to school in USA through her project, students not as involved as expected, frustration ▪ Differences in school environment, teacher resources, and teacher-student relationships in both countries ▪ Discusses school issues with host parents as part of 4600 activity ▪ Dealing with less critical stance to multicultural education in her course upon return, contrast to EDIT 4600 ▪ Returns to USA to assist in local (richer) school	▪ Reflecting on teachers/teaching that she observed in Brazil and upon return, use of resources and teaching methods ▪ Constant evaluation of the causes of poor public schooling Brazil, comparisons to the USA ▪ Teacher as most important part of teaching-learning ▪ Expanded understanding of teaching for diversity (teaching culture of power) ▪ Advocated appropriate uses of educational technology in class ▪ Importance of teaching about global issues
Globalization	▪ Undertook one course in Portuguese language/Brazilian culture ▪ Limited exposure to news ▪ Conflict avoidance (personality)	▪ Pervasiveness of American cultural products in Brazil (stores, brands, music) ▪ Level of interest Brazilians took in America ▪ Unprepared to discuss politics ▪ Bush-bashing ▪ Observing Brazilian society and comparing to materialism in the USA ▪ Americans spending too much on image ▪ Inability to argue about politics with Brazilians, recognition of the need to know more about politics	▪ Awareness of America's influence in the world ▪ Awareness of a global economy ▪ Pays more attention to news ▪ Applies to student-teach abroad

Identity	▪ Fits American stereotype in Brazil, white, blonde, light eyes ▪ Strong accent when speaking the language ▪ Conflict avoidance (personality) ▪ Unsatisfied with sorority lifestyle ▪ Increased involvement with boyfriend ▪ Had contact/interest in interacting with foreigners	▪ Difficulty communicating with students in school ▪ Being identified as a “typical” American (phenotype) while wanting to blend in ▪ Appearance as foreigner and inability of locals to understand her Portuguese ▪ Hiding identities (American, "sorority girl") ▪ Poverty in Brazil aligns with her sense of not being materialistic ▪ Feeling of accomplishment, “surviving” a semester alone ▪ Living in the midst of other families both harmonious (host) comparing and contrasting ▪ Adapting to local lifestyle, living for a substantial amount of time abroad ▪ Feeling like a foreigner in Brazil, eventually "fitting in" and loosing that feeling	▪ Increased assertiveness, ▪ Feels the need to "take a stance" on issues she would normally not ▪ Decreased submissiveness to her father ▪ Distancing herself from her peers because of increased knowledge base and experience on multicultural education ▪ Distancing herself from friends and other students (intellectual, less superficial, less materialistic) ▪ Abandoning sorority house for good ▪ Reinforced disinterest in materialism, but comfort with material; possessions ▪ Fluid national identity
Religion	▪ Catholic American ▪ Brazil as predominately Catholic ▪ Living with a Catholic family ▪ Catholicism in Brazil as unique	▪ Expectation of a homogenous Catholicism ▪ Visiting a different religious temple, class activity ▪ Going to church in Brazil (Protestant and Catholic) viewing Catholics behaving differently, adoration of Mary and actions in church lead to confusion as to what practices are legitimate, and what is acceptable ▪ Speaking to priest in the USA upon	▪ More inclusive construction of Catholic religion ▪ Identifying many similarities between different religions

		return ▪ Reaction of acceptance, relief of Brazilians towards Catholics	
Values	▪ Politically conservative	▪ More liberal social customs of people in Brazil exceeded her expectations, surprise ▪ Lack of material resources at her home in Brazil Experience in Lagamar, encountering poverty first-hand provides a need to do something, but sense of inability to do, ability to do nothing ▪ Returning to USA and verifying her material possessions and solid social structure ▪ Observing people's concern with image in the USA	▪ Contrasts Brazilian and American cultural practices ▪ A move from acceptance of cultural differences to evaluation of acceptable practices ▪ Interest in continuing helping the poor ▪ More liberal politically ▪ Joins advocacy organization

Table C3

Model for Malcolm

Theme	Context	Factors	Outcome
America and Americans	▪ Took Portuguese classes at university ▪ Limited reading and background on Brazil	▪ Penetration of American cultural products in Brazil ▪ Living a slower paced, less rushed life in Brazil ▪ Viewing sexual tourism first hand ▪ Portuguese class discussions about Brazil, reflective assignment on Nationality ▪ Life with Brazilian family challenges some of the naïve view of Brazilians prior to trip (ex, capoeira) ▪ Bush-bashing leads to frustration at Cearenses ▪ Returning to resource-full UGA provides a sense of comfort	▪ Criticizes American superiority in connection to "selling" its image well, while receiving little from abroad ▪ Recognition of life in America as a set of efficient steps ▪ Viewing poverty in Brazil as possibly connected to the American government
Brazil and Brazilians	▪ Took Portuguese classes at university ▪ Part of Capoeira club	▪ Pervasiveness of American cultural products in Brazil is surprising ▪ Brazilians excessive interest in American "stuff" (technology, media, music) ▪ Conversations with worker in his home demonstrates hard work ▪ Conversations with fisherman demonstrates hard work ▪ UFC strike limited the academic bustle of the city and campus ▪ Family life pace (hard work) in contrast with slower pace outside ▪ Family unaware of Capoeira ▪ Stronger family ties and routines in Brazil	▪ Nationality as relative once cultural practices are recognized ▪ Identifies with lifestyle of Brazilians in balancing work and play

		▪ Getting tired of living in Fortaleza towards the end of the program	
Civic duty	▪ No previous significant service activities ▪ Middle-class status	▪ Seeing poor people on the street who likely not have time/resources to help themselves ▪ Conversations with worker in his home ▪ Working in projects in Brazil, feeling of altruism ▪ Feeling that despite the frustrations this experience was the most valuable of his college life	▪ Free time should be used productively to help others ▪ Learned about a new work ethic (volunteer work) ▪ Joins a local computer recycling project ▪ Serves in the disability services office at the University
Education	▪ No teaching experience ▪ No previous significant service activities ▪ Computer Science major	▪ Working with the students at GB demonstrated interest in learning/participating, difficulty in teaching ▪ Conversations with worker in his home leads to feeling he has accomplished less than he should have in his life with resources available ▪ Interacting and seeing poor people with less opportunities ▪ Project work in Brazil as having personal and social value ▪ Contrasting Computer Science and IT as fields ▪ Visit to local neighborhood with students from GB expanding view of school	▪ Education as determinant of economic prosperity and future ▪ Education as a tool to help others ▪ Increased understanding of IT ▪ School as institution, distant from student reality ▪ Understanding of the complexity of teaching process ▪ Interest in pursuing IT career
Friendship	▪ Participation in Palestinian advocacy group ▪ Moderate attendance to	▪ Friends in the USA treating him very similarly upon his return ▪ Friends have limited interest in his travels when he returns	▪ Becomes part of a series of in-groups based on affinity ▪ Predicts he will change his reactions to travelers, taking

	Mosque ▪ Capoeira group at University		interest in their experience since he can now relate t them
Identity	▪ Muslim ▪ Mixed heritage – Persian (father) and Caucasian (mother) ▪ Limited knowledge of Islamic practices	▪ Slower pace of Brazilian life ▪ Indicates less "work" while in Brazil compared to USA ▪ Living in a country with different religions ▪ Religion activity in EDIT4600Distance from religious practices (family, temple), lack of "reminders" ▪ Stereotypes suffered in Brazil as "Middle Easterner" ▪ Prejudice suffered in USA as "Terrorist" ▪ Encountering high level of ignorance of Iran and Persian people in Brazil and especially in the USA	▪ More peaceful attitude towards life ▪ Heightened awareness of divided identity (American/Persian) ▪ Hiding Persian heritage ▪ Increased alignment between personal values/objectives and Islamic guidance ▪ Increased interest in religion upon return, higher involvement ▪ A more personal and discerning view of religion
Privilege	▪ Living at home with parents ▪ Middle-class status in USA, higher status in Brazil	▪ Conversations with worker in his home, feelings of ineptitude ▪ Conversations with fishermen, observing their hard work in spite of limited resources ▪ Observing lack of possessions in Brazil, contrast ▪ Freedom and preferred treatment within the family ▪ Reflects on the disparity in income between similar workers in both countries and available opportunities	▪ Guilt for having more opportunities and making less of his privileged condition ▪ Reduced focus on material possessions (ex, does not purchase a new car) ▪ Realizes some benefits to having "less" (bus)
Religion	▪ Muslim ▪ Limited knowledge of	▪ Immersion in a different religious community at home (espirita) in Brazil	▪ More integrative view of religion, Unitarian

	Islamic practices ▪ Limited conversations about religion with others	(catholic) ▪ Activity for class provides exposure to a different religion ▪ Lack of religious connection, reminders (Muslim) in Brazil leads to dissonance, possibility of the non-existence of God, commonalities between many religions and other proto-theories ▪ Few people to discuss religion with in Brazil and upon return (friends)	▪ Religion as education, knowledge, guide
Values	▪ Muslim ▪ Introverted personality ▪ Foreigner status in Brazil	▪ Host brother's emphasis on shallow leisure activities ▪ Spending quality time with his host father ▪ Project work, altruism ▪ Dating in Brazil as "competition" ▪ Emphasizing quality family time upon return to USA, missed this interaction ▪ American students taking too much time for leisure in Brazil conflicts with his increased work ethic	▪ Less priority to traditional college student activities and values (e.g., party, dating) ▪ New work ethic, balancing work and other aspects of life ▪ Attempting to identify a "good life", uses religious guidance

APPENDIX D

TRANSFORMATIVE DIMENSIONS

Cultural-Global

- Reevaluation of Brazilian people in positive (sincere, less superficial, family-oriented) and negative lights (lazy)
- Reevaluates impersonal attitudes of Brazilians as due to being in a large city rather than cultural trait
- A more distant and critical view of American college students
- Increased appreciation of American stability
- Contrasts Brazilian and American cultural practices
- Awareness of America's influence in the world
- Awareness of a global economy
- Pays more attention to news
- Fluid national identity
- Emerging criticism of Black community in the US
- America as a land of opportunity and resources
- Difficulty in countering American's stereotypes of Brazilians upon return
- Identifies with Brazilian family values, laid back attitude, and capacity to find alternative ways in light of difficulty
- American college students as spoiled
  - Criticizes American superiority in connection to "selling" its image well, while receiving little from abroad
  - Recognition of life in America as a set of efficient steps

Education

- Constant evaluation of the causes of poor public schooling Brazil, comparisons to the USA
- Teacher as most important part of teaching-learning
- Expanded understanding of teaching for diversity (teaching culture of power)
- Expanded understanding of teaching for diversity (teaching culture of power)
- Advocated appropriate uses of educational technology in class
- Importance of teaching about global issues
- Reflecting on teachers/teaching that she observed in Brazil and upon return, use of resources and teaching methods
- Reflecting on teachers/teaching that she observed in Brazil and upon return, use of resources and teaching methods
- Education must be student-centered
- Education is also informal
- Realizing the complexity of teaching

Personal

Changes to understanding of personal interests, values, objectives

- Increased assertiveness
- Feels the need to "take a stance" on issues she would normally not
- More liberal politically
- Decreased submissiveness to her father
- Distancing herself from her peers because of increased knowledge base and experience on multicultural education

- Distancing herself from friends and other students (intellectual, less superficial, less materialistic)
- Abandoning sorority house for good
- Applies to student-teach abroad
- A move from acceptance of cultural differences to evaluation of acceptable practices
- Reinforced disinterest in materialism, but comfort with material; possessions
- Learns to value sincerity, less frantic pace, more personable attitudes
- Becomes more independent from his family
- Increased sense of "self" and less “groupthink” upon return
- Increased sense of responsibility
- Feelings of guilt for having resources while others do not
- Need to the best possible in light of all the benefits America provides
- New conception of friendship which demands more (time, attention, interest) versus "acquaintances"
- Selective conversations based on in-group identities and experiences (Brazilians, people who underwent similar study abroad experiences). Avoids topics with certain groups based on fear of ignorance or stereotype.
- Identifies with Brazilian family values, laid back attitude, and capacity to find alternative ways in light of difficulty
- Reorganized value system and priorities to focus more on family and friends
- Contemplating choice between benefits of American capitalism and Guyanese/Brazilian social values
- Ponders tradeoffs for immigrants who choose the American cultural values versus native values
- Attempting to live more humbly, humble image
- More peaceful attitude towards life
- Realizes some benefits to having "less"
- Guilt for having more opportunities and making less of his privileged condition
- Attempting to identify a "good life", uses religious guidance
- Increased alignment between personal values/objectives and Islamic guidance
- Increased interest in religion upon return, higher involvement
- Reduced focus on material possessions (ex, does not purchase a new car)
- Identifies with lifestyle of Brazilians in balancing work and play
- Interest in pursuing IT career
- Becomes part of a series of in-groups based on affinity
- Less priority to traditional college student activities and values (e.g., party, dating)
- New work ethic, balancing work and other aspects of life
- Heightened awareness of divided identity (American/Persian)
- Hiding Persian heritage
- Predicts he will change his reactions to travelers, taking interest in their experience since he can now relate to them

Socio-Political

- Interest in continuing helping the poor
- Joins advocacy organization

- Increased understanding of how SES relates and affects racial, social, economic, and political factors in Brazil and USA
- Black Americans having a level playing field, obligation to do well
- Increased interest in helping send minorities abroad
- Learned about a new work ethic (volunteer work)
- Joins a local computer recycling project
- Serves in the disability services office at the University
- Free time should be used productively to help others

Spiritual

- More inclusive construction of Catholic religion
- Identifying many similarities between different religions
- Power of media in shaping impressions and fueling stereotypes
- Reflection on the urbanization patterns of Fortaleza and Atlanta and exclusion of race/poverty
- Expanded construction of Black ethnicity mediated by SES
- Wider view of the world beyond the borders of the United States, focused on third world countries
- Increased interest in the history of third world countries and origins of socio-economic problems, particularly colonization
- Education as determinant of economic prosperity and future
- Education as a tool to help others
- Increased understanding of IT
- School as institution, distant from student reality
- More integrative view of religion, Unitarian
- A more personal and discerning view of religion
- Viewing poverty in Brazil as possibly connected to the American government
- Nationality as relative once cultural practices are recognized
- Understanding of the complexity of teaching process