

**Defining a Global Learning Environment in Higher Education:
A Case for the Global Seminar Project**

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(ABSTRACT)

In this study I defined the global learning environment (GLE) as it appeared in the Global Seminar Project (GSP) to address the issues of change in higher education under the pressure of globalization. The combination of constructivist theory and a Biggs' (2003) deep learning concept provided a framework for answering the following research questions: (a) what project components make the course global? and (b) in what ways does Global Seminar contribute to deep learning? For the purposes of this study, I used three forms of data collection, including in-depth, open-ended interviews of 20 GSP's instructors; 11 direct observations of the GSP classroom; and analysis of GSP's written documents and artifacts. I used the open-coding feature of ATLAS.ti software to analyze the interview data and identify the descriptive themes that emerged from the observations and documents. The interview analyses revealed that the GSP's global learning environment included five areas: (a) course structure and academic leadership/management; (b) stakeholder involvement; (c) institutional support; (d) course conducive content; and (e) teaching and learning practices. Within these five major areas I indicated four "global" categories of the learning environment established in the course: innovative, international, interactive, supported by the culture of mutual learning. Evidence of deep learning included observed development of students' generic metacompetencies, identified components of instructors' teaching quality, and recognized value of the relationships among course participants.

The research findings brought about two co-dependent understandings of the GLE as a conceptual phenomenon and a practical model. As a conceptual phenomenon, the GLE can be defined as a specific property of an educational structure that occurs when teachers and students are engaged in innovative experiences with the purpose of acquiring understanding of complex global-scale issues by means of cross-cultural interactions and on the basis of mutual learning. Applied to an educational practice, this understanding of the GLE forms a constructive and participatory model that provides possibilities for transforming higher education practices: shifting from mass-production knowledge to genuine quality education based on the values of teachers. These conclusive definitions open a dialogue regarding how the GLE can initiate meaningful changes in educational theory and practices.

DEDICATION

This dissertation is dedicated to my mother and father, Olga and Vladimir Savelyevy.

Посвящается моим дорогим маме и папе,
Ольге Николаевне и Владимиру Ларионовичу
Савельевым.

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At times our own light goes out and is rekindled by a spark from another person. Each of us has cause to think with deep gratitude of those who have lighted the flame within us.

-Albert Schweitzer

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CHAPTER ONE

INTRODUCTION

The need for educational transformation as a response to accelerating demands of globalization has been a focus of educational research for many decades. Utilizing the broad array of data on the state of globalization, many researchers call for structural reforms in educational systems and modifications of practices and curricula. In higher education, these calls for change led to a re-orientation of institutional policies in support of practices that strengthen universities' global images, make use of advanced technologies, and increase the overall competitive value of American students in the world market.

Addressed in the *Nation at Risk* report (National Commission on Excellence in Education, 1983) and the *Education Competitiveness Act* (2006), the concerns associated with the effects of globalization marked a period of “excellence reforms” in American higher education. These reforms generated at the top level of educational policymaking used the language of deficit and managerialism to request changes in educational practices and curricula. Once put into practice, these excellence reforms were measured by their success and quality, using common assessment tools, such as students' achievement scores and level of satisfaction with technology-enhanced learning. From the perspective of a policymaker and based on the results of multiple assessments of the state of American higher education, it is evident that higher education has been going through a significant re-assessment of its goals and methods, operating under the pressure of globalization. However, imposed in a top-down manner from the policy level to the level of educational practice, do the proposed instructive reforms inspire practitioners for a transformation in the field?

Although the *Nation at Risk* report and the *Education Competitiveness Act* illustrated policy efforts that placed the process of educational change in the hands of educators, the

participatory aspect of the proposed reforms did not give us a view different from the dominant global academic discourse. The reports themselves retained a product-oriented, instrumental approach that is generally consistent with the managerialist paradigm of education in change, which implies the mimicking of corporate business goals and practices in education. It is important to note here that proposed in an instructive manner, policy efforts always include a participatory component. Another point worth noting is that some researchers view “instructive” (initiated in a top-down manner at the institutional level) and “participative” (initiated in the bottom-up manner at the level of educational practice) as two opposing, yet interdependent, styles of generating change in education: “the former cannot be achieved without sympathetic change in the latter, and vice versa” (Sterling, 2001, p. 35). From this understanding, an educational change appears as a balancing act between its institutional and participatory aspects, reviewed by different types of an educational inquiry. Hence, to acquire a more complete picture of changes in higher education operating under pressure of globalization, the problem of globalization and educational change should be addressed from the participatory level of educational inquiry and outside the managerialist framework.

Keeping these conditions in mind, in this research I approached the idea of educational change through the description of global features of a learning environment, as it appears in higher education. I put the learning environment in the center of my inquiry for two reasons. First, the term learning environment has emerged from reviews of education and business initiatives focused on fostering group and individual learning. Hence, as a construct learning environment combines both participatory and managerial styles of initiating change. Second, as a conceptual phenomenon, learning environment merges different understandings of learning at the level of educational theory and praxis, and, therefore, it can be interpreted in both situational and epistemological sense.

Statement of the Research Problem

After decades of research on globalization and educational change, issues associated with the development of learning environments still plague researchers. The need to investigate the global nature of learning environments is evident as the quality of learning they might provide and their potential to promote change in higher education is supported by compelling evidence found in previous research. For example, Pascarella and Terenzini (2005) argued that different learning environments have been found to have an effect on the quality of students' learning and their cognitive development. Gaudeli's (2003) findings supported Pascarella and Terenzini's conclusions, as he stated that developing learning environments that produce quality learning has to be undertaken with a keen attention to a context.

Both studies reflected the possibilities that learning environments provide for improving the quality of students' learning, which serves as an indicator for increasing the global competitiveness of the American workforce. Approaching the idea of learning environments from the participatory standpoint takes the idea of quality learning to a different level of inquiry that provides an understanding of educational quality being part of the teaching and learning endeavor and initiating educational change.

In close connection with the previous research, I maintain that as a constructive process, global learning environments (GLEs) generate quality learning that initiates participatory change in educational policies and practices. I also believe that studied in their unique context, GLEs contribute to the conceptual base of educational research by featuring global aspects of teaching and learning, defining factors that sustain learning environments in higher education, and providing a descriptive base for the solid educational model that promotes ideas of global education.

The variety of definitions of learning environments and the diversity of meanings assigned to this term in academic and non-academic sources determine the necessity for

clarifying what constitutes a global learning environment in higher education. To date, many efforts to define learning environment typically appear as a general paragraph descriptively introducing academic courses and programs offered at universities and used for quality assessments. In educational research, most available definitions of learning environments appear as operational definitions that generally adopt broad frames of scholarly reference. Defining global learning environment through the voices of faculty who facilitate teaching and learning practices at universities provides an opportunity for an insightful understanding of learning environment both as a practice and a conceptual phenomenon that represent change in higher education.

Purpose and Contributions of the Study

For this research, I studied a case of a Global Seminar Project (GSP) as an example of a global learning environment. The description of this GSP and its attributes is offered in the next section. I conveyed my aspiration to define a global learning environment in a context of higher education in two objectives. First, I aimed to determine the GSP's components that establish the course in a context of global education. Second, I aimed to determine the GSP's specific contributions to deep learning. Based on these research objectives, I articulated the following research questions to guide my study of the GSP:

1. What are some of the characteristics of the course's global environment?
2. In what ways does GSP contribute to deep learning?

This study can contribute to educational theory and practice in a number of ways. First, it advances important findings on global education and learning for an academic community and the GSP's stakeholders. Second, the study expands conceptual development of the idea of facilitating a global learning environment in a university setting. Third, the research examines possibilities of a global learning environment for producing quality learning. Fourth, the research methodology suggests ongoing mechanisms for evaluating

future learning environments in terms of their global characteristics. Finally, this study fills a gap in academic literature by defining and providing insights into the nature and dynamics of global learning environments.

Conceptual Framework

The complexity of issues related to global education and global learning environments requires guidance from multiple theories at different levels of analysis. Constructivist theory (Piaget, 1962; Vigotsky, 1979/1925) and a Biggs' (2003) deep-learning perspective guided my initial research plan. The integration of elements from these two frameworks provided a broad perspective from which I simultaneously examined the nature of a global learning environment and its contributions to learning.

Despite epistemological issues concerning constructivist theory described in the literature, this approach underlies much of the current educational discourse in North America regarding research and curriculum modification (Fosnot, 1993; O'Loughlin, 1992). First introduced about 70 years ago by Swiss philosopher Jean Piaget (1962), the key idea that set constructivism apart from other cognitive theories insisted that "we as human beings have no access to an objective reality since we are constructing our version of it, while at the same time transforming it and ourselves" (Fosnot, 1996, p. 23). Simply put, constructivists describe education as a set of mechanisms by which learners internalize knowledge and construct their own meanings of a reality.

Piaget's constructivist view of knowledge construction and meaning-making is based on a theory of the internal maturation of cognitive structures. "Actions," Piaget said, "whether individual or interpersonal, are in essence coordinated and organized by the operational structures which are spontaneously constructed in the course of mental development" (Piaget, 1962, p. 14).

In the early 20th century, Russian cognitive psychologist Lev Vygotsky used constructivist ideas to establish an entirely new school of developmental psychology that placed cultural mediation, social agency, and collective enculturation at the center of constructivist theory (Edwards, n.d). The Vygotskian view of constructivism emphasized cognitive and social development as practices achieved both through the work of an individual consciousness and through collective cultural mediation. For Vygotsky, "the social dimension of consciousness is primary in time and in fact. The individual dimension of consciousness is derivative and secondary" (Vygotsky, 1979/1925, p. 30).

In general, the constructivist theory provided a broad-based analytical foundation for studying the context of global education and global learning environments based on a Deweyan understanding that "logically absolute truth is an ideal which cannot be realized" (Dewey, 1998/1925, p. 7). Scholars frequently refer to the concept of global education as a style of constructivist pedagogy. For example, Gaudelli (2003) stated that "global education is most often manifested as social constructivism, where the individual cannot come to know truth in an absolute way, but can learn socially constructed meanings through the lenses of language, culture and context" (p. 11).

In this study, from the point of view just described, the notion of a global learning environment is perceived as a subjective matter based on the experiences of its observer or its participant. As Von Glasersfeld (1996) pointed out,

A constructivist orientation could bring . . . the realization that students perceive their environments in ways that may be very different from those intended by the educators . . . This emphasizes the teacher's need to construct a hypothetical model of a particular conceptual worlds of the students they are facing. (p. 7)

The constructivist methodological approach guided my understanding of the research issue, then allowed me to explore the global learning environment from the participant's point of

view. A basic premise of my research was that global teaching and learning are socio-culturally situated processes (O'Loughlin, 1992) that, in education, are transformative and shape global learning environments in ways that produce deep learning.

The knowledge that is created and assembled within a global learning environment is the result of participants' manipulation of their own subjectivities and cultural perspectives that allow them to create new meanings through dialogue and initiate transformations in learning and understanding. The application of a constructivist perspective is especially relevant in that it allows one to view global learning as the result of the dialectical interaction between learners, an activity in which they are engaged, and the environment in which this interaction takes place (Lave, 1988; Wertsch, 1991). Such a constructivist approach to global learning opens analytical avenues for the exploration of teaching and learning that possibly "lead to genuine ownership of ideas and possibilities for transformation" (O'Loughlin, 1992, p. 809).

This allows one to describe broadly the intricacies of global learning in education. However, to provide generalized assertions with regard to the nature of global learning and the learning environment, I needed to place the structures and processes of constructivism within a more contextualized conceptual model.

Biggs' (2003) understanding of deep learning incorporates principles of constructivist theory to provide a framework for the empirical study of learning that brings about both surface awareness and deep understanding of subject issues. The concept of deep learning was initially derived from the empirical research of Morton and Säljö (1976a, 1976b), Ramsden (1992), and Entwistle and Ramsden (1983) who classified students' learning into five categories: quantitative increase of knowledge, memorization, acquisition of facts, making sense of these facts, and interpreting and understanding reality in a different way.

I am interested in the modes of learning that enable students to master and critique their ways of knowing and to create new meanings with respect to their personal lives and

culturally constructed understandings of their own reality. I also think that deep learning, as well as teaching, requires personal commitment based on motivation brought about by curiosity. At the deepest level of the processing of knowledge, the student associates the knowable content with what is a personally meaningful context and with existing prior knowledge. In contrast, a surface learning experience's motivation involves only external consequences. When deep learning occurs, students can see the interconnectedness between the meanings and implications of what is learned. When surface learning occurs, this interconnectedness of meanings and implications is never achieved because it is never comprehended and realized as the object of one's studies.

Deep learning and teaching is constructivist in so far as its strategies and motive of teaching and learning involve critical analyses of new ideas within a context of previously known concepts. It is important to notice that deep learning focuses on the active role that participants play in building their own courses of teaching and learning and in shaping their learning environments.

Neither "surface" nor "deep" are attributes of individuals. Outside the Biggs' (2003) perspective, researchers often refer to deep and surface in terms of an *achieving* (deep) or *strategic* (surface) approach, the latter being summarized often as merely a very well-organized form of surface learning. I view such strategies as superficial at best and sometimes counterproductive when it comes to creative and transformative learning environments conducive to a student's achievement of the greater understanding of issues that makes education worthwhile.

Deep learning enables participants to recognize successful teaching practices in college courses. This, in turn, reveals ways that participants communicate knowledge across cultural boundaries. Biggs' approach serves as a basis for assessing the cross-cultural aspects of the communication of knowledge within the global learning environment. Often, scholars associate difficulties in cross-cultural communication of knowledge with the increasing

availability of technology and its advanced features that aim to translate and elaborate on knowledge for different audiences. The application of a deep learning perspective allows one to concentrate on the possible conceptual changes in the cross-cultural communication of knowledge. Biggs' approach provides a theory and methodology for intervening in the global learning environment that directs attention on how participants interact within the educational setting.

The Research Case

The Global Seminar Project (GSP) is an ongoing international collaborative program that offers an academic credit course on the central theme of environment and sustainability to undergraduate and graduate students around the world. This course was selected for the study because of its unique characteristics. An innovative program, the GSP integrates new educational methods, such as decision case studies and international student groups, and applies advanced technologies to promote constructivist learning and interaction. In this sense, GSP advocates educational change from traditional pedagogy to constructive learning and represents both global and constructive approaches to teaching and learning. Simultaneously taught in 40 universities, this course allows me to address the research problem of defining the global learning environment in higher education within different cultural contexts using the voices of its instructors.

GSP Course Components

GSP participants are grouped into learning clusters of a maximum of six institutions. A locally-elected coordinator leads each learning cluster from one of the institutions. The cluster's faculty work together to offer GSP at their respective institutions, using the same case studies and engaging students in cross-institutional work teams called international student groups. Cluster coordination and management is facilitated through periodic e-mail

exchange and telephone conferences. GSP faculty meet at the annual conference to plan the course, which is usually offered in the spring semester.

GSP Course Participants

Those people who have a participatory influence on the GSP's learning environment most easily can be defined as "stakeholders," as they have a vested interest (i.e., a "stake") in the project and are affected by its activities. This also presumes that stakeholders can act against the project if their needs are not considered. The following list outlines the roles and responsibilities of the GSP's stakeholders.

1. Project Principal Investigator (PI)

The PI holds the "copyright" responsibility over the initial idea of GSP. Considering the participatory characteristics of this course, his authority to provide the justification, directions, and actions on a project is virtual, and associated with the sense of collaborative leadership, rather than control.

2. Enrolled Students

Students are the firsthand participants of the course as they are gaining learning experiences throughout the duration of this project. Considering the constructivist nature of this course, the GSP's students are responsible for shaping their own learning.

3. Cluster Coordinators

Cluster coordinators head up the group of the GSP's participating universities. They lead the project management process and facilitate interactions within their cluster.

4. Project Instructors

Project instructors are faculty members who are responsible for planning and implementing the GSP's course in their universities, running case study activities,

mediating students' discussions, and monitoring their learning. GSP instructors also share the responsibility for accomplishment of course goals.

5. *College Programs and Their Administrative Units*

College programs and their administrative units include a group of technical and management personnel (teaching assistants, departmental office assistants) who are assigned full time to a program in support of the GSP course.

6. *Funders and Donors*

Funders and donors are individuals and organizations who finance the project and, generally, are concerned with the definition of the GSP's objectives and outcomes in the context of the sponsoring organization.

7. *Communities Surrounding the GSP's Universities*

Communities surrounding the GSP's universities are represented by non-academic environments that have a capacity to provide informational resources to the GSP's students and faculty in support of the GSP's activities.

Limitations of the Study

The following limitations should be considered when interpreting the results of this study:

1. The qualitative study design implies that the generalizability of the results may be limited to similar cases of global learning environments;
2. The study relies on the educators' honest responses to interview questions that may be subjected to accuracy of recall; and
3. The analysis and the interpretations of the research results are influenced by the researcher's biases, associated with my long affiliation with the GSP.

Chapter Summary

Chapter one provided a comprehensive overview of the research background; introduced a scope of the research problem and briefly discussed the significance of the study; stated the research purpose, limitations, and contributions; and provided an overview of the conceptual framework for the study, which consisted of the constructivist theory and the Biggs' (2003) deep learning concept.

Chapter two is an overview of existing research on global education and learning environments within the last two decades. Chapter three presents the methodology of the study and includes sections that describe sample selection, data collection procedure, and data analysis procedures. The research results and their interpretations are presented in chapter four. The research conclusions and the discussion of the results as well as directions for future research and practice are presented in chapter five.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Concerns over the challenges that globalization imposed on education and the consequences of global processes that educational systems are facing worldwide have long been issues in the field of education. For more than three decades, research has attempted to address issues related to the effects of globalization on the different levels of educational systems, to monitor changes in practices of teaching and learning, and to share some conceptual findings related to the applications of globalization in education.

Only recently has global education been conceptualized as an important indicator of a change in teaching and learning and added to the field of social studies. The following review of literature outlines the background of research investigating benefits and challenges of globalization effects on education, issues of educational quality in relation to globalization, the development of the concept of global education, change in higher education associated with use of advancing technology, and the role of learning environments in this process as presented in educational studies.

Challenges of Globalization in Education

Despite its varying definitions, globalization has been deeply implicated in scholarly discussions of all major issues of our century (Bhagwati, 2002; Ina & Rosaldo, 2001; Sen 2000; Singer, 2002). In education, the major challenge in discussing the nature and effects of globalization on education is the term itself. So far, there is no definition of globalization that would satisfy a researcher of any scientific field, including education. The prevalent view on globalization as a phenomenon, which has objective, subjective, and ideological dimensions, as argued by Lauder, Brown, Dillabough, and Halsey (2007), makes it difficult to assess the

impact of globalization on education. Lack of agreement on the directions of globalization also adds to this issue; some scholars view globalization as a political project that could easily be reversed (James, 2001). Another problem associated with discussing issues of globalization and education is that researchers focus on specific aspects of globalization, such as free trade or cultural globalization, which results in a lack of comprehensive understanding of the phenomena, its nature, and consequences for different groups of stakeholders.

In these ways, many applications of the globalization process on education remain unexplored, and therefore virtually unknown. Remaining at an early stage of monitoring and analyzing effects of globalization on education, educational research that addresses these issues is generally lacking conceptual bases. In this sense, an underlying theme of educational research discussion—possibilities for change of educational systems to meet the accelerating demands of globalization—has primarily been a work of educational policymaking.

Educational researchers generally agree that redefining and rethinking concepts in a context of globalization are central to understanding the particular impact of globalization on educational policy and practices and that such re-conceptualization of contemporary educational ideas might carry a potential for changing practices, relations, and institutional arrangements. Developing this idea, Burbules and Torres (2000) addressed conceptual concerns of researchers from various scholarly disciplines affected by globalization in their volume entitled *Globalization and Education: Critical Prospects*. Burbules and Torres wrote:

To the extent that “globalization” (conceived in a particular way) has become an ideological discourse driving change because of a perceived immediacy and necessity to respond to a new world order, we want to present a corrective to the enthusiasts of globalization and suggest that even as these changes occur, they can change in different, more equitable, and more just ways. In our view, educators in particular must acknowledge the force of these trends and see their implications for shaping and constraining the choices available for educational policies and practices while also resisting the rhetoric of “inevitability” that so often drives particular policy prescriptions. (pp. 2-3)

At the practical level, a call for structural reform of educational systems and a demand for modification of educational practices and curricula are emergent in the literature. Advocates of an immediate change in educational structure and practices place a responsibility for a slow pace of desired reforms in education on either practicing educators of all levels or on education policymakers. Educators and educational practices and institutions that are “not keeping their pace” with rapid changes in a society seem to be the most common concern addressed in literature. Discussing the topic of globalization and an educational curriculum development, Harvard economist David Bloom (2000) suggested:

Curricula in many countries have failed to keep pace with the changes brought about by globalization. There are a number of reasons for this, including limited resources, low numbers of teachers, time pressures on educators, and entrenched work practices. Curriculum designers face the ongoing challenge of adapting course content to a society’s needs. (p. 73)

The tension between the “glacial pace” (Gardner, 2004) of change in educational institutions and the rapid social, economic, and cultural transformations taking place around them is, indeed, considered an important challenge posed by globalization on education. Discussing responses of an educational institution on globalization, some researchers, however, consider a gradual pace of changes in educational structure and practices more favorable. Howard Gardner (2004), a professor of cognition and education at Harvard University, argued that:

Gradual change may be a positive element. The practices associated with an institution tend to be worked out by trial and error over long periods. While such experimentation does not guarantee a stronger and more effective institution, at least the most problematic structures and procedures are eliminated. Education stands out in one crucial way from most other societal institutions. Put directly, education fundamentally and primarily a “value undertaking,” and educational values are perennially in dispute. (pp. 235-236)

A special, “value undertaking” role of education and its historical development certainly justifies the “conservatism” of educational institutions when it comes to change. Going back to classic work of major American and European philosophers and economists, we might find supportive bases for an argument on the possibility of an educational transformation in a society. For example, in his essay on nature and the role of education in modern societies, French sociologist Émile Durkheim (2004/1925) stressed that an education is a product of a direct interaction between educational institutions and various cultural groups that comprise the community it serves. In his classic essay entitled *Education, its Nature and its Role*, he wrote:

Historical investigation of the formation and development of systems of education reveals that they depend upon religion, political organization, the degree of development of science, the state of industry, etc. If they are considered apart from all these historic causes, they become incomprehensible. Thus, how can the individual pretend to reconstruct, through his own private reflection, what is not the work of individual thought? (p. 78)

Within the same framework, Bloom (2000) argued that because of globalization, education became more important than ever before in history. Utilizing a broad array of data on the state of global education in the developing world, Bloom claimed that although the global gap in education keeps growing, no debate on the economics of globalization can neglect the role of education in advancing development and progress (Bloom & Cohen, 2002). Bloom reflected on the opportunities and challenges that were brought about by globalization, including a more competitive world economy, the increasing significance of international communications, and the rapid rate of change. In terms of education, Bloom viewed new technologies as an opportunity for education to improve its quality and quantity.

Later in this chapter, I will explore another realm of globalization that researchers recognize as an ongoing challenge to education. This challenge lies within such parameters of

globalization as its diversity and complexity (Arnett, 2002; Castels & Davidson, 2000; Jenkins, 2004; Suarez-Orozco & Qin-Hillard, 2004).

Diversity and Globalization

Educational scholars acknowledge cultural diversity in modern educational systems and explore ways it affects educational processes. There are many different perspectives on the issues of diversity in education. A professor of humanities from MIT, Henry Jenkins (2004), explained a modern population of American students from a “global convergence” point of view, a term first used by Ulf Hannerz in 1990. Hannerz (1990) defined “global convergence” as a “flow of meanings, as well as of people and goods” (p. 237).

Jenkins (2004) described effects of a “global convergence,” media products in particular, on a young generation of American students, who “come from mixed racial or ethnic families that owe allegiance to multiple cultural traditions” (p. 133). Arguing that diversity in education most frequently starts with an incorrect assumption of students’ ethnic purity or cultural authenticity at odds with a current moment of “global convergence,” he continued: “They [students] are already inhabiting a different kind of a cultural landscape than their parent’s generation, already more aware of Asian perspectives, already occupying a space betwixt and between, loyal to neither one national or ethnic tradition nor another” (p. 133). While Jenkins considered “global convergence” a first step toward global consciousness, it is also apparent that such a view of diversity in education might not lead to better assimilation of different cultural values or to better understanding of different cultures among American students.

Globalization is considered in the literature as a normative discourse, rather than a threat to a society. However, applications of the globalization process are often criticized in all areas of political and social science. An example of this critique would be the uncontrolled flow of cultural meanings, the “global convergence,” and a struggle for identity and

inclusiveness in education that were discussed earlier in this chapter. Part of the concern that is displayed in the literature is a promotion of western values and ways of living worldwide and difficulties associated with maintaining a sense of national identity in students. William Gaudelli (2003), a professor from University of Central Florida, addressed these issues in his book *World Class: Teaching and Learning in Global Times*. The questions of national and global identity posted by Gaudelli in his book were just a small part of an on-going discussion on how issues related to students' sense of cultural identity and citizenship affect educational practices. In the context of this discussion, the crucial part of the diversity domain in education is to ensure that globalization does not completely subsume cultural identities, diversity of beliefs, and actions.

While addressing diversity through constructs of cultural identity and citizenship, the idea of learning through dialogue emerged in scholarly discussions in the 1980s. Hahn (1984) was the first to suggest that students must prepare for the reality of global citizenship through dialogue with one another and through an opportunity to address ethical issues in their learning. At that time, global citizenship was understood through the means of increasing a competitive value of American students in the world market. Driven by this idea, the United States government generated two periods of an “excellence reform,” starting with its distribution of the *Nation at Risk* report in 1983. In clear and bold words, the report stated an urgent concern:

Our nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovations is being overtaken by competitors around the world. . . . What was unimaginable a generation ago has begun to occur. . . . other [nations] are matching or surpassing our educational attainments. (National Commission on Excellence in Education, 1983, p. 5)

The *Nation at Risk* report recommendations proposed raising student achievement, intensifying the academic curriculum, and making use of technology. Twenty-five years after

the release of the report, an overall understanding of diversity as a condition for graduating global citizens who are compatible with their counterparts from other countries remains important for a national agenda. Addressing concerns of falling competitiveness of the American workforce, Sen. Max Baucus (D-Montana) proposed the *Education Competitiveness Act* in 2006 (Education Competitiveness Act, 2006). The goal, Baucus said, was to better prepare children for school and to get more of them into college to make the United States more globally competitive, particularly with countries like China and India (Cook, 2007).

Achieving students' global competitiveness and developing a sense of inclusiveness to a global culture are considered to be important, yet challenging, parts of an educational agenda. The term *cultural inclusion* that is now widely used in discussions associated with this issue might be generally defined as a form of cultural assimilation, an attempt to bring into the infrastructures of societal institutions cultural groups who are located on the margins of public discourse, practice, and action (Grant, 2007). Carl Grant, a professor of teacher education at the University of Wisconsin-Madison, explored the history and current state of a debate on the diversity and inclusiveness in the American education and suggested approaching dimensions and processes of *cultural inclusion* from a perspective of *social participation*. Creating a conceptual connection between concepts of *cultural inclusion* and *social participation*, Grant grounded his ideas in Vincent Tinto's (1998) work on student attrition. Tinto described the following characteristic of *social participation*: in regard to a social institution, those who are included into its structure and processes do not necessarily assimilate into its dominant norms.

Instilling a sense of national identity, while maintaining a cultural identity and diversity, is another challenging task of a modern educational system. In the literature, researchers approach this issue through the concept of multiculturalism. Researchers often describe global and multicultural approaches to education as two closely related fields

(Bennett, 2001; Grant & Sleeter, 1998; Merryfield, 1996). For example, based on a narrative survey of multicultural and global educators, Merry M. Merryfield, a professor of social studies and global education at Ohio State University, concluded that although these areas are separate in academia, practitioners are likely to make connections between these two related fields (Merryfield, 1996).

In its 2003 resolution, the National Association for Multicultural Education (NAME) defined the term *multiculturalism* as “a philosophical concept built on the ideas of freedom, justice, equality, equity, and human dignity” (NAME, 2003, p. 2). As part of diversity terminology, researchers usually apply multiculturalism relative to an obvious issue of oppression or discrimination of a certain group that struggled to keep its identity within a larger national American identity in a society. From this definition, one can say that multiculturalism is an attempt to place cultural emphasis upon a society, rather than being dominated by national powers. However, as NAME stated in its resolution, a practical focus of multiculturalism is to inform about the “histories, cultures, and contributions of diverse groups” (NAME, 2003, p. 2).

A *perspective consciousness* is another term that researchers use in literature to describe an educational system striving for diversity. A *perspective consciousness* implies that an awareness of and appreciation for others’ vision of the world are a matter of one’s conscious opinion (Haakenson, Savukova, & Mason, 1998/99). A group of international researchers (Haakenson et al.) who explored the idea of perspective consciousness concluded that differences in a worldview are a matter of subconscious evaluations, conceptions and unexamined assumptions and, therefore, hard to change or approach. They suggested that, among many other factors, differences in perspectives are shaped by ethnic and religious differences and affected by such factors as age, gender, and social status. In their study, they concluded that it is important “to teach students to look upon a certain phenomenon or event

from different perspectives so as to encourage respect and appreciation for beliefs, customs, and values different from their own" (Haakenson et al., p. 38).

Complexity and Globalization

Trying to comprehend globalization through the domain of complexity, Capra (2002) and Urry (2003) suggested addressing the issue of global effects from the "systematic" point of view, simply recognizing the fact that globalization is a system, a collection of processes. Defining globalization as a complex system John Urry (2003), a British sociologist and a founder of the Center for Mobility Research at Lancaster University, UK, argued that "complexity emphasizes that there are diverse networked time-space paths, that there are often massive disproportionalities between causes and effects, and that unpredictable and yet irreversible patterns seem to characterize all social and physical systems" (p. 9). Urry's argument about the system approach to globalization is built on interdependencies, parallels, overlaps, and convergences in analysis of the phenomena. Absence of predictability is an obvious part of Urry's argument on a complexity.

Compelling to this view, there is an attempt in the literature to show that globalization affects properties and patterns of educational systems and that practices might seem far from achieving equilibrium with the current state of society and economy. However, educational "conservatism" might be elaborated upon systematic and dynamic characteristics of the globalization processes.

Using different points of reference in discussing global issues is one of the widely used approaches in educational literature. For example, Gaudelli (2003) suggested that in the context of globalization, education might be considered from the multiple perspectives of the teacher, the student, the administrator, the community, and the scholar. Such a multi-perspective approach helps to provide an insightful picture of what is happening within

different educational fields and on different educational levels without going in-depth into studies of educational complexity and dynamics affected by globalization.

The issue of complexity in education was, perhaps, most fully approached through an intense conceptualizing of educational ideas around the constructs of *global awareness*. Developing concerns having to do with the incorporation of a sense of global awareness in education, Robert Hanvey (2004/1976) was one of the first scholars to point out the complex nature of learning processes with regard to globalization, and he gave a comprehensive definition of what is meant by “global awareness.” He proposed five dimensions of educational reorientation toward global perspective that will benefit “global awareness”: perspective consciousness, state-of-the-planet awareness, cross-cultural awareness, knowledge of global dynamics, and awareness of human choices.

Talking about complexity in education, scholars have rejected a notion that teaching globally can be reduced to a standard set of techniques (Evans, Newmann, & Saxe, 1996; McLaughlin, Talbert, & Bascia, 1990; Tanner & Tanner, 2006). Researchers also acknowledge the role of educators in shaping global curricula in the particular context of their setting (Becker, 1982; Thornton, 2001).

Globalization and Quality of Education

Globalization studies brought attention to the subject of quality assurance in education. Questions about what is actually happening in global classrooms have periodically arisen within the field since the 1980s. In an introduction to a 1979 *Schooling for Global Age* volume, James Becker (1979), an editor of the book, pointed out lack of knowledge about the quality of what was occurring in a global education classroom. Exploring different curricula in regard to global connectedness, he concluded that “Little is known about the quality of these [global programming] efforts. . . There does seem to be a real quality problem in this field” (Becker, 1982, p. 233). In literature, the concepts of quality in education are presented

from various perspectives. One of them is that the quality of educational programs became highly attributed to applications of new standards and performance indicators across national boundaries.

As a result, researchers indicated a persistent struggle between quality and quantity measures of education to gain the attention of policymakers (AED Global Education Center, 2005). The dominance of the quantitative measures of quality reflects a managerialist view of education and the educational system, in which an educational institution is viewed as a corporate-like business that provides services (knowledge) to its customers (students). There has been a noticeable influence of such managerialist attitudes on the theory of quality education for many years.

The “corporatization” of education is another challenge of globalization in education. For example, definitions of quality in managerial literature are usually linked to the degree to which the product satisfies the demands of a customer. In education, this has its effect on the current research emphasis on student retention and student satisfaction with the educational services, which are the most common ways for educational researchers to measure success of an educational program or course. Another way to address the issue of educational quality affected by globalization in the educational literature is through evaluating the use of technology-based assessment tools in education.

Taken to the next level, the discussion of the application of information technology (IT) on structures of universities resulted in the development of a new paradigm of virtual campuses. Presented this paradigm, John Tiffin and Lalita Rajasingham (2003), educational scholars from Victoria University, New Zealand, forecasted drastic change in higher education in the not-so-distant future, brought about by the “atomic power” of new technologies:

We are in the middle of massive change. . . It is happening quietly, quickly, and globally. . . the adoption of IT in universities [and] society at large is far

from plateauing. . . [The role of IT in] the information society [is] what. . . the steam engine was to the industrial society: [it is] an equivalent to a motor engine, electric engine, and [its] “atomic power” have yet to come. (p. 21)

Increasing the quantity of education, which is associated mainly with numerical performance indicators within an institution, such as increasing student enrollment numbers, students’ test scores, and expanding curriculum options of a program, has always been a priority. Researchers agree that maintaining a quality education while working on fulfilling quantitative measures is also of importance. However, defining quality seems to be an issue. Education scholar Alexander Astin (1980) proposed use of both measurable and non-measurable values of improvement in defining criteria of educational quality. Discussing the measurable values of educational quality, Grey Rinehart (1993) pointed out challenges associated with their application:

Although education deals with issues and ideas that are more ephemeral than quality of products and services, this does not mean that the concept is not applicable. The outcomes may be harder to measure and the principles harder to visualize, but they are not less vivid. (p. 50)

Another criterion that Astin suggested to assign to quality of education is non-measurable and it involves such characteristics of an educational practice as its capacity for change and ability to constantly improve its features. Astin’s view of educational quality as a combination of both measurable and non-measurable values of improvement in education was quite profound. Despite its theoretical promises, only the measurable criterion of Astin’s quality definition attracted nearly all the attention of educational stakeholders. As a result, the educational system, in the words of Laurillard (1999) of the Open University of UK, becomes a quality assessment “industry” that focuses on demonstrable learning outcomes and prevents change in higher education.

In close connection with Astin’s idea of combining different criteria to educational quality, the participants of the United Nations-sponsored Education for All (EFA) 2000

initiative outlined the elements of a quality agenda that emphasized non-measurable values of educational processes. Despite all the efforts to promote non-measurable criteria in the assessment practices, the existing duality in understanding educational quality, however, still creates disagreement about the conceptual definitions of the term. British scholars Lee Harvey and Diana Green (1993) noted about the conceptualization difficulties that exist in the field: “Much has been written about quality in education, mirroring the outpourings in management and the caring services. Most of this has been about quality control, assurance, management, audit, assessment, policy, and funding. Little has been written about the concept itself” (p. 5).

Aiming to clarify educational quality as a concept, Harvey and Green described the following five alternative notions that constitute quality in education: exceptionality, consistency, fitness-for-purpose, value for money, and transformative potential. The novelty of Harvey and Green’s visions of quality is tied to a notion of how education can contribute to social goals, depending on particular ideas presented in a society. Based on this vision, Harvey and Green treated quality and quantity of education as two mutually inclusive concepts that provided justification for change based on multiple visions of quality.

Bloom (2004) and Gaudelli (2003) approached educational quality from the standpoint of students’ “quality learning” affected by globalization and reflected in curricula. Bloom and Gaudelli requested a curriculum reform in American education that would consider the changes associated with the globalization process. Bloom and Gaudelli’s ideas are closely connected with those proposed by Hopkins (2001). Describing the limitations of current educational reform strategies, Hopkins raised the issue of quality of teaching and learning and related a concept of quality to the ability of an educational institution to manage change. In *School Improvement for Real* (2001), Hopkins put forth the idea of powerful teaching to improve educational quality. Hopkins argued that, at the participatory level, educational institutions always manage to focus on quality of teaching and learning, despite being pushed to enact changes driven by the pressure of national reforms. The elements that Hopkins

described as making up educational improvement at schools and, importantly, the conditions that support those changes, are consistent with Habermas' framework of "knowledge-constitutive interests" that I describe next.

In his classic work *Knowledge and Human Interests*, German philosopher Jürgen Habermas (1968) built a framework for a "knowledge-constitutive interests" theory that proposed that the technical, practical, and emancipatory conditions that are present within a society define different visions of quality. Applied to the field of education, Habermas' theory allows definition of quality criteria based on technical, practical, and emancipatory purposes. According to Hopkins (2001), these criteria include the following: (a) empirical knowledge, facts, casual explanations; (b) interpretation, understanding, constructing new meanings, situational knowledge; and (c) critical reflection, knowledge, and thoughts that lead to action and strong relationship to oneself and one's social world.

From the standpoint of "quality assurance" in education, the work of Ernest Pascarella and Patrick Terenzini probably provided the most complete overview of research findings on quality of education. In their two-volume book, entitled *How College Affects Students* (2005), researchers examined more than 3,000 research cases from the 1990s. Among confluences and trends that affected the educational research, Pascarella and Terenzini included the impact of student diversity and information technologies in their list of important factors that are affecting higher education research and curriculum.

From the perspectives of various academic disciplines, there is growing attention to a relationship between educational quality and social justice. This issue has been discussed in papers and essays published in 2004 theme issues of the *Educational Researcher* on the topic of disciplinary knowledge and quality education. Zeus Leonardo (2004), an associate professor from California State University who edited those issues, described the contributions of such multi-disciplinary approaches to quality education, saying that

Overall, the scholars participating with the issue use disciplinary lenses to arrive at certain suggestions about what a quality education looks like when examined or viewed from the various disciplines. In the end, the collection enriches educational research by increasing dialogue between the disciplines and evaluating the usefulness of disciplinary knowledge for quality education. (p. 4)

Global Education

Despite its controversial parameters, globalization remains a powerful force in shaping modern education systems. Driven by digital technology and motivated by economic forces, globalization affects the stance and standards of the educational system and creates a framework for the concepts of global education and global learning.

Global education is rooted in the global scholarship of the 1960s that emerged from a variety of disciplines. The work of several authors contributed to better understanding of global systems and dynamics. During that decade, Buckminster Fuller (1969) offered a “manual” for *Spaceship Earth*, and Rachel Carson (1962) raised alarm over the use of pesticides in her book *Silent Spring*. Paul Ehrlich (1968) examined the effect of population growth on the planet, and Marshall McLuhan (1964) used the term “global village” to describe a shrinking planet linked by technology.

Based on the ideas expressed by scholars in the early 1960s, researchers view global education separately from globalization, as a construct that aims to extend students’ awareness of the world in which they live by opening them to the diverse heritage of human thought, action, and creativity (Sterling, 2001). Robert Hanvey was one of the first scholars who started a futuristic discussion about “global” effects and who gave that discussion a practical direction. Hanvey (2004/1976) gave a comprehensive definition of a “global perspective” in education:

What is a global perspective? Operationally, we will say that it consists *partly* of the modes of thought, skills, etc. . . . But as conceived here, a global perspective is not a quantum, something you either have or don't have. It is a

blend of many things and any given individual may be rich in certain elements and relatively lacking in others. (p. 2)

In his classic work *An Attainable Global Perspective*, (2004/1976), Hanvey proposed five dimensions of global awareness: perspective consciousness, state-of-the-planet awareness, cross-cultural awareness, knowledge of global dynamics, and awareness of human choices. Proposed in the late 1970s, Hanvey's assumptions about global awareness challenged the current state of educational thought and launched a discussion about new educational approaches related to globalization. Justifying the necessary change in awareness as an effort toward building a global perspective in education, Hanvey (2004/1976) wrote:

Such an increase in awareness is, I think, a fairly modest goal. I am not proposing that students choose among alternatives—only that they know of them. This in itself is a mildly revolutionary step. It means becoming more conscious, potentially less bound to custom and convention. Is such awareness enough? Enough for what? We are talking here of a *global perspective*, from which other things may flow. Let's say, simply, that such an increase in awareness is a solid and necessary base from which to proceed. (pp. 45-46)

In current literature, global education is often described as a recent addition to the field of social studies that is emerging from various settings such as international relations, cultural studies, environmental study, and economics (Kirkwood, 2001; Lamy, 1990). The main problem of education, highlighted in literature, is that students and teachers, as well as institutions at large, are becoming increasingly confronted with many issues that require global focus. According to Toni Kirkwood (2001) from Florida Atlantic University, the fact that students face a new world order by the time they graduate is creating a need to acquire a global education:

Their daily contacts will include individuals from diverse ethnic, gender, linguistic, racial, and socioeconomic backgrounds. They will experience some of history's most serious health problems, inequities among less-developed and more-developed nations, environmental deterioration, overpopulation

transnational migrations, ethnic nationalism, and the decline of the nation-state. (p. 2)

Within Hanvey's framework of global awareness, Kirkwood identified perceptual elements of global education that are focused on the development of world mindedness and empathy and resistance to prejudicial thinking as well as stereotyping and cross-cultural knowledge. Although different in terminology, Kirkwood's elements are parallel to the Hanvey dimensions of perspective consciousness and global awareness.

Within a framework similar to Hanvey's, Merryfield (1997) produced a list of the following elements to global teacher education: human beliefs and values global systems, global issues and problems, cross-cultural understanding, awareness of human choices, global history, acquisition of indigenous knowledge, and development of analytical, evaluative, and participatory skills.

Thus, multiple frameworks to understanding global education forecasted different boundaries for the field. Examining several definitions of global education from the historical point of view, Gaudelli (2003) identified the following themes related to its development: (a) focus on teaching and learning; (b) controversy; (c) rethinking the population state; (d) cultural diversity; (e) civic action; and (f) empirical research about global education. In his research, Gaudelli collected definitions for global education that were widely cited in literature, and he presented them in chronological order. Gaudelli's study belongs to a small part of the literature on global education that is focused on terminological development and consequent limitations of different definitions and understandings of global education.

Gaudelli's work created a middle ground for a large "definition" debate that started in the 1980s and that brought up an argument on two different views on defining global education, broad versus specific. The question "which of the two approaches to defining global education produces more benefits to the field?" depended more on the personal stance of an author rather than on research findings that were related to the topic. Some researchers

have argued that a uniform definition of global education would provide more credibility, particularly for teachers and policymakers (Kniep, 1987; Lamy, 1990). Others have generally argued that global education should be broadly understood, however, under the assumption of greater conceptual clarity.

Tomas Popkewitz (1980) from the University of Wisconsin pointed out a logistical confusion in defining global education. Gaudelli (2003) also argued that defining global education broadly might lead to a creation of a “catch-all curriculum where everything fits” (p. 9). In contrast, Ronald Case (1993), a professor of curriculum and social studies at Simon Fraser University, Canada, advocated a looser conceptualization of global education that has the potential to broaden the field and to allow greater curriculum integration throughout existing courses of study. Kirkwood (2001) also supported the broad view of global education, arguing that differences in conceptualization are rather idiosyncratic and that amalgamation of the field of global education is unavoidable and complementary. The most stable practical application that is established by this kind of conceptual discussion in literature is that, although there is no single approach to or understanding of global education, global perspectives and views must be encouraged in the curriculum.

It is in this way, infusing global awareness into university curriculum, global education manifested in higher education. Reflecting their increasing commitment to global education, universities worldwide identified attributes of scholarship, lifelong learning, and global citizenship in their policies to guide curriculum committees and university faculty. These policy efforts indicated the shift in universities’ goals toward producing “quality learning” and graduating “global citizens.” Researchers (Corcoran & Wals, 2004; Inayatullah & Gidley, 2003; Tagg, 2003) noted that American universities, in general, are shifting their focus from providing instruction to producing learning. As noted earlier in this chapter, the issue of defining and evaluating the quality of global efforts in a particular institution is a challenge.

Lack of documentation about how the idea of global education is implemented in American classrooms created a misinterpretation of the field at the educational policy level. As former U.S. Secretary of Education William Bennett's comment illuminated, "When I hear 'geography' or 'history,' I am pleased. When I hear 'global perspectives' I am usually a little nervous" (Rothman, 1987, p. 6). Today, policymakers express serious concerns about anything global, including global education. Margaret Spelling, the U.S. Secretary of Education, in her address to the participants of the 2007 International Education Week, entitled *International Education: Fostering Global Citizenship and Respect*, recognized the importance of global education to grow "responsible, respectful world citizens" (p. 2). However, intensively promoted at the policy level, the global education agenda still seems to have little recognition at the participatory level of education.

Higher Education, Technology, and Change

In the early 1990s, researchers started discussing a topic of educational policy change in relation to modern technological advances. Advocating the idea of drastic reforms in American education driven by revolutionary technology, the U.S. Office of Educational Research and Improvement (OERI) has published multiple volumes focusing the academic discussion on the concerns of policymakers and critical issues on the field associated with the application of new telecommunications technologies. As part of this discussion, Saul Rockman (1991), at that time a director of research at the Agency for Instructional Technology (AIT) in Bloomington, IN, argued for the use of technology as an assisting or restructuring agent in an educational change movement (Rockman, 1991). The attitude of change associated with integration of advancing technology in higher education practices, however, was not universal. Exploring technology effects on higher education institutions, Gerald Van Dusen (1997) accepted the fact of American higher education integrating virtual practices, arguing that the type of change happening in universities, however, depends more

on the kind of institution, and its mission and vision, than on the type of technology used in its classrooms. In his monograph *The Virtual Campus: Technology and Reform in Higher Education*, Van Dusen (1997) said:

Successful efforts to transform American colleges and universities are very likely to occur quite differently from institution to institution, based on institutional mandate, mission and vision. Given the increasing number of adult and non-traditional students, it is likely that the majority of institutions will undergo some form of significant transformation. (p. 5)

According to Van Dusen (1997), strong change would be more likely to occur in an institution when external circumstances influence its capacity to fulfill its mission. Van Dusen's findings are based on the U.S. institutional categorization system developed in the 1970s, which was recently revised by the Carnegie Commission on Advanced Teaching in February 2006 (CCAT, 2006). Using this classification, the researcher argued that directions of a higher education reform under the pressing demand of globalization were mainly explored within four kinds of institutions: community colleges, liberal arts colleges, public comprehensive universities, and research universities. In close connection with Van Dusen's findings, Ernest Pascarella and Patrick Terenzini (2005) supported a connection between an institutional type and factors that affect student learning: "things *do not* differentiate among colleges and universities in their ability to promote student learning and growth. . . factors *do* differentiate among educationally effective institutions" (p. 642).

There are many suggestions from researchers on whether or not technology serves change in educational practices. Advocating a primary role technology plays in changing educational systems, Carol Twigg (2001) from Rensselaer Polytechnic Institute argued that use of technology also indicates a change of the entire institutional paradigm. She wrote: "There is no question that the higher education community has moved well beyond the time-

and-place-specific campus paradigm of the 1980s and early 1990s, when discussions of IT applications consisted primarily of wiring the classroom or wiring the campus” (p. 3).

Twigg’s views of technology being an agent for a revolutionary change in educational policy and practices fall within a “paradigm shift” framework, developed by Thomas Kuhn in 1962. Kuhn presented the idea that science does not evolve gradually toward truth, but instead undergoes periodic revolutions that are called paradigm shifts. Twigg extended Kuhn’s theory to technology and education. However, her research did not answer a main question of whether implementation of technology in colleges and universities that offer on-line courses indicates the paradigm shift. Although the members of the Commission on Technology and Adult Learning (2001) stated that, “Recent technological advances have laid the foundation for a learning revolution that will clearly take place in the years ahead” (CTAL, 2001, p. 4), some researchers expressed skepticism about upcoming a “paradigm shift” in education. Opponents of the revolutionary impact of technology on education refer to a “no significant difference phenomenon” developed by Thomas Russell (1999), a director emeritus of the Office of Instructional Telecommunications at North Carolina State University.

Proponents of Russell’s theory base their arguments on a fact that in on-line courses, students learn just as well as their on-campus counterparts, and therefore there are no differences in learning outcomes in technology-supported environments (Alexander, McKenzie, & Geissinger, 1998; McLoughlin & Luca, 2001; Russell, 1999; Spector, 2000). The limitation of this approach as it is presented in literature, describes methodological difficulties in comparing learning outcomes across different classrooms and technology-supported environments.

Learning Environments

Research on educational psychology in the mid-1990s justified a need for building learning environments that engage students in meaningful and purposeful learning (De Corte,

1996; Vosniadou, 1996) and that foster students' reconstruction of understanding and reasoning (Minstrel & Stimpson, 1996). Studying the problems of conceptual change in the larger context of a cognitive theory of learning, Stella Vosniadou (1996), a professor in the Department of Philosophy at National University of Athens, Greece, captured the following characteristics of learning environments:

1. Learning environments should support active learning and guide students toward acquisition of self-regulated processes. Learners are actively constructing their own knowledge and skills instead of being the passive learners.
2. Tasks within learning environments are relevant and meaningful to students' experiences and contextualized with the real world.
3. Learning environments are designed with respect to the students' individual differences.
4. Learning environments deliberately use social context and collaboration in learning.

Vosniadou's (1996) characteristics of learning environment were further applied in the field of instructional design theory. Ann Brown and Joseph Campione (1996) introduced the idea of virtual "communities of learners" to academic settings as an approach for designing innovative learning environments with the use of technology. The description of this approach provided by Brown and Campione in their 1996 paper included the following characteristics:

1. A community of learners involves a system of activities that are self-consciously active and reflective.
2. It grows out of the instructional theory of strategic learning.
3. It creates a virtual community of people who share values and are linked by practices.
4. It adjusts different learning designs.

Within a framework similar to Brown and Caprione's description of community of learners, Twigg (2001) developed an idea of learner-centered environment. However, she also mentioned that "there is much controversy and disagreement about what learner-centered

means” (p. 2). In light of current trends in instructional design, the characteristics of a learning environment that Brown and Campione and Twigg identified might serve to describe general features of any technology-supported learning environment or, in the language used in the instructional design literature, electronic learning environment.

The discussion of electronic learning environments in the instructional design literature added to the terminological variety of learning environment. The Commission on Technology and Adult Learning (CTAL) (2001) introduced a term “electronic learning environments” to describe a physical or virtual setting where electronic learning is taking place.

Electronic learning could be simply reduced to the definition provided by Hicks (2000): anything delivered, enabled, or mediated by electronic technology for the explicit purpose of learning. Hicks elaborated on this definition, saying: “For simplicity assume if you use a computer in some fashion to affect learning, that it is electronic learning” (Hicks, 2000). The electronic learning environments are broadly understood and the use of this term mostly depends on a level of technology involved into a study (CTAL 2001; Kirk 2002). As a result, electronic learning environments terminology varies from one researcher to another. Electronic learning environments are also known as ICT-based integrated learning environments, technology reach environments, multimedia learning environments, complex computerized environments, telematics, and distributed learning environments.

Outside the field of instructional design, learning environments are fairly recent phenomena that seem not to be well-connected with a large body of underlying educational theories. It is important to notice that research studies of “electronic learning environments” are based on a general assumption that besides instructional theories, most of the teaching and learning principles that are applied to a traditional learning setting also applied to “electronic learning environments.” This created some discrepancies among researchers in the field of educational and cognitive psychology. Diana Laurillard (2001) of the Open University in UK,

in her most cited book *Rethinking University Teaching*, urged her colleagues that the idea of applying instructional design approaches within a framework of educational psychology and cognitive learning should be questioned:

There are no data on the theoretical development of this approach that derives from students learning in an instructional context. The theory can be used to generate teaching which is then evaluated, but this does not test the approach, only its instantiation in that piece of instruction. (p. 65)

Although the value of electronic learning environments is not universally acknowledged (Ellis & Cohen, 2001), some researchers view creating them as a way to reach significant improvements in quality of education. For example, Dijkstra, Collis, and Eseryel (1999) argued that learning environments have a potential to extend teaching and learning processes by bringing added self responsibility to students. Laurillard (2001) noted that the combination of technology used in a learning environment make it “capable of satisfying most of the requirements. . . of good teaching” (p. 81). In addition, the researchers observed the following benefits of a technology-supported learning environment (Laurillard, 1999): bringing communication opportunities, involving coaching to teaching, increasing student self-responsibility, promoting self-directed learning, and increasing students’ autonomy.

Chapter Summary

Research suggests that both challenges and opportunities that globalization has posed on education require in-depth rethinking and re-defining of major theoretical concepts and constructs in the field. In particular, the applications of global education, which is often described as a recent addition to the field of social studies, should be viewed through a conceptual lens of global awareness, perspective consciousness, and cultural inclusiveness. It should be encouraged in a curriculum and reflected in educational policy. Multiple

frameworks to understanding global education that forecasted different boundaries for the field should be further developed to achieve better conceptual clarity.

The issue of change in higher education, operating under the pressure of globalization, is often tied to the use of advancing technology in educational institutions. The arguments in support of the “revolutionary” impact of technology causing change of educational paradigm are balanced by the view of technology making “no-significant difference” in terms of educational outcomes of teaching and learning. Addressing the issues of educational quality and globalization, researchers built their scholarly discussions around the attempts to define the conditions for applying quality criteria at institutional and participatory levels of an educational system. The idea to use both measurable and non-measurable values of improvement in defining criteria of educational quality, suggested by Astin (1980), remains a theoretical proposition due to the prevalent managerialist discourse in education.

Most of the studies of learning environments are situated in the field of instruction design and, therefore, focus on the use of different kinds of technology in instruction. The variety of definitions of learning environments and their lack of connection with an educational theory outside of the instructional design is a challenge. Placing research on learning environments within the frameworks of educational and cognitive psychology creates discrepancies. However, researchers have identified some characteristics of learning environments including the following (Vosniadou, 2001): (a) learning environments support active learning and guide students towards acquisition of self-regulated processes; (b) learners are actively constructing their own knowledge and skills instead of being the passive learners; (c) tasks within learning environments are relevant and meaningful to students’ experiences and contextualized with the real world; (d) learning environments are designed with respect to the students’ individual differences; and (e) learning environments deliberately use social context and collaboration in learning. Technology-supported learning environments also bring such benefits as: expanding communication opportunities, involving coaching to teaching,

increasing student self-responsibility, promoting self-directed learning, and increasing student autonomy (Laurillard, 2001).

CHAPTER THREE

METHODOLOGY

This study was conducted to investigate the nature of the Global Seminar Project's (GSP) learning environment in the context of global education and its contributions to deep learning. This chapter presents the methods used to answer the following research questions:

1. What project components make the course global?
2. In what ways does the GSP contribute to deep learning?

The chapter includes the explanation of the research design, sampling, data collection procedures, data quality procedures, and a description of the analysis procedures.

Research Design

The choice of the qualitative research design underlines studies that require in-depth understanding of complex, multifaceted, real-world social phenomena (Green, 2005). To conduct a descriptive study of a global learning environment, I employed a qualitative research design. In this study, the qualitative design provided a methodological frame for constructing a rich, detailed, and comprehensive description of a global learning environment and exploring its contributions to deep learning. The application of qualitative research practices aided in the research effort to understand complex factors that influenced participants' application of concepts that I believed were central to understanding the impacts of globalizing on education, concepts that participants rethought and redefined through their practice.

These concepts, as discussed in the previous chapters, include "global education," "global learning environment," and "deep learning." Clearly, the qualitative method

demonstrated not only changing concepts, but also showed changing relations; teaching and learning practices; and professional, personal, and administrative arrangements within a group of participants. Beyond the work of theory, the qualitative design pointed out the specific and concrete implications of how the global environment is constructed, its global features, how participants create learning, and how participants reflect on their experiences.

The use of the qualitative design in this research was critical to the extent that it allowed one to challenge existing discussions related to the topic of globalization in education, and to present a research model that expounds upon contemporary theory on educational processes. Highly compatible with the constructivist framework that guided this study, qualitative design enables one to generate insightful findings that incorporate a wider diversity of participants' views.

Initially focused on the perceptions of the participants, the deliberate choice of the qualitative design in this study framed the intention to understand how participants make sense of their interactions within their learning environment, sustain a collaborative stance in their teaching and learning practices, and initiate deep learning and transformation in their educational processes. The qualitative manner of this research facilitated an empathic and open-minded entrance into the participants' framework of reference. To fulfill the research goals, three forms of data collection were used: (a) in-depth, open-ended interviews that consisted of direct quotations from participants about their experiences, beliefs, and knowledge concerning the global nature of the GSP; (b) direct observation that consisted of detailed descriptions of the instructors' and students' activities and actions; and (c) written documents that included GSP conference papers and documents available at the GSP Web site, course syllabus, pre-course advantaging papers, homework assignment sheets, course feedback sheets, class hand-outs, activities, and other documents created and presented by the participants. A detailed description of each type of data collecting procedure follows later in this chapter.

To define a global learning environment in higher education, I organized the study into two parts: (1) establishment of the Global Seminar Project within the context of global education; and (2) determination of specific Global Seminar Project's contributions to deep learning.

In the first part of the study, I looked at the global learning environment of the GSP through a Virginia Tech course offered in the spring of 2005. My purpose was (a) to determine the GSP components that establish the course in a context of global education; and (b) to describe characteristics of the GSP that create and sustain its global environment. By interviewing 20 GSP course instructors, I determined an order of factors, course design features, and course activities that together allowed the GSP participants to create and maintain the project's global environment.

In the second part of my study, I looked at the GSP learning environment in the context of deep learning. In the summer 2006 pilot study, which I describe later in this chapter, I analyzed video recordings of the spring 2005 GSP video conference class sessions to determine specific aspects of the GSP that might possibly contribute to deep learning (Biggs, 2003). This document-analysis technique helped me develop an observation analysis sheet of deep-learning items. The video resources did not provide applicable information to the study, hence I resolved to conduct the classroom observations instead. By conducting 11 classroom observations, I determined specific GSP contributions to deep learning and described indicators of educational transformation within the GSP practices. Throughout the study, I collected artifacts and documents associated with and produced by the GSP participants.

Triangulation of the interviews, observations, and the GSP documentation analysis served as a verification procedure that confirmed the credibility of the study. This met a general criterion for a qualitative study that, according to Creswell (2003), should involve at

least two verification procedures. The verification procedures are discussed within the Data Quality Procedures part of this section (see page 53).

Sampling and Instrumentation

Within a qualitative design framework, I used a purposeful intensity-sampling method and collected data from project cluster coordinators, teaching instructors, and students enrolled in the course. In general, purposeful sampling implies selecting information-rich cases for in-depth study (Patton, 2003); thus, the convenient intensity-sampling was appropriately related to the purpose of the research. I collected the qualitative information about the Global Seminar Project's learning environment, which is the phenomena represented in a context of global education. I identified GSP participants, cluster coordinators, teaching instructors, and students as the best available resources to answer the research questions and provide expert opinions about the structure and the processes of the GSP in the context of global education, transformation, and deep learning. I recruited the participants for this study by e-mail (see Appendix A for the sample of an e-mail correspondence). The participants came from 12 different U.S. states as well as from Puerto Rico, Mexico, Costa Rica, Italy, Australia, Sweden, Honduras, South Africa, Germany, Austria, and Denmark.

While implementing the interview instrument in this study (see Appendix B for the sample of the interview protocol), I related the responses from the interview questions directly to the research questions. This technique allowed me to derive interpretive themes and categories as they emerged during the data collection. I used the same method to collate the data in the observation and the document-analysis phase of this research. The observation codes corresponded to specific instances of deep learning and the deep learning strategies that students and instructors used in class (see Appendix B for a complete coding schema of the

interview questions). Table 1 demonstrates how a specific answer to an interview question was associated with the research objective and research question one.

Table 1 *The Interview Questions in Relation to Research Question One*

Research question	Interview questions
RQ1 <i>What project components make the course global?</i>	
1. What are the components of the GSP that course instructors and coordinators find helpful in establishing the course in a context of global education?	R1, R2, R3 P1, P2, P3, P4, P5 O3, O4, O5 G3, G4, G5
2. Are there traits common to course instructors and course coordinators with regards to their geographical, cultural, and technological abilities and experiences?	P1, P2, P3, P4, P5 O3, O4, O5 G3, G4, G5
3. What GSP characteristics do research participants identify as essential to create and sustain a course global environment?	P1, P2, P3 O3, O4, O5 G1, G2, G3, G4
4. What GSP features do participants find most promising and most challenging with regards to the project's current and further development?	R2 P1, P2, P3, P4, P5 O1, O2, O5 G1, G2

Note. The codes of the interview questions on the right side of the table correspond to the specific headings of the different interview sections and the numbers of the interview question. For example, letter R is the code for the interview section one, *Roles*; letter P is the code for the interview section two, *Perceptions*; letter O is the code for the interview section three, *Opportunities*; and letter G is the code for the interview section four, *Globalization*.

To develop the observation instrument, I used a classic observation template suggested by Creswell (2003) that included descriptive and reflective sections. I modified the template to include specific observation items that were based on the information found in the literature, derived from the interviews, and suggested by the results of the pilot study. The observation items represented indicators of deep learning, which were developed in relation to

the research question two and applied within the major interview themes (dimensions of deep learning) emerged from the analysis of interviews (see Figure 1). I adopted Biggs' (2003) view on a classroom an interactive system, in which students' characteristics and teaching context determine ongoing processes resulted in deep learning. A sample of the observation analysis sheet that I used in this study is presented in Appendix C

For the GSP document analysis, I used a document summary form, which I adopted from Miles and Huberman (1994) (see Appendix D). This form helped to indicate the significance of the information within the GSP's documents and artifacts collected in relation to the purposes of this research. The document analysis also assisted in the development of the descriptive themes, which were expressed through the voices of participants during the interviews and through the observations.

The Role of the Researcher

Atkinson and Coffey pointed out in a 2003 study that recognizing the importance of the researcher's pre-conceived notions concerning research case and subjects, and his or her identity, is significant for creating a rich description, as it demonstrates the difference in interpretations of one's reality by a researcher and participants. In this project, as a qualitative researcher, I was assigned a dual role as a student and as a professional. Foremost, I was a doctoral student working on my dissertation research and contributing a significant amount of time and effort in the development of this study. In the beginning of this study, I focused on accomplishing a successful, well-planned, and ethical design of this research. Throughout the study, I continuously appreciated the stories of the participants that were essential for building a knowledge base concerning the process of operating and sustaining the global learning environment and generating deep learning within it.

My professional life considerably influenced the development of this study, which, in turn, affected my role as a researcher. By establishing international education projects in

Russia and Europe in previous years, I had experience in developing and running large-scale projects that had an impact on the involved countries' educational systems. Serving as director of the International School of Ecological Education and as a principal investigator for the UNESCO-supported International Ecological Camp program in Russia, I was able to gain insightful understanding of the educational project's structures being employed in different countries.

I was enrolled in the GSP course during my second year of the Master's program in Natural Resources (2000-2003) at Cornell University. At that time, I had the chance to meet individually with the GSP stakeholders who attended their third annual conference in Ithaca, N.Y. I began to understand the uniqueness of this project and its transformative role for educational systems in North America. I had an opportunity to witness the growth of the GSP over the years, which has been the inspiration for this study.

When undertaking this study, I was aware that a qualitative researcher serves as a main instrument for obtaining the research knowledge (Creswell, 1998; Giangreko & Taylor, 2003; Rossman & Rallis, 2003). It became apparent that I was utilizing my own interpretations of the participants' experiences, derived from their descriptions and the analysis of the data.

Because of my vested professional interest and personal involvement in this project, I was ethically obligated to represent the stories, interpretations, and experiences of the GSP participants in an ethical and trustworthy manner. Finally, as a professional and part of the future professoriate, I had a personal interest and professional obligation to develop a sound concept of the global learning environment that contributes to the theory of education.

Informed Consent and Permission Procedures

When conducting qualitative research such as this, it is critical to obtain the participants' informed consent. This is considered an essential practice as it demonstrates

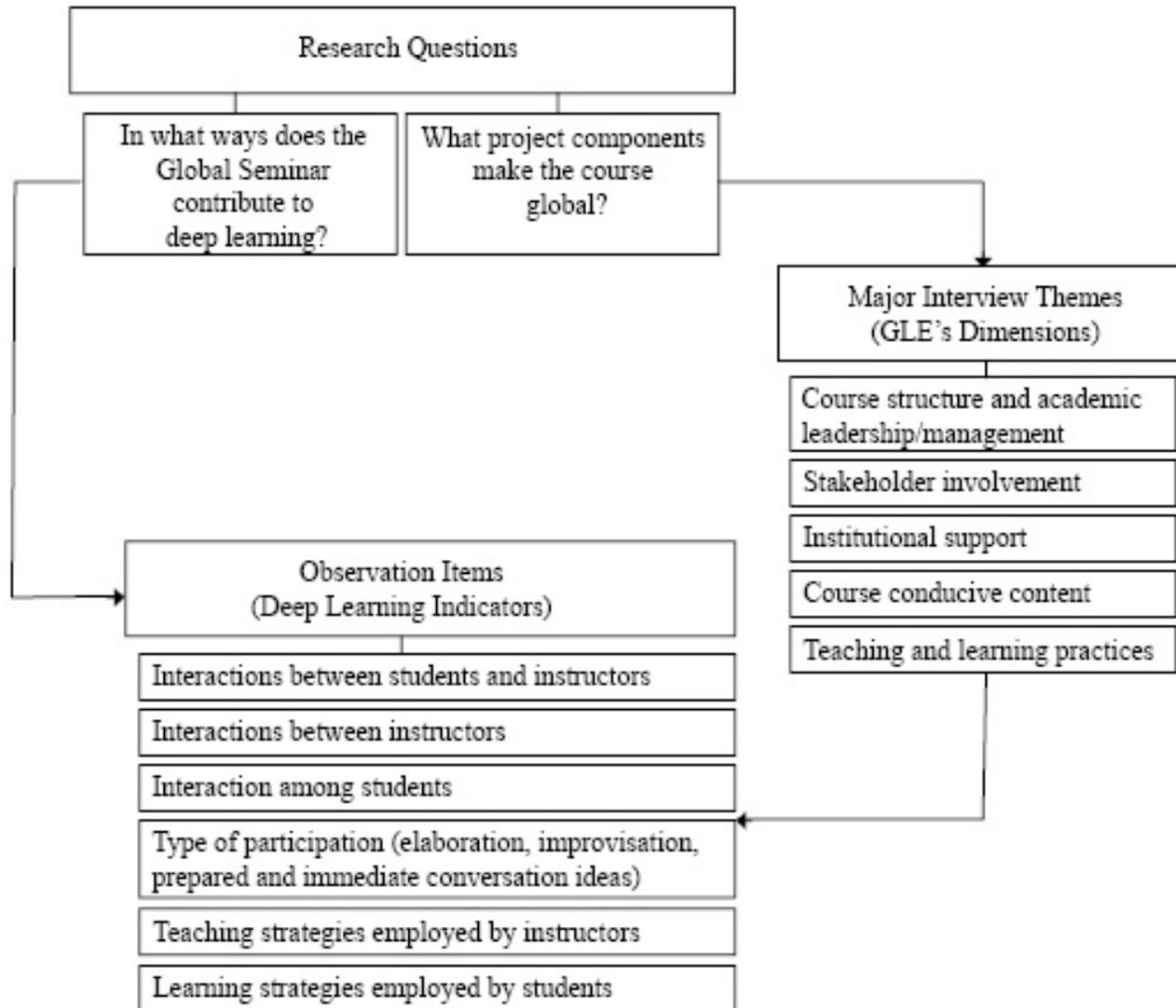


Figure 1 Observation items in relation to research questions and major interview themes.

a researcher's ethical behavior and protects the well being of the participants (Rossman & Rallis, 2003).

In this research, consent forms were designed in accordance with the qualitative design literature, and met requirements of the Virginia Tech's Institutional Review Board (IRB) procedures. The informed consent forms for this study included four disclosures about the participants' rights in the research, their full understanding of their agreement to participate, willing consent, their ability to freely withdraw at any time in the study, and a description of the researcher's purpose and audience. The consent forms for this research are presented in Appendix E.

I obtained approvals for this study from the university's Institutional Review Board (IRB) (see Appendix F for the IRB approval letters), and consequently sought the informed consent from the GSP participants.

Assurance of Confidentiality

For this study, participants consented to an interview under the condition that their names would not be used in reporting the results. The use of pseudonyms and carefully designed, IRB-approved informed-consent forms addressed a potential, yet minimal, risk of a participant's identity disclosure.

The methods in this study, particularly the face-to-face, audio-taped interviews, involved recounting the participants' life experiences that potentially could increase the vulnerability of his or her identity information. Furthermore, the use of a participant's words as a direct quote could also add to the vulnerability of the participants' confidentiality. All participants were informed of this potential, but minimal, risk. To ensure their names remained confidential, I gave each a pseudonym. I also coded all other identifiable information, such as names of places, sites, people, and universities mentioned during the

interview. To assure confidentiality, all the research audio-tapes, transcripts, and field notes were kept in a secure location in my office and were viewed only by the research advisor and myself.

Gaining Access and Entry

Scholars consider access to a research site an important point of any qualitative research (Creswell, 1998). In this study, access to the research was provided by a main “gatekeeper” of the GSP, who was the principal investigator (PI) and the founder of the GSP. He contributed to the start of this research by assisting in planning and organizing the interview sessions with the participants at the conference. In addition, the PI served as a member of my academic advisory committee and helped address academic concerns related to the design of and methods employed in this study.

Data Collection Procedures

Open-Ended, In-Depth Interviews

Scholars frequently refer to interview methods as research practices that help researchers generate more thoughtful responses from study participants, and that allow interviewees to achieve greater likelihood of self-generated interview answers (Shuy, 2003). In this study, I employed a classical semi-structured, in-depth interview method with partially prepared questions that were fully-structured by the initial theoretical framework and research goals. When interviewing the participants, I was modifying the research conversations according to their responses to general global education issues, such as: the place of the GSP in the global educational system, use of technology in the GSP practices, and educators’ teaching methodology. The semi-structured, in-depth interview method was suitable because it assisted data retrieval by the participants’ values related to their learning environment and deep learning in a classroom. The interview inquiries consisted of questions about

interviewees' perceptions of the GSP learning environment, and the participants' beliefs, experiences, and assumptions about education and learning.

The interviews were conducted during the Eighth International Global Seminar meeting at the Crystal City Marriott Conference center in Arlington, VA, from June 28 to July 2, 2005. Each interview lasted approximately 40 to 60 minutes. Prior to the interview sessions, I contacted participants via e-mail and provided them with an explanation of the study, its purposes, and research procedures. After collecting the participants' consent forms, I gave them an electronic sample of the interview questions, asking them to review the questions and make possible suggestions. This technique is often used in qualitative research to expose the participants to a topic of study (Wengraf, 2001).

In this study, distributing initial interview questions to the participants and accepting their corrections significantly contributed to the design of the interview instrument and shaped the potential contours for the real, face-to-face interviews. As Fontana and Frey (2003) observed, "The interviewer must be aware of respondents' differences and must be able to make proper adjustments called by unanticipated developments . . . It is important to understand the respondents' world and forces that might stimulate or retard response" (p. 70).

Because of the multicultural composition of the study group, the participants' engagement in the interview design was invaluable as they helped to modify the questions to make them clear for non-English-speaking participants. This prevented any terminological, linguistic, and cultural misunderstanding of the research issues that I discussed with the participants in English during the personal interviews. During the interview sessions, I guided conversations to cover all the research topics. To create a balance between asking significant interview questions and maintaining the conversational style of the inquiry, I refrained from entering a "real" conversation about the topics in study.

In this study, all interviews were audio tape-recorded to promote conversations that were free flowing and ranged over many topics (Wegner, 2003). In addition to the tape-

recording, I used an interview protocol to guide a research conversation and to capture all details of a discussion. The interview protocol included a heading, instructions to the interviewer, key research questions, transition messages, and a space for the researcher's reflective notes. To ensure the success of the interview procedure, all research interviews were conducted at the GSP conference site, and were arranged with the participants during hours convenient for them.

Choosing the semi-structured, in-depth interview method for this study, I was aware of certain limitations (Creswell, 2003) that might emerge from using this research practice. One constraint, particularly relevant to this study, dealt with the use of the research data that might be poorly articulated by non-English-speaking interviewees and influenced by biased interview responses provided by stakeholders of this project.

Pilot Study

Among other forms of data collection, document analysis is more credible than other forms of research information as it possibly produces less biased data (Hurworth, 2005). In the pilot study, I analyzed the GSP's multimedia materials, including recorded video conferences from the previous year. Video recording analysis assisted me in identifying the research method suitable for gathering information about the deep-learning practices in the GSP. The accuracy, confidentiality, and copyright issues generally associated with this method of the analysis (Hurworth, 2005) made further use unsuitable. Instead, I developed an observation sheet for the second part of the study: GSP course classroom direct observations.

Direct Observations

Direct observations, as scholars believe, allow one to "cast the net" (Beck, King & Marshal, 2002) into initial cases of a broadly-defined social phenomenon. In this study, the direct observation method was particularly relevant because it allowed me to investigate the

complexities of the global learning environment with regard to the process of knowledge construction collaboratively initiated by a group of its participants. The direct observations consisted of detailed descriptions of the GSP instructors' and students' activities and actions during GSP class periods at the Virginia Tech campus.

Direct observation experiences provided insightful information about the GSP class dynamics and enhanced my understanding of learning processes and communication patterns that occurred in GSP. The basic idea behind the use of the direct-observation method in this research was to capture the strategies and motives employed by the research participants to generate deep learning based on their interactions. Keeping the observations focused on the participants' active contributions to and initiations of learning was important to capture the experiences that shaped their learning environment in a transformative way. Persistent observations also enabled me to recognize successful teaching practices used by the research participants in the GSP and elaborate on the already existing illustrations of "global learning" derived from the interviews. Grasping multiple representations of the specific examples of deep learning helped me to develop extensive and integrated learning models based on GSP participants' interactive patterns.

The observation sessions started after I finished analyzing the initial participants' interviews. The observation sites included two classrooms, 306 Smyth Hall at Virginia Tech and 311 Virginia College of Osteopathic Medicine (VCOM) building, a conference room at the VCOM. Eight students who were enrolled in the GSP course in the 2007 spring session along with two course instructors participated in this part of the research. I conducted a total of 11 observations out of 24 GSP class sessions.

Scholars consider the intrusive nature of an observation as a limitation associated with this method (Creswell, 2003). With this in mind, during each class session I remained as unobtrusive as possible. After each observation session, I reflected upon my field notes, identifying connections between my observations and the research goals, questions, and the

themes that emerged in the previously conducted interviews. I was also searching for additional themes revealed by each observation.

Field Notes and Observation Records

Within this study, observation details were recorded as written notes on an observation sheet. I described the physical setting of the classroom, the size of the room, the number of students in the room, and the position of the instructors in relation to their students. I hand-drew a rough sketch of the classroom and images produced by the participants on a computer screen and a blackboard during the session. I also described human and social aspects of the class environment, including: (a) how the class sessions were organized, either by students or by the teachers; (b) patterns of interactions between the teacher and the students, along with any changes that occurred within these patterns; (c) decision-making patterns such as who makes decisions about the activities that take place within the classroom; and (d) specific teaching strategies such as small and large group activities, overhead presentation of notes, lectures, guest speakers' talks, individual assignments, final papers and presentations.

Documents and Artifacts

The artifacts in this research for the purpose of collecting the data included GSP's written documents and online materials available through the World Wide Web. Specifically, I looked at the GSP's conference papers and documents available at the GSP Web site, course syllabus, pre-course advertisement brochures, course announcements and papers, homework assignment sheets, course feedback sheets, class handouts, descriptions of course activities, and other documents created and presented by the participants.

Data Quality Procedures

When using general qualitative research methodology, it is important to ensure that research findings and procedures are appropriate and believable (Lincoln & Guba, 1985). Table 2 presents the procedures that were used in this research to establish its trustworthiness, which was addressed through three data-quality indicators: research credibility, transferability, and dependability.

Table 2 *Trustworthiness of the Study*

Qualitative term for assessing trustworthiness	Strategy employed
Credibility	Prolonged engagement in the field
	Pilot study
	Method triangulation (interviews, observations, documents and artifacts)
Transferability	Convenient, purposeful-intense sampling technique
	Thick, rich description of the context, participants, and the findings
Dependability	Method triangulation (interviews, observations, documents and artifacts)
	Research transparency (explicit explanation of the data analysis, management, and findings in chapters four and five)
	Audit trail (keeping accurate records, research codes, interview tapes and transcriptions, and all other forms of documentation)

Data Analysis Procedures and Coding

To fulfill the purpose of reducing and synthesizing the collected information in this qualitative study, I conveyed the research information using a qualitative approach to data analysis. To analyze the data collected during the interview phase of this research, I transcribed half of the tapes upon completion of the interview sessions first. After discussing preliminary themes that emerged in the interviews with my major adviser, the entire set of interview tapes was transcribed with the help of a professional transcriptionist. I verified each interview by checking the transcripts against the tapes to ensure accuracy and downloaded them to the ATLAS.ti. software.

Using the open-coding (Corbin & Strauss, 1990) feature of the software, I read and re-read several of the same transcripts while coding passages in the margins. After several weeks of open coding, I reached the point of considerable saturation with the data and began generating the coding scheme. Applying the coding scheme to the transcripts, I came up with the final coding pattern, which consisted of five major categories. Then, I coded, reviewed, and re-coded each transcript in accordance with the final coding schema. I believe that implementations of this coding-recoding strategy enhanced the dependability of the findings and the study rigor (Anfara, Brown, & Mangione, 2002).

Next, I analyzed the GSP's observation materials and the GSP documents for an appearance of common themes and topics related to the research questions. To ensure participant confidentiality, I obtained Institutional Review Board (IRB) approval through the standard Virginia Tech IRB procedure at each stage of this research project. The results were presented in alignment with the initial research phases, based on codes and categories emerged from the interviews and observations. The results are presented and discussed in chapters four and five of this dissertation.

The findings of the first part of this study were published in the *European Journal of Natural History* (Vol. 2, 2007). The research findings also were presented at the following

conferences: *Graduate Students Assembly (GSA) Annual Research Symposium* (March 26, 2008, Virginia Tech, Blacksburg, VA); *Educational Environments: Problems and Perspectives* (March 27-29, 2007, International Conference of the Federal Agency for Education (Russian Federation), Ural State Pedagogical University (Russia), Consulate General of the United States of America in Yekaterinburg, Russia; Yekaterinburg, Russia); *Problems of International Integration of Educational Standards Research Symposium* (April 20-27, Paris, France, European Academy of Natural Science (France) in collaboration with Wageningen University and Research Center (Netherlands).

Coding

In this study, I used descriptive codes that assigned meaning to the collected data. Descriptive codes used during the interview phase included: perceptions about course structure and academic leadership/management (P-CS/ALM); stakeholder involvement (P-SI); institutional support (P-IS); course conducive content (P-CC); and teaching and learning practices (P-TL).

Descriptive codes that I used for the observation phase were: interactions (I): learning interactions between students and teachers (instructors) (I-ST), interactions between instructors (I-II), interaction among students (I-SS); type of participation (P): student elaboration (P-SE), student improvisation (P-SI), prepared/pre-planned and immediate conversation ideas (P-CI); teaching and learning strategies (S): teaching strategies employed by instructors (S-EI), learning strategies employed by students (S-ES). Table 3 illustrates types of codes that were used during the interview and observation phases of the research.

Table 3 *Types of Descriptive Codes Used During the Interview and Observation Phases*

Phase of Research	Codes Used	Description of Codes
Interview	P-CS/ALM	Perceptions about course structure and academic leadership/management
	P-SI	Perceptions about stakeholder involvement
	P-IS	Perceptions about institutional support
	P-CC	Perceptions about course conducive content
	P-TL	Perceptions about teaching and learning practices
Direct Observation	I-ST	Interactions between students and teachers (instructors)
	I-II	Interactions between instructors
	I-SS	Interaction among students
	P-SE	Type of participation: Student elaboration
	P-SI	Type of participation: Student improvisation
	P-CI	Type of participation: Prepared and immediate conversation ideas
	S-EI	Teaching strategies employed by instructors
	S-ES	Learning strategies employed by students

Chapter Summary

In this study, a qualitative approach provided means to build an in-depth description of a global learning environment in the context of higher education. Framed by two research questions, I collected data from the Global Seminar Project participants, including project cluster coordinators and teaching instructors, and from GSP's documents and artifacts. All participants were purposefully selected. I organized the study into two parts: (a) establishment of the Global Seminar Project within the context of global education; and (b) determination of specific Global Seminar Project's contributions to deep learning.

The two-step data collection procedures included 20 individual in-depth, face-to-face interviews with the GSP educators who attended the Eighth International Global Seminar meeting in Arlington, VA, from June 28 to July 2, 2005; 11 classroom observations of the Spring 2007 GSP course sessions; and the analysis of the GSP's documents and artifacts. The results of a pilot study, conducted in between two stages of the research, determined the use of the observation technique as the most efficient for a purpose of defining deep learning. The issues of participants' confidentiality, research credibility, and accuracy of the results were addressed at the each step of this study. Several data quality procedures were also used to ensure the trustworthiness of this study.

I conveyed the research information using a qualitative approach to data analysis. I used the ATLAS.ti software to identify patterns and themes emerged in the interviews. I also analyzed the observation materials and the GSP artifacts for an appearance of common themes and topics related to the concepts in study, research goals and questions, and items identified in research literature. The results were presented in alignment with the initial research phases, based on codes and categories emerged from the interviews, observations, and document analysis. The preliminary results of the first part of this research were published in the *European Journal of Natural History* in Spring 2007 and presented in multiple conferences in the U.S. and internationally.

CHAPTER FOUR

RESULTS AND INTERPRETATION

Introduction

In this chapter, I present research findings and interpretations of the data employed to define a “global learning environment” as it appears in higher education. The results can be divided into two parts: (a) the interview and observation analysis study, and (b) an interpretation of the themes used to formulate and classify the proposed research questions. I begin this chapter with the interview results that help describe characteristics of the Global Seminar Project (GSP) that established the project’s “global environment” (research question one). In the following section, I refer to all the interviewed course instructors as “participants.” Then, I proceed with the observations’ results that show how the GSP can create deep learning experiences within the global environment (research question two). Finally, I present the entire results in relation to the overall research purpose, which is to define a global learning environment with regard to higher education.

Interview Results

The interview analyses revealed that the GSP global environment included five areas, conveniently clustered for the purposes of this research: (a) course structure and academic leadership/management, (b) stakeholder involvement, (c) institutional support, (d) course conducive content, and (e) teaching and learning practices. These items, derived from research interviews, collectively comprised the conditions required for bringing about the unique GSP global learning environment. In this section, I describe the five cluster items derived from the interviews. I present them as the major interview analysis themes that illustrate the multiple dimensions of the GSP global environment. Although Appendix F

summarizes the elements of the GSP global environment in relation to the research goals and as the pattern variables emerged from the data analysis, these elements will be discussed in detail throughout this chapter.

Course Structure and Academic Leadership/Management

The structure of the GSP differed from that of a typical college course in that the project was established as an international organization entitled the Institute for Global Learning. The Institute for Global Learning was founded at Cornell University in 1997, and it has been headquartered at Virginia Tech since 2003. The GSP originated as a consortium effort of the universities associated with the Institute of Global Learning. The mission and the vision of the Institute of Global Learning were expressed in bold terms during one of the GSP early meetings in Ithaca, N.Y., and articulated in multiple GSP proposals. The original mission of the GSP was to invent a new paradigm for education that aimed at the globalization of the curriculum. To achieve this vision, the GSP's goal was to build a network of students and faculty by means of an interactive technology—a facilitated learning environment combined with proven traditional educational strategies.

Participants described the initial structure of the GSP not as a course but as a “series of individual seminars.” Each institution created and offered unique seminars. Initiated by a group of seven “core institutions,” the GSP was the online seminar. These seven initial participants were chosen by the GSP's principal investigator (PI) based on their professional experience and the scope of their international academic networks. To promote the idea and to involve initial participants in the project, the PI contacted senior administrators at the prospective universities, and these high-level administrators decided whether or not to participate in the project and, if so, then recruited faculty members to teach. One of the participants described how he got involved in the GSP:

Because [the principal investigator] came and spoke to our dean and our dean thought it was a good idea, and wanted to get us involved in it, I was asked to [get the ball rolling, set up the course, make the initial preparations]. We started in late December, and during January 1999 we had a couple of conference calls. In two weeks we brought in 30 students, [starting the course] with very little preparation. It was hard work.

Involving this group of “core institutions” was GSP’s initial attempt to launch and test the new idea in diverse academic settings. The core institutional model contributed then to the development of the current GSP.

During the launch stage of this project, the participants focused more on external factors affecting the project than on either its internal organization or curriculum development. At first the course was “heavy on technology and light on content,” and the main concern associated with the project was whether or not the institutions involved possessed the right kind of “cutting edge” technology. As the project evolved, however, the emphasis on technology gave way to an emphasis on innovative educational strategies and the application of rich content provided by the participating faculty. This change was truly participant driven, rather than managerially defined. The structural shift was initiated by the GSP participants: “When we first started,” said one of the participants, “it was talking heads; they [the students] had experts talking, and the students hardly interacted; they asked questions . . . I felt that the structure changed as a result of my having some impact on it.” By constantly reflecting on their experiences and refining their practices, the participants created a structure that worked well. Another participant described his experiences as follows:

The actual structure that was there was not the structure that worked. I felt that what I did was go in and put a little more rigor in it. Although the International Students Group was not my baby, it was guys in the (*name of the institution*) university that came up with this idea, and I subsequently ran with that. As a result of [making the program more rigorous] the whole thing developed [fruitfully, productively].

The experiences of the seven “core institutions” that implemented the GSP proposal were critical for the project’s structural development. The core participants tested the initial idea, established the basis for a network of international universities, and, as a result, structured the GSP in a way that made it applicable to a wider audience of diverse universities, community colleges, colleges of agriculture and technology, and high schools. Since its modest beginnings, GSP has grown to include more than 100 active instructors from 25 universities, seven community colleges, and four high schools in 18 countries on four continents.

The participating institutions were grouped in six clusters. Each cluster included four to nine institutions that functioned on their own, as self-directed groups with little direct supervision from any central authority. In the beginning, the organizational structure of the GSP was vertically centralized. The chain of command started with a project director (the project’s principal investigator), who put together an advisory board of nine leading professionals. At the next level, the volunteer cluster coordinators were responsible for managing faculty within their cluster of institutions. The participants within each cluster developed their own lines of communication and mutually shared responsibilities with little to no defined procedures or managerial direction.

The GSP participants described the structure of the GSP as an *ad hoc* group of interested parties with minimal formalization of the participants’ actions. To run the project, the participants were deployed in smaller clusters with reliance on communication technology that served to connect the groups and encourage the mutual exchange of ideas. Despite its centralized organizational structure, the hierarchy did not have a dynamic effect on the everyday operations of the project.

As an alternative to the vertical hierarchy, the cluster network of the participating universities established in time authoritative powers widely distributed among the cluster coordinators and group participants. The individual faculty members had to rely on their own talents and abilities to build quality relationships with the project’s stakeholders to make the

course work within their respective institutions, without the direct control of the Institute of Global Learning.

Each faculty member carried a complete load of academic responsibilities associated with organizing and teaching the GSP course in his or her university.

“My involvement has been on three or four levels,” one participating faculty member said, “one as organizing the course, [the second as] teaching the course. . . [the third as] doing the background work, and [the fourth as] planning from the global sense [a global perspective], going to those two planning conferences.”

Some of the organizing, teaching, research, and reevaluation from a global perspective were the result of a professor sharing responsibilities with other professors and with administrators at the various universities. One of the teachers described his role in the project as a "co-instructor": “(*Name of an instructor*) and I co-teach. We organize it together; we have a TA [teaching assistant], and then we share [the lectures and group discussions]. We are in class together every day.” Indeed, few of the teachers indicated that they operated the course by themselves, running it as a “one-man” show. However, one teacher described his participation as follows:

I am responsible more or less for everything concerning the Global Seminar . . . our university provided me at the beginning with technical [information] concerning the video conference system, but . . . I do everything. So, I don't have a technical assistant . . . dealing with the blackboard system or the videoconference system. So, you could say I am a one man team. And . . . I am the communicator for the university about the Global Seminar; so, I bring information to our . . . vice-rector for education and teaching. I try to make sure they see the importance of the Global Seminar, and until now I guess [I have been] quite successful, because they think it is very important; and that's the reason we continue to take part in it.

To divide the managerial responsibilities for the project's overall operations, the GSP participants drew on others' expertise. They possessed working knowledge of each other's capabilities, skills, and expertise, and soon determined whether or not they could count on

specific individuals. Assuming multiple roles, they divided their responsibilities mostly on a voluntary basis. For example, one participant chose to provide the “technical backstop” for his cluster, at the same time helping out in the classroom:

I took on a role more recently as sort of a technical backstop for the class I am doing, setting up and getting our files and information into Blackboard. And most recently, I did play an active role . . . in the classroom everyday . . . trying to facilitate.

To sustain and grow the project, infusing new members from diverse universities was critical for GSP’s development. Cluster coordinators took responsibility for recruiting new members and maintaining the operations within their group. The position of cluster coordinator was self-elected, i.e., someone volunteered to do the work. Among their many obligations, the cluster coordinators carried the on-going responsibility of recruiting international partners to diversify the group and replace the members who dropped out of the project for one reason or another.

We went out and recruited the members. What we tried to do when we sat down in Punta Cana was to try to get as broad a representation as we could. And there were a number of people who were new to the GSP. . . The Italy and German part of the team came in easily . . . (*name of a faculty*) from (*name of the country*) was there, and we really courted him; we went after him because we wanted that (*name of the continent*) site. Unfortunately, he has been an "in again and out again" member. But we looked for a South American site. We also picked up Panging, China, because they showed some interest. We also, at that time, added the Philippines. The original cluster had China, Peru, and the Philippines, and Italy, Germany, and the US. What has happen[ed] over time is that (*name of the faculty*) went to Mexico. He was instrumental in getting the University of Guadalajara into the GSP. [Although] we had less success keeping Peru in our cluster, we . . . added the Guadalajara cluster.

The recruitment of students was an issue for some of the colleges participating in the GSP. Participants explained that low numbers of students enrolled in the course because of its novelty, elective status, and instructor turnover. They emphasized that student interest in

the GSP course has risen mostly as a result of constructive feedback from instructors and positive course experience by former students. As one participant said,

Hopefully, we are on a more solid track now . . . When I took over, we just didn't get enough [students] (. . .) [But] this past year, there was much more interest. I think that, since this group of students has been successful and enjoyed [the course], hopefully, they will talk with other students, and there will be more interest.

While some instructors desired a larger pool of student participants, others said that a small group was preferable for the success of the course. As one instructor said,

I have visions of this being a course where we have to turn students away, because so many of them want to take it. That is my hope for the future that we do not have to try to pull them in, but that they are lining up. So we can say not you [i.e., be more selective].

To manage the course requirements effectively, individual instructors had to make adjustments to compensate for each others' teaching and communication styles. The decisions concerning student obligations resulted from careful negotiation among all the faculty participants. One faculty member related these phenomena to the academic nature of the GSP and the academic autonomy of the GSP instructors:

So, with the faculty it is a little different because we are coming from the standpoint that we are used to voicing our opinions and feeling very confident; I think that the problem was . . . try[ing] to stay on task—we had a cluster coordinator, yet it is still hard to have one leader and to stick to an agenda. So there were a lot of differences, differences of opinion [regarding] how we should, for example, grade the ISG [International Student Groups] papers, what our requirements should be, and those sorts of things.

Another participant used the idiom of “herding cats” to describe the GSP way of negotiating and finding consensus in course logistics and management issues:

I kept coming up with this phrase: we have a phrase here about herding cats. Cats are very independent, and they don't go in herds. And so whenever you have a group [in which the members are] all doing their own thing, we say is like herding cats. And that is kind of what it felt like with the faculty, because we would each have our own idea, and trying to reach consensus was sometimes difficult.

Final agreement was always the result of negotiation, never a one-time decision by a cluster coordinator. Using the example of grading students' papers in her cluster, one of the participants described the process as follows:

I was a facilitator and moderator for the agro-forestry case study. And initially we started out with the idea that I would take in all the agro-forestry final papers and grade them and that was the grade that would stick. [But] as we got closer and closer to the end, we realized we didn't want to do that. I didn't know those students well enough in New York or Africa, so what we decided to do was review their rough drafts and offer comments and leave the final grade up to each campus instructor . . . a consensus we had to reach together.

The participants said that despite being carefully structured, the GSP organization gave faculty a variety of options in terms of how they taught the course in their respective classrooms. As one participant said,

The GSP structure is fixed, yet it gives [the instructor] enough flexibility. You can . . . show videos . . . bring in outside speakers. You know, you can do lots of things . . . [within] a nice framework for the course. And so it is good, it helps the instructor but also really gives a nice sense to the student that [the course] is well organized. Here what we are doing, the course is well planned [in advance by the course administrators], and I do everything else.

All participants noted that the face-to-face interactions among cluster members at the annual GSP meetings were critical and of the utmost importance for the growth of the course, a strategic initiative that continues to propel the innovative thinking of the participants and simultaneously provide opportunities to evaluate their experiences. The annual meetings also serve as training seminars for current instructors and a recruiting ground for potential faculty.

All the participants emphasized the importance of these face-to-face gatherings, as opposed to less intimate get-togethers, for the establishment of mutual trust and respect.

The importance of instructors meeting face-to-face to establish trust and to develop social ties was acknowledged by all the participants, and as the instructors were establishing these ties, the GSP course worked better. One participant said that in candid fact-to-face conversations when one lays out all of the ideas and all of the problems, things get changed and work accomplished in most innovative ways. As another participant pointed out, these were the ways that kept GSP innovative and changing for the best. The change was also based on the students' feedback that the instructors delivered to their meetings: "Because every year we get new feedback from the students and colleagues—maybe you could change this? Maybe we should work on that?—we need to share this information with our partners and do so at the annual meetings."

Another reason why the annual GSP meeting is so important is its extensive team-building potential. As one participant said,

Face-to-face at least once a year is a valuable thing for the Global Seminar. . . because it helps make the team stronger. And it is also when you bring that team together and you have new people who are coming and they are interested, you get a chance to look at how someone else might fit in a cluster.

Anticipating more personal interactions with their colleagues, the majority of GSP participants looked forward to the annual meetings and felt disappointed when everyone did not show up:

I am disappointed that more of them could not be at this meeting. I was looking forward to more personal interaction with my colleagues. I don't know what the solution for that is: hold the meeting at different time of year?

In their interviews, the participants addressed leadership as a matter of the utmost importance, noting that the GSP leaders' attitudes towards authority and insistence on the development of leadership skills in all of the participants were critical to the GSP's success. The absence of dictatorial power gave the individual participants opportunities to influence the strategic decision-making process, and the absolute autonomy of the GSP faculty was key to the course's success.

Everyone appreciated the fact that the GSP posed an administrative challenge to their respective universities because of the time, effort, and resources every course requires, and, in the highly competitive world of academe, because of the problems involved in assigning credit to individual instructors. As one participant said,

It becomes a challenge when you look at it from the administrative standpoint, because people worry about time, credit, and money on campus. All of us were teaching something else and not worrying about Global Seminars. We have to divide the credit, and [this] does not encourage collaboration.

Many participants longed for a single "backstop" person or unit inside the Institute of Global Learning that would respond to the instructors' concerns associated with logistics, technical issues, and protocols for project newcomers. "There is nobody really who is on-board all the time to provide project backstopping," said one participant. "There needs to be someone who is involved in both structure and the technical side . . . to offer help to instructors like myself."

Stakeholder Involvement

The participants interviewed described two types of stakeholders: the course instructors and the students enrolled in the GSP.

Although the GSP course is designed for students of all backgrounds, the students enrolled in this course displayed a strong interest in the theory and practice of environmental conservation. Some of the individual students had studied environmental issues before

enrolling in the GSP, and for others the course was an introduction to the concept of sustainability. Describing his enrollees as Green Party students, one participant remarked as follows:

We had elections this year, and 40 percent of the students voted for the Green Party. We have a high portion of idealistic students, and they are quite eager to participate in the Global Seminar.

The students enrolled in the course were also interested in international learning experiences and hoped to gain a greater understanding of other nations and cultures by participating in the course, as pointed out by another of the participants:

GSP tends to attract students who have international interests to start with. It's part of the driving force. Many of those students say, "I'd like to be involved in international conservation, I'd like to go overseas, I'd like to go to Peace Corps." They see this as a first step towards getting an international experience.

Some instructors described their students as "locals," students who have not been exposed to other cultures beyond their home campuses. "Most of the students in (*name of the university*) are from (*name of the state*), and they have never been elsewhere," said one of the participants. Other participants described their students as comprising cultural mixes within their classrooms: "We often have anywhere from 10 percent to 25 percent foreign students," said one of the participants. The participants viewed these differences in background and level of exposure to environmental issues as beneficial to the course. "For some of them, it's the first time they [have] really thought about sustainability in real depth," said one of the participants:

For others, they have [read about and studied] sustainability many, many times in the courses they have had. Because you have this mixture in your local class and you have the remote classes, students actually re-think . . . the concepts.

The combination of students from different degree levels, graduate and undergraduate, and from different environmental backgrounds creates new opportunities for learning about sustainability. One of the participants remarked on what older students can learn from younger ones:

We have a very perceptive older student . . . doing a Ph.D. on sustainability, and the younger students questioned her ideas, and she had to explain to them her ideas in a way that she had never before [had to do]. She [had heretofore dealt only] with people that had formed views of sustainability [that were] unspoken [i.e., taken for granted and/or not fully comprehended]. Dealing with younger students, she realized she had to teach, explain. She gained a lot as a result.

The students who choose to take the GSP tend to be more active learners than those who prefer the standard lecture format. "We tend to get a student in Global Seminar who is comfortable with taking . . . responsibility," said one participant:

There are two kinds of students: the one kind of student wants to come and sit and hear you lecture because you are the professor. And graduate students tend to be that way. They are in school, they know they are in control of their education, and they take a class from somebody because they want to know the material, they want to know all the facts and figures (. . .) Whereas students who end up in a Global Seminar tend to [prefer] . . . group exercises and things like that. We do not get . . . the students who want to sit and take notes and not participate.

The multi-disciplinary nature of the GSP also attracted faculty with different academic backgrounds in environmental and social sciences. This provided clusters with a great deal of knowledge, experience, and expertise. "I'm from Ag Marketing," said one of the participants. "I'm not expert for GMO [Genetically Modified forms and Organisms]; I'm not expert for water management . . . I invite an expert to the class."

Finally, the GSP faculty had different ideas concerning what the course should do, and they were involved in the course for different reasons. Most of them had an expectation of

becoming part of an international network of universities, and some were disappointed in this regard: "My expectations were to see a lot of international interactions," said one participant, "which we unfortunately didn't get, although we had a group in [name of the country], and that was helpful." Almost all mentioned the importance of mutual respect and understanding on everyone's part, both students and teachers alike, and of the shared goals, needs, and motivations of those who participated in the GSP.

Institutional Support System

Striving for innovation and international outreach is reflected in most universities' policies and strategic plans. Virginia Tech's slogan "Invent the Future" illustrates the institutional strategy to support and accelerate development of innovative ideas in higher education. To encourage similar strategies across the board in higher education required the cooperation of all of the participants in the GSP course.

The interview and observation results show that the flow of institutional resources, both tangible and intangible, in support of the GSP course depended greatly on how well individual instructors communicated the unique value of GSP to their university and college administrators. "I try to make sure they [the university administration] see the importance of the Global Seminar, and until now I have been quite successful because they think it is very important, and that is the reason we [the university] continue to take part in it," said one.

The GSP was initially promoted to administrators as a global educational initiative that they were encouraged to launch on their campuses. "Our dean thought it was a good idea, and wanted to get us involved in it," said one faculty participant. "I was asked to do that." In some countries, however, the GSP is the only project of its kind, which makes it more attractive to administrators and encourages their support. One of the participants explained the uniqueness of GSP as follows:

There is nothing comparable at our university at the moment. And there is nothing comparable in the whole (*name of the country*) concerning this way of teaching. So every person in the university system . . . is very interested in seeing it succeed. Wow, who would have thought that the University for Agriculture Sciences [would be part of] such an innovative approach to teaching.

The various institutions employed various ways to establish, support, and maintain the GSP. Perhaps the most important means by which university leaders supported this innovation was to encourage their individual faculty and students to become personally engaged in the project. They also established the GSP course either as a core course within degree programs or as a credited elective course that they strongly encouraged students to take. They assigned to participating faculty members teaching assistants to aid in the grading of papers and help with logistics, and they made sure that the GSP classes did not interfere with other previously scheduled classes.

The universities also provided valuable resources instrumental to the success of the project: classrooms, libraries, video conferencing centers, as well as computer equipment and technical support personnel. In some cases, individual universities wrote independent funding proposals to upgrade their video conferencing system to participate fully and effectively in the GSP experiment. As one participant said,

We found out that with our Easton video conference systems [were] not good enough. I tried to get some funds from the university for a new system, and I was successful. Now, we use a fully compatible system, which is quite good.

Other means of institutional support included hosting of an annual GSP conference on their campuses, sponsoring their own faculty attendance, and providing in-kind resources for visiting GSP faculty. "I came to the first conference," said one of the participants, "where I received information first-hand about the Global Seminar, and then we tested it at home."

In some cases, the university administrations served as gatekeepers, constraining the course and its instructors. For example, a change in departmental leadership in one of the

participating universities led to a faculty member's ceasing to teach the GSP on that campus. "With changes in campus politics came new layers of bureaucracy; they [new administrators] stopped me [from teaching the GSP] and [insisted that I develop] another course [my own course] using this [the GSP] model."

Despite the occasional negative impact of institutional administrators, the interviews and observation show that instructors, for the most part, were praised for carrying out what was considered an innovative initiative on their campuses. At most GSP universities, however, faculty members were not academically rewarded with regards to tenure, nor did they receive compensation in either time or money for carrying out the sometimes quite time-consuming tasks required to initiate and sustain the GSP project. "The GSP takes more time and more effort than a regular course," one of the participants said. "Nobody realizes that."

Course Conducive Content

GSP participants have been quick to recognize the course's primary themes—sustainability, innovativeness, and global outlook—and have considered the curriculum as a "basic corner stone" providing continuity throughout the years.

The major theme is "sustainability," a somewhat ambiguous term requiring truly inter- and cross-disciplinary approaches to its definition. Some of the participants acknowledged this problem and reported that teaching "sustainability" frequently required a cross-disciplinary perspective:

It is set up so that... the underlining theme of the course [is] sustainable development. So we are really looking at the different issues [from the standpoint of] sustainable development . . . and they [the students] understand that. But [the question is], do they understand why? I'm not sure if we [explain "sustainability"] very well, or why it's important [that we do so]. Why is sustainable development important? I think one of the down falls of our students is [that] they don't understand that milk doesn't come from Krogers, it comes from a farm. To have a farm, you have all these issues: soil conservation, the health of the animals, and all these other things come into

play. So, I feel that the course does help [to explain what happens] before you get to the shelf in Krogers, what happens, and what the impact is.

The theme of sustainability is the primary subject matter. During the launch of the GSP, instructors from different backgrounds and disciplines were asked to come up with topics of their choice related to the various aspects of sustainability, including sustainable food systems, etc. Striving to grow the course and expand participation, the instructors generously offered their expertise as it touched on the sustainability theme and filled out daily lessons with specific case studies. With regards to such a “synthesis” theme as sustainability, the multi-disciplinary approach to the course contributed valuably to the development of global features unique to the GSP by utilizing the inter-connectedness of sustainability issues around the world as presented by individual teachers discussing original case studies particular to themselves. Students benefited greatly from this case study approach to the concept of sustainability:

[We are] having our students discuss very important global issues, [whether they] want to or not; it is important for you to know what I think because the issue is affecting us at the same time. What are the solutions [concerning] biodiversity? Why is Costa Rica selling oxygen to the Europeans? European countries, because of industrialization, because of global warming, are paying a lot of tropical countries to keep their forests . . . what happens in South America is affecting everybody else.

Course content driven by a concept rather than by random factual information broadened everyone's personal understanding, both teachers and students, of sometimes very complex issues. As one participant said,

I think that the strength [of the course] . . . is that its content is not driven by the data . . . It is a process that helps students understand how to address complex questions, take [them] apart and . . . look at the [question's] various components (. . .) They have a greater understanding because they are exposed to new concepts have to challenge or revisit the concepts they already have.

The sustainability concept was also a new subject for some of the GSP instructors, making the course a mutual instructor/student learning experience. “We are all researchers here,” said one participant. “I didn’t know much about sustainability when I started.” And despite its importance, sustainability was not as important in the minds of some of the participants as it was in the minds of others, who did not find it to be *the* defining element. One participant thought that the *form* of the course was more important than any of the defining content:

In the Global Seminar, we talk about important issues, sustainability, global warming, and things like that, but the meat in the hamburger, so to speak, is not the content; it is the way that the model brings students and faculty from around the world together. So if you talk about content and form, I would say that form and content are [both] important aspects.

The decision case study method was a new and innovative approach for most of the GSP participants interviewed. The open-ended, non-linear situational cases that defined the GSP methodology encouraged students to consider the diversity of views originating from partner university students on a variety of sustainability issues. “[In] all issues we talk about, there is usually no clear cut answer,” said one of the participants, most of whom agreed that using the case studies dealing with sustainability both set the ground for innovative teaching methods and simultaneously served as a means of attracting faculty to the program. “I was attracted to GS,” said one of the participants,” because it involved . . . innovative teaching.” Although the use of cutting-edge technology was a major focus of the GSP at its start, the creation of a strong content base enabled instructors to take the course to the academically “rigorous” level. As one participant said,

When I first got into the course four or five years ago, it was heavy on technology and very light on content. (*Name of the instructor*) and I tried to make the content more rigorous, because it used to really focus more on technology. We are now looking at such components as "sustainability" and issues which are more rigorous.

The combined use of innovative technology and the case study method has allowed instructors to focus on teaching sustainability and other issues as problem-solving concepts, rather than, say, mere facts about agriculture's effects on endangered species. One participant described what he does as teaching *hows* rather than *whats*.

I call it a content *what*. [When] you learn biology, [you] learn lots of *whats*. And the other is *how*: it is how to problem solve, how to address different questions in a real world environment.

He went on to offer a “*how* versus *what*” definition of the GSP course, insisting that the emphasis on *how* is what sets GSP apart from other college courses:

Most classes that they [students] take teach them the *what*. They take apart the facts of a discipline and [come up with a concept] (. . .) This one is very different because they're trying to put pieces back together.

Another participant defined the GSP methodology as a “clear progression from content [facts] to a process-oriented approach” of problem-solving:

Delivering the course this way, it is actually more difficult to teach facts . . . So I would say that the Global Seminar is not a very efficient way to teach facts; we have [all] this [emphasis on] cooperation, we have video conferences, we have students and faculty from around the world, which isn't a very efficient way of just delivering facts. So what should we do instead? Well, they [students] should solve a problem instead.

Another participant said case studies were “the real basis for the [GSP] methodology:”

I am really happy because it [the course] involves case studies, and that is something we are trying to use more in our teaching. So, that is the motivation, [to use] case study.

Within each cluster, the instructors kept the GSP's content in a dynamic state by continuously modifying, updating, and discussing the best options related to teaching the concept of sustainability. One participant said,

One of the guys said something about our cluster's always changing its mind. No, we don't really keep changing our mind. The course moves [grows, changes]: now we ask questions that we couldn't ask a couple of years ago. We have been discussing [various ways] of looking at the components [and asking ourselves some questions]: why use one case over another case.

Flexibility, when it comes to choosing content, and the open-ended structure of the case study method is informative in a mind-expanding sort of way:

Well, part of it is that our students seem to learn that most questions in life are . . . open-ended. There often is no absolute yes or no answer. There is no exact answer. So, that is part of what we want [our students to learn] . . . [that] there is usually no clear cut answer.

The GSP course opened the "universe of concerns" of real-life people by incorporating the experiences and circumstances of its participants. Investigation of real-life situations, along with the discovery of real-life people from around the globe associated with or affected by the issues, aided in the deeper understanding of "sustainability" both as a concept and as something to be sought for, aspired to, and systematically comprehended at higher and more rigorous levels of understanding.

In my field what matters is to involve students in real life issues. When you present theory in a lecture, I don't think that they are learning as deeply as when they have a real life person who requires them to understand [not only] the theory . . . but then also take it to the next level and integrate all the concerns that people are going to have relative to that problem. And those concerns are exactly what started the GSP: the economic and the cultural and the social and the political, and the ecological. In our field it is exactly this universe of concerns that people have and [that governs] what we do in everything.

This global outlook and real-world perspective encouraged cross-discipline collaboration: “I contact the relevant professors at my university and invite an expert to the class,” said one participant.

Teaching and Learning Practices

Course interactions. Participants emphasized the importance of communication within the GSP course. They identified communication as the key element with regards to both course strengths and weaknesses. As one participant said, “It’s like [with] everything else: nothing is better than communication, and the more you communicate the better.” But many of the participants expressed a greater need for communication with emphasis on implementing the course across geographical, cultural, and language barriers:

We are working across state lines, we are working across cultures, [which] make the need for communication even greater . . . It does take a lot of time, and part of the problem is . . . built in because you are working with language, you are working with culture, you are working with different university cultures, you are working with different national cultures. Communication becomes very, very important.

The participants indicated that the quality of communication within the clusters depended on how long the instructors had worked together: the older the cluster, the better the instructors understood the project and the better the communication. As one participant said,

I think what happens is the longer the cluster is in place, the more effective the communication. You can see that [some of] those people know each other [really well]; they [have worked] with each other since 1999.

It took time for instructors interacting face-to-face to develop effective communication lines within their clusters and reach levels of familiarity characterized by comfortable and trustful interactions. Interacting virtually, rather than in a face-to-face environment, however, slowed

down the process of building meaningful and effective relationships among the GSP instructors. As one participant said,

I think what you see [in this cluster] is that the core group is reaching that level of . . . care and comfort. It takes a while to build it because you are really [having to learn] about other people, but you are not living with them every day . . . face to face.

The students mastered their virtual interaction skills, perfected their abilities to lead discussions during the video conferences, and maintained meaningful dialogues with their GSP partners from other countries. “In the end they are quite professional during the video conferences,” one instructor said. “It is as if the students were all sitting in the same room and had forgotten that they were using a video conference system.” The students also “were getting more and more fluent in the use of the Blackboard.” Observing their students’ progress and monitoring their growing confidence in discussions with their classmates about different issues were very gratifying experiences for the GSP instructors, as was their newly found appreciation of the case study method:

I think it is very gratifying that students gain confidence in presenting their thoughts. Because it is really not a lecture-based course; it is a case-based course. Almost every class session students have to speak up and be involved in a discussion with people across the world, either through the discussion board or the video conferencing . . . Almost every class session revolves around some sort of discussion. So, they gain confidence, and that’s heartening for me as a teacher.

The instructors indicated that the relationships formed with students in this course were closer than in other courses they taught. As one participant said,

This class is much closer than the normal class. I get to know the students in a different sort of way]. As a result they respect me more, and they are very frank about issues. [There is] a greater exchange as a result.

Participants said that working in culturally diverse teams and using different electronic media challenged students to get out of their “comfort zones.” As a result, they learned social skills that advanced their classroom and virtual communication. As one participant said,

In terms of interactions, there are two things that are observable: one is social development. Students are used to doing what they are comfortable with, all their courses have been the same, and now suddenly they are doing something very different, and they have to learn to socialize more so with students in their class than they do in other classes, because they have to participate as a team, and they also they have to learn to socialize through very different mediums with people in very different places.

The multi-disciplinary class composition helped to build strong student teams within GSP. Although uncomfortable in the beginning, students learned to appreciate differences in their disciplinary trainings. One participant said that one of the outcomes that the interdisciplinary interactions brought to the course was the students’ increased ability to overcome their initial discomfort and build a successful problem-solving team:

Global Seminar students come from different disciplines, and they are used to focus[ing] on a small segment of these sustainability questions, and it is part of their discomfort in the beginning of the semester and part of their growth through the semester. They realize that people from other disciplines have something to contribute and that they can learn from each other, and that the product [the final result] is stronger because of the multiple viewpoints. They are having to become a team with people who have no interest that overlaps theirs, they think. But then they realize there is an overlap because of the multiple aspects of these global questions. Biologists never thought about economics; suddenly they start to think about economic questions as much as [about] ecological questions, and vice versa. We have people from social science who have never thought about the ecology and the biology.

Competing with students from different countries set benchmarks for students who were motivated to measure their performance against their classmates from other universities. As one of the instructors said,

The students are highly motivated because they . . . can measure their performance. They can see how far or good [they] are compared to American students or European students. . . They get an international benchmark, which they don't normally get in a lecture.

The participants mentioned the importance of instructors' virtual "presence" afforded by the GSP's online discussion board, email interactions, and video conferences.

The classroom interactions were crucial for the students to develop a sense of camaraderie within their GSP groups. As one participant said,

In any classroom you develop the culture of the classroom, and in the Global Seminar this kind of camaraderie takes longer to develop . . . but by the time the class is over you have a really tight network of students.

The participants noticed that the students' cohesiveness developed throughout the duration of the course. One instructor pointed out that laughter was not only indicative of an overall relaxed atmosphere in class but also a reliable indicator of students' willingness to interact with each other more and more:

When people start laughing and making jokes and teasing one another, you [know that you] have to interact with someone before you can start joking back and forth. Towards the end of the class, you start seeing more of that . . . they [have become] comfortable with the group and able to say something impromptu rather than [just] . . . questions and answers, to say something funny or tease one of the others instead of asking a question or responding to one.

As each semester progressed, the relaxed "climate" of the GSP class sessions changed as the pressure for getting assignments done increased. Often, students in their specific campus groups chose to finish their papers and presentations even if other virtual members failed to provide input in a timely fashion:

There are times when that [relaxed] interaction drops off, usually under the pressure of getting assignments done (. . .) If we are not getting students'

input on the discussion boards, then eventually our students start saying “I’ve had enough of that, I have to write that paper; they are not getting back to us with their part [of the assignment].”

Faculty collaboration. The GSP provided faculty an opportunity for co-teaching. This teaching style was different from a traditional “sequential” teaching technique that the participants practiced in their other courses. One of the participants said, “There is a value of the [GSP] learning environment: it’s like you have a course that has 10 professors interacting with each other [in one classroom].” One of the participants described as follows his co-teaching experiences:

This is like any co-teaching of a course on campus; this is as close to co-instructing as you can get . . . We are in a class together every class period, so if he’s lecturing or leading the discussion, I am part of the discussion and vice versa. Global Seminar allows us to do that with a dozen faculty [members], whether they are on the discussion board, or chats, or making comments during the videoconferences.

The participants viewed co-teaching as an advantage, rather than a challenge to their practices. As one of the participants said, “Teaching a course with other professors is not a challenge from the teaching standpoint: it makes teaching stronger.” Dealing with each other’s idiosyncrasies was a challenge for those GSP clusters that recently joined the project. One of the participants described this issue as follows:

There are some good sides to it [co-teaching], but there are [also] some downsides. Because of the number of faculty involved [in the course] you are forced to cope not only with their good sides but with their bad sides . . . A professor [from] (*name of a large African university*) has a responsibility to grade a [course] component, and he won’t do it . . . We are always working on such issues because our students are not used to . . . faculty just not doing something.

The instructors enjoyed an opportunity to teach with faculty from other disciplines who brought different perspectives to exploring the sustainability issues and created cross-

discipline collaboration. One of the participants shared his experiences teaching with a colleague from the different department at his university as follows:

On one level, I enjoy teaching with (*name of a GSP faculty*) because he a food science professor. He is in a [different] department [and] I never before interacted with him on the scholarly level. It [co-teaching] pushed us to think about how the environment relates to food, how food relates to the environment and sustainability. I can see that [faculty interactions] for the faculty involved in Global Seminar . . . bring different expert skills. . . [that] influence the group perspective.

The multi-disciplinary nature of the faculty collaborations allowed the instructors to expand their network within their own universities and connect them with colleagues from other universities across state and international borders. The participants saw these multi-disciplinary and international connections as opportunities for further development of their academic and research projects outside the GSP course:

I expect that some of these instructors, universities, and students outside of the US we are collaborating with could also collaborators with me on future projects. If I go to China, I want to go to Shenzhen and I want to visit with instructors we have been collaborating with . . . This gives me hope [that] we can work together. There is synergy between my current international programs in teaching and Global Seminar.

The students also anticipated more personal interactions with their classmates from other countries. At the beginning of the course, they were eager to learn more about students' hobbies and interests from their Web pages: "students really liked to read personal homepages of the other [GSP] students. They liked to read what hobbies they have, what movies they see, what books they read, and what they are doing with their recreational time."

Technology. In their interviews, participants portrayed technology as a challenge to interacting with each other and with students, described advantages and disadvantages, both technological and in terms of students' learning, and suggested the use of more small group

format techniques, such as International Student Groups (ISG), electronic chats, and discussion boards.

All the participants noted that the quality of the videoconferencing equipment used by different universities in this course was one of the biggest challenges that affected faculty and students' communication and the dynamics of their interactions during the videoconferences. As pointed out by one participant, the universities that employed "less sophisticated" types of technology often missed virtual class sessions because of connection problems:

Collectively, technology is unpredictable. This is because of the difference in the quality of the sites. I know (*name of a large North American university*) the system will come up, everything will work, and lights will be on. Some people just never show up from other sites and we just never get connected. There is some problem here. There is a slight difference in the quality of the equipment. Some of the other schools are using less sophisticated equipment out of necessity.

Another challenge associated with use of advanced technology in this course was the quality of sound during the videoconferences. One of the participants questioned the educational value of the videoconference format suggesting that poor sound quality diminishes students' understanding during virtual class sessions:

[I do] not always understand what students from other sites say. Video conferences are pretty useless in that respect. It's probably the same for the students who can't understand what we say because we have strong accent relative to them. You are thinking that because you are exposing students, they understand more, but if they can't understand what one another is saying, then how are they getting anything more out of it?

Both of these technical issues—differences in quality of the videoconferencing equipment and problems with sound that participants experienced during the videoconference sessions—affected the structure and the dynamics of the students' virtual conversations. First, it marginalized non-English speaking participants by decreasing the level of their English comprehension and therefore preventing those students from entering virtual discussions held

in English. Secondly, some of the universities were not able to participate in the videoconference sessions and later left the project or became its “inactive” members. One participant believed that the above shortcomings of technology have narrowed an exchange of cultural knowledge during the videoconferences by generating conversations influenced by differences in the students’ majors:

What you end up doing is having a good conversation with English speaking countries, and they do bring different perspectives, but I think it is because of the difference in the disciplines. We have anthropologist at (*name of a large North European university*), and [the students at] (*name of a large Central European university*) are bio majors... Aggies normally by and large talk to Environmental scientists at (*name of a large American university*). We don’t really have a dialogue with (*name of a large Latin American university*) students.

Despite dealing with difficulties associated with use of technology, all the participants acknowledged its importance for the GSP educational model: “Even though it [technology] has its problems, students value it. By the end of the class they really feel like they are connected to this Global Seminar model.”

The participants said that the GSP’s electronic communication features, such as on-line chat rooms, e-mails, discussion boards, and videoconferencing, appealed the most to the GSP students. As one of the participants noted, “the students just love it!” Another participant explained the students’ attraction to the GSP’s electronic communication features as follows:

[Global Seminar] really achieves [its goal] with technology. The first time [students] see it they really think it’s cool . . . The fact that they can sit there and talk to five or six schools—they have just been blown away by that, it just really makes a big difference.

Another reason why the students favored the GSP’s technological advances was that it possessed its latest and “cutting edge” attributes. As one participant said:

[Students] think that it is really exciting and they normally only read about this video conference system technology that big companies are using. Here they use it, and can communicate with students from other parts of the world, which they normally wouldn't do.

Some participants have developed an introductory lecture to ease the students' adaptation to new types of technology used in the course. One of the participants described the greater need for such training by stating that "students have to adapt to the new media, because at first it feels clumsy or awkward . . . And that's the reason why I began giving extra lectures about the challenges and restraints of virtual communication." During this lecture, the students learned about different means of virtual communication they would practice in Global Seminar and possible challenges they might confront in the virtual classrooms. One participant described the significance of the preparatory lecture about virtual communication and the progress the students made in applying what they learned to practice:

First, they have a feeling that this is a good talk like in a normal session and they are used to fast interactivity. Then they find out that [this] doesn't work in video conferences. They learn they have to speak slower, they cannot make fast movements, and some simple things like they . . . making sure their shirts don't have confusing patterns . . . And also they have to use signs if they want to make a comment or ask a question.

The majority of GSP participants suggested that such an introductory training for newcomers, students, and teachers alike would make the GSP virtual communication venues more clear and "flowing" for all participants. One of the participants articulated the reason for the training as follows:

Training us to see how we can communicate better, that's sort of an important niche for Global Seminar . . . I think that it sometimes works very well, but I think most times it is sort of sporadic [and] occasional.

The participants viewed the communication training as being extremely beneficial to enhance the performance of the International Student Groups (ISG). One of the participants suggested

that using various communication devices, in addition to those already offered in the course, solves occasional ISG communication issues:

If Global Seminar could somehow. . . train the partners to get their students involved in better communication, it does not matter, it could be Yahoo, it could be Skype, free telephoning—there are lots of ways they can communicate. That’s the thing about it: we started this, and there have been several other new ways to communicate [in GSP] such as discussion boards and group discussions. I still think there is hope for the ISG, but it needs some support from the GSP.

The participants appreciated the variety of virtual communication features that were available to them in this course. The GSP faculty had different ideas concerning which feature worked best for the project. Some participants gave the highest rating to the GSP’s Blackboard feature, as it was most helpful to promote successful and supportive communication and manage the course effectively. Most of the participants emphasized the importance of an ongoing Blackboard training program, as it would simplify faculty communication:

[In this course] we are dealing with electronic means of communication . . . No matter how simple you try to make things it always seems that you can simplify them a little bit more. No matter how often you remind people of what needs to happen you can’t do it enough.

Other participants thought highly of the GSP’s discussion boards because they had the most educational potential for the project regarding course communication. One faculty member used the “wealth of resources” idiom to describe the value of the discussion boards. “I think that discussion boards are the best [GSP] component . . . Most of the discussion boards are [a] wealth of resources. They allow us to take videoconferencing to a higher plain, but we don’t do that.” In their interviews, the participants described the benefits of the GSP discussion boards and agreed that, among other advantages, this feature provided instructors with

opportunities to monitor students' understanding, correct major confusions about sustainability issues, and moderate students' emotional conversations about case study issues. One of the participants described his experiences with the discussion board as follows: "[I could tell] the students were really gaining something, they learned to think in a particular way and they were applying it within their own lives." However, the GSP faculty did not use the discussion boards to their full potential. One of the participants explained this phenomenon by citing the instructors' rigorous time constraints as they taught many other courses during a semester:

The discussion board by and large [is] too much work for the faculty [and] that's why faculty stay clear, because they can't devote the time. This year I found it extremely difficult to keep up with the postings. I got way behind with them.

While constantly reading and reflecting on the discussion board postings, the instructors remained unobtrusive as they monitored the students' conversations. "On occasion you decide: that's so wrong, but we let that happen because we don't intervene." Another participant questioned this unobtrusive teaching technique and suggested that faculty should occasionally "enter a conversation" at a certain point to clarify the important discussion points and help students overcome their confusion:

And I think it's our job actually to intervene . . . There are some jumps with discussions that actually went on... There was one in the end of the responsibility [case study], which . . . (*name of a GSP faculty*) picked up on . . . It was really a pivotal moment for that student.

In discussing the GSP video conference feature, not all the participants perceived its great educational value for the project. Some participants thought the video conferences were a "trivial exercise." One referred to them as a routine that could not be developed any further or taken to a higher level of educational practice:

Video conferences [make it] easy . . . for student to interact with a variety of media; we had discussion boards, or a synchronous chat, or email. But I think that you can do the Global Seminar without the videoconferences. I don't think they are that critical. They are a very trivial exercise. The students sort of enjoy them, but I get bored with them after a while because I realize they are not what they could be.

GSP methodology and pedagogical model. During the beginning stage of GSP, the participants focused more on the logistics of the project than on building its educational model. At first, the course implied “a good educational theory behind a concept.” One participant felt that the educational component occurred naturally rather than intentionally. “I don't think that anyone actually [was] trying to implement a thing . . . [GSP] educational component sort of accidentally occurred.” However, as the course evolved, the emphasis on structuring the rich course content while practicing quality teaching in the GSP classroom forced the instructors to “stumble through and learn a lot of educational theory.” This learning was self-initiated and self-driven in nature; moreover, it was a challenge because of the GSP faculty's background in research rather than teaching: “the people in charge of [GSP] were really researchers [and] not teachers.” One of the participants described his experiences learning about the GSP educational components as follows:

You did not have teachers at the forefront of the educational theory running the program. We had to stumble through and learn a lot of stuff; particularly, with the International Student Groups. And [we] still . . . have to learn more tools that are valuable for group learning . . . The educational component, in a sense, is organic because to get it to work people have to get into that theory, look at the educational models that are valuable, and move [the teaching] forward. Before then, we were not really helped through the process.

While discovering the structure of the GSP model and learning about new methodologies used in this course, all the instructors used a multi-disciplinary approach to build their understanding of the GSP educational components: “[we] looked at it from a standpoint [of]

many other disciplines.” Another way the faculty learned about some of the educational theory used in GSP was at its annual conference. For example, during the first GSP conference, participants were offered a workshop on team building and group learning. One of the participants reflected on this experience as follows:

I remember coming down to [the GSP conference] a couple of years back. There was a traditional theory, and for me it was the first time I had heard about it, as most of the people who were there. We [were] ignoring this educational theory.

The GSP’s case-study methodology differed from that of a traditional lecture-based course in which the faculty taught only in their institutions. The case study method was truly an innovation for all the participants and, applying this method to their practice, they elevated their teaching to a different level. One of the participants described the impact of this methodology on his teaching: “it helped me to evolve; I [am using] different teaching techniques, rather than just standing up and lecturing for 50 minutes.” Using the case study method in their GSP teaching, prompted the participants to test this method in their other courses:

Global Seminar has influenced my teaching. I do less lecturing, more discussion, and [more] presentation of cases . . . The effective use of case studies changed my teaching; now I use case studies in all my other courses.

All the GSP participants appreciated the “learning curve” they experienced as they developed an understanding of the educational components of the GSP model. One of the participants described her learning experience as follows:

I have gone to the training conferences [and] I went to the annual conference in Punta Cana and I still couldn’t quite get the timeline. So [I realized] I also had the same learning curve as the students when it became apparent: “oh this is how it works, this what we need to do!”

The multi-disciplinary and multi-cultural composition of the GSP classrooms, both real time and virtual, encouraged students to consider the diversity of views originated by their fellow classmates. As one participant said, the GSP “breaks down some impressions students have about other schools. They realize that there are also other ways of learning.” Another participant mentioned that it was the international aspect of the project that inspired students' learning about different university cultures in their own countries:

We often have anywhere [between] 10% to 25% of foreign students in our class. The [American] students get a chance to interact . . . with them. Then there are differences between universities. It is about the culture of schools. Moving from one university to another [university], even to a different department, there are always different ways these places work.

At most GSP universities, the students benefited greatly from the multi-cultural compositions of their local classrooms. The local classrooms became a learning ground for the students' cultural exchange due to the students' different backgrounds. One of the participants defined the diversity of his local classroom as an important factor that contributed to students' learning:

At most [GSP] sites, we have a sufficient multicultural component [at our] universities. The multicultural aspect is not quite marketed as perhaps they would like it to be. In our class last [year], we had a guy from Vietnam, Maldives, Papua New Guinea, there is a fair bit of diversity, and we almost got as much from our local class as we got from sharing with the other [universities].

Representing the views of the entire group, rather than voicing individual opinions during the virtual class presentations, also contributed to students' learning about their own cultures. The final group presentations concerning different sustainability issues resulted from careful negotiation among all the students, which required an understanding of one another's

differences. However, the biggest cultural lesson that the students learned was how students from other countries perceived them as a cultural group. As one of the participants said,

I think the educational value of [cross-cultural learning] comes from how the students represent their country. It's not individual [based]. Our students know the people of different cultural backgrounds, more than maybe some other campuses. That's not unique to them. What's unique is the influence that, [for example], Australian students and their views of the US have on the cultural flavor of the class. It's certainly does not replace traveling [to Australia] and living there for a year. It [causes] . . . students to realize how other cultures view the US. That's mind opening to our students.

The instructors noted that it was critical for the students to observe faculty communicating their disciplinary expertise in a professional and passionate manner. As a result, they learned to establish successful interaction models across different majors and cultures. One of the participants described the role of the GSP's interdisciplinary component that helped students learn despite their differences as follows:

What makes it interdisciplinary is the way you share your expertise and express what is critical to most professions, particularly to [the field of] natural resources and environmental science. This enhances [students'] ability to communicate across not only disciplines, but cultural differences.

Interacting with one another, the students also needed to recognize the stereotypes they brought to this course about different cultures and the GSP participating universities from other countries. Using the example of “painting” the American students “with a surrealistic brush,” one of the participants described his students' realization of the biased moments during the videoconferences:

[Students] recognize that not only [do] they bring biases but other people also [have biases] about them. . . And, all of a sudden, I as an American student find myself in a situation where I'm painted with this conservative, surrealistic kind of brush. Well, that's not me! You recognize that you bring the same bias about them. [It helps] being able to discuss that and interact with them.

The participants viewed the differences in the students' backgrounds and their high level of interest in international issues as an asset for the course. However, some of the participants viewed this as a challenge affecting the accuracy of cultural impressions that the GSP students had of their partners from other cultures. One of the participants questioned the positive impacts of the GSP multi-cultural classroom as follows:

Are you understanding another culture through that [multi-cultural course]? The students in [a private university], must belong to an upper class, they are very well educated, very bright students, are you really getting inside the head of an average American? Probably not. Are you really transcending multicultural issues? I have my doubts.

Working in the International Student Group within their cluster, the students had to deal with the differences in intensity of classes in different educational systems. One of the participants described the challenges associated with differences in educational systems as follows:

[North American] students tend to be extremely intense and, I would say, they are super-over achievers. They want a grade [and] they want an "A" because they are applying to medical school or something. There are some other schools where students tend to be a little more relaxed [about] their education. The [Australian] university has been a good example: there is not that cut-throat intensity there that sometimes we get [here].

All the participants agreed that working in the ISG added to the complexity of the project. However, interacting across cultures and disciplines, the students developed a sense of tolerance and appreciation toward others. One of the participants described this process as follows:

They are gaining the appreciation that the students from (*name of a large Latin American university*), for example, [are] all Spanish speakers. They are developing tolerance for people who [do] not speak English as fast and as

clear. They learn how to work with these kinds of students.

All the participants viewed the international component of the course as an opportunity for their students to “travel without leaving the town.” As one participant pointed out, GSP was “as close to an international experience as students can get while they stay and live in [their own town].”

A striving for “international campus” is reflected in most universities’ strategic plans, and GSP helped participating institutions to meet this global demand by promoting its multi-cultural components in local campuses. Describing the GSP course promotion, one of the participants used a “bring the world to our castle” idiom:

The biggest part is that most of [students] do not go abroad, they stay at home... If we cannot bring them out into the world we “bring the world to our castle.” And that [is] actually how I am advertising for the Global Seminar. I call it, “go out into the world and stay in the castle.” That’s a good approach and students like this.

Most of the participants mentioned that, although creating new opportunities for learning, the cross-cultural interactions were the frustrating experiences for the students because of their cultural differences, communication difficulties, or differences in the culture of a classroom. All the participants thought that positive experiences during course interactions could be promoted by the instructors providing immediate feedback, participating with students, and encouraging social connections between students and faculty. One participant remarked on the importance of students’ reflective essays in providing constructive feedback to the GSP faculty and guest presenters:

We asked students for reflective essays. They have to write after the case study feedback on that: how did it go, how was their experience with this case. Some of the lecture professors . . . told me that they would be interested to read these reflective essays in order to see what was the [students’] feeling and what was their experience with this case.

The students from the non-English speaking universities who chose to take GSP, learned English or practiced English as a second language in addition to the regular course content. As one participant said in his interview, while signing up for the GSP course, the students were “tricked” into learning a foreign language. “It is a trick, you offer the interesting lecture, and in fact, the students learn English.” In most cases, students were attracted to the sustainability topic and innovative features of the course, and they “put up” with the fact that the course is offered in English. One of the participants described the process of the students’ accepting the GSP’s choice of language as follows:

We also have an objective to improve the language skills of our students. We noted that most local students, if you are offering English courses, do not take part in it. They say: “it is difficult, we are not good enough, and we don’t do it” . . . But in Global Seminar they say: “it has to do with the environment and sustainability, and this is what we are very interested in. That’s ok; we accept we have to speak English.”

To include the language component in their students’ learning practices and use it to improve their students’ English speaking and writing skills, one non-English speaking instructor performed all the classrooms’ interactions in English:

And what is very important [is that] some of them are good in writing and reading English, but have difficulties in negotiating, arguing, and speaking in English. So what I do is [in our] local classes . . . we always speak in English and we don’t switch to German. And this forces students to [have] discuss[ions] in English. This is one of the benefits they get: to exercise their English skills.

Constructive learning. All the instructors agreed that the knowledge that was created and assembled within GSP was the result of students’ manipulation of their own perspectives that allowed them to create new meanings through dialogue and initiate changes in their learning and understanding. Although the participants noted in their interviews that the overall format of GSP has encouraged students’ active participation in the course, they expressed

different ideas concerning the amount of guidance the students required to remain motivated and "active." Some instructors thought that providing students with constant and clear guidance about their course responsibilities benefited the process of learning. One of the participants explained that guiding the students through the GSP complex structure was necessary as it kept the process well organized, more efficient, and less confusing for the students:

Most students have so many things and courses to balance, and they don't like surprises. They want to know what's due, when it is due, how much of the grade count for this, etc. And then they'll go to the library and do the work. [GSP] needs to be well organized, and [students] will run with what they are supposed to do. They get frustrated [when] they are vague on what they are supposed to do [and] when it's due.

Another participant argued that giving the guidance to the students set boundaries for their learning and, therefore, decreased the overall educational value of students' learning experiences. "They can't really take responsibility for their learning anymore," said one of the participants, "because, as we came up with this really prescriptive rules, they need to know what forms the boundaries are and what is required. They are not really taking responsibility." Despite differences in views about the amount of guidance students needed to get through their learning process, most of the participants agreed that learning the GSP's interactive strategies and making decisions in independent groups were, at first, challenging for the students:

Some students find [taking charge] an extremely difficult task. Because most of the students now are influenced by their grades and they want to know what they have to do to get their grade. I think it starts to get in the way of taking responsibility for their learning. They want to know what the parameters are of their learning. It's what they are always doing. The [primary] responsibility for their own learning is them [taking] responsibility for their learning.

In their interviews, participants mentioned that, in general, today's students are less motivated and less interested in their learning than they would have been years ago. One participant thought that the root of this problem was outside the GSP boundaries: within the entire educational system in his country:

[Students] are less interested in learning, and so they are less likely to take responsibility for their learning. It's . . . part of the [educational] structure, and it's disappointing. But I think that is a cultural thing, I'm not sure what it's like in all of our partners' countries. I'd imagined that people are bit more motivated there than they are here, but I'm not sure. So students are less likely to take responsibility for their learning.

Regardless of the overall instructors' impression that students are likely to blindly follow the course guidelines provided by their instructors rather than raise above their demands for a grade and initiate a learning process of their own, the participants believed that the GSP format has great potential for its students to overcome this pattern:

What Global Seminar does if it's taught correctly and everybody has a role, and everybody is active at certain parts during the class, it forces the students to be more responsible about their learning. Just the nature of the class, making presentations, [and] team work initiates that.

One of the participants described his range of students as "motivated to not-so-much motivated," depending on a year. "On one year you are dealing with the [student] population that is more apathetic, and the other year you are dealing with the probably more aggressive type students, and you think hopefully these are students who really motivated." Although some GSP students enrolled in the course were more interested in taking responsibility for their learning than others, the participants noted that the GSP's structure provided "all the tools [for learning]." As one of the participants said, "all the skills are there to keep the students motivated in the Global Seminar." Describing the process of the students' motivation

and confidence growing as the students developed independent learning and leadership skills, one participant remarked:

GSP forces students to get outside of their comfort zone and it is very evident at the beginning of our class that they are not comfortable. They are very uncomfortable. And as the course develops they become more and more comfortable with taking leadership roles, with interacting with people over the medium they haven't done before, and [with] interacting with people from other countries which some of them have not done much before.

Another participant observed that by the end of a semester, students were developing critical-thinking and problem-solving skills as they were utilizing their cross-disciplinary backgrounds, taking advantage of the dynamic and flexible course structure, and worked in international teams. Some of the participants, however, recognized the complexity of the issues associated with students' learning and responsibly designing their own educational experiences within the GSP. In his interview, one participant acknowledged that there was no simple solution to that problem within a single course, as change in the entire system is desired:

I think that the course does help them [to] form some skills, it increases their motivation to take responsibility for their courses, but it's not a lifesaver, it's not a solution . . . We are dealing with the population that is less likely to take responsibility, and it's compounded by the fact that you've got these multicultural aspects.

All the participants appreciated the challenges associated with inspiring and maintaining students' motivation and involvement in the project. One of the participants described the process of establishing "the rhythm" of the course that promoted students' independent learning and helped them to overcome multicultural issues as follows:

This a real challenge for the instructor to keep pushing the students, to keep motivating the students to be involved: "that's the question, send an e-mail, do this, do that." . . . we ought to cross that multicultural gap . . . Global Seminar

experiences are much different than regular courses because there is regular inner structure—do this, do this, do this— and so by the end of the semester the rhythm is there and they got it all figured out.

“Global” Features of the GSP’s Learning Environment

Within the five major areas of the GSP’s learning environment described in detail in the previous section, the global elements of a GSP model are comprised of four categories. First, the interview participants described the major global features of the GSP learning environment within three categories that I named *three I’s*: innovative, international, and interactive. Another important feature that contributed to the description of the GSP’s global learning environment was the culture of mutual learning established in this course.

Component One: Innovative

The instructors portrayed global attributes of the GSP learning environment within a framework of innovation and described the GSP’s structure and approaches to teaching and learning as unique and advanced. The situational case study methodology used in this course was one of the innovations the instructors applied to their course structure and practice. New for almost all GSP instructors, the case study method provided an improved basis for evolving their teaching capabilities. Applying this new and exciting teaching method to their practices gave the instructors a sense of professional growth and satisfaction and also motivated them to use the case study method in their other courses.

The instructors named course interdisciplinarity as another major innovation that contributed to the GSP global features. The instructors enjoyed an opportunity to co-teach with faculty from other disciplines that brought different perspectives to exploring the sustainability issues and created cross-discipline collaboration. Interdisciplinarity was also an advantage for students as it increased their ability to overcome their initial discomfort and build a successful problem-solving team.

Component Two: International

The instructors described the international feature of the GSP course as the one that contributed the most to the project's global outlook. The fact that institutions from different parts of the world and participants with different cultural backgrounds were able to connect and work together increased the global value of the course. In many cases, the project was supported at the institutional and federal administrative levels as it was the best fit for the proposed campus international agendas and institutional strategic plans for a diversity development. The multi-cultural faculty collaborations allowed instructors to expand their network and connect with colleagues from other universities across state and international borders. These multi-disciplinary and international connections provided instructors opportunities for further development of their academic and research projects outside the GSP course.

The international GSP's composition contributed to students' learning as it encouraged them to consider the diversity of views originated by their fellow classmates. The students learned to work in an international group, recognize biases, communicate with people from other cultures, negotiate solutions for sustainability case studies, and deal with idiosyncrasies caused by geographical location of their partners.

Component Three: Interactive

The participants added the GSP's highly interactive nature to the description of the course's global environment. Despite the complexities associated with technology availability and cost, the participants' idiosyncrasies, cross-cultural communication issues, and time constraints, the instructors valued course interactions, both virtual and real time, for promoting global learning and the course's unique practice of global connectedness. The course structure included both synchronous and asynchronous communication options, and participants enjoyed using these advanced GSP features.

Component Four: A Culture of Mutual Learning

Another important feature of the GSP's global learning environment (GLE) that emerged in the interviews was its established culture of mutual learning. All the GSP participants appreciated the "learning curve" they experienced as they developed an understanding of the educational components of the GSP model, as well as knowledge of sustainability concepts. The process of learning for both students and instructors was based on the high-intensity course interactions and frequent communications among participants. The students and instructors challenged each other's basic understandings of the GSP model through various conversations that forced them to reorganize some pre-course fundamental assumptions about teaching and learning and implement new educational practices.

Interview Summary

In this section, I derived the emergent analysis themes from the interviews of the 20 GSP instructors and developed them using the constant comparative method. The interview analyses revealed that the GSP global environment included five areas: course structure and academic leadership/management, stakeholder involvement, institutional support, course conducive content, and teaching and learning practices. These items collectively comprised the conditions required for bringing about the unique GSP global learning environment. Within these five major areas of the GSP's learning environment, the global elements of a GSP model were comprised of four categories. The first three global categories were described as *Three I's*: innovative, international, and interactive. The culture of mutual learning established in this course emerged as the fourth global category of the GSP learning environment.

Direct Observations

Class Session One

On the first observation day (see Data Points Chart– Day 1, Appendix G), Instructor 2 brought “Nepal Cultural Event” brochures to class and handed them to the students. The instructor then asked the students to follow up on a “Population” case study they had finished the previous week. The students exchanged their perceptions on the previous week’s videoconference and discussed a few controversial viewpoints that students from other countries raised during that class session. The instructors did not participate in this warm-up class discussion. Instead, they took the role of record keepers and remained present in the back of the classroom. They sat down at a corner desk, outside of the students’ circle, and Instructor 2 started typing notes on a laptop.

Once the students finished their conversation, Instructor 2 proposed accessing a GSP electronic chat and posting their group questions on a Blackboard site. During this class session, the communication between the students and the instructors was more relaxed than formal. When Instructor 2 had difficulties getting online and locating the GSP chat, students helped him fix computer issues. Gradually, the students took over the task of posting their group notes online. First, one student offered to help Instructor 1 type the class notes. Then she took the laptop and brought it to her desk. Typing went faster and the students laughed and joked in approval of her master-typing technique. Instructor 1 connected the laptop to a projector that allowed everybody see the class notes on a big screen hanging on a front wall of the classroom.

The students seemed enthusiastic about formulating case study questions for the videoconference. In one instance, they struggled with spelling and making their questions clear as they wrote them for their non-English-speaking partners. Eventually, the students broke their conversation down to small group dialogues. Within their groups, they had

different conversation lines. However, the topics of their small group conversations were related to the case study.

The instructor's laptop continued "traveling" around the classroom as another student volunteered to e-mail an electronic chat schedule to the group. Once he transferred the laptop to his desk, he e-mailed a reminder to the entire class of the case study questions being posted soon. The instructors remained in the back of the classroom while the students talked to each other about the logistics of the next videoconference discussion and finalized the questions.

The instructors remained uninvolved in this part of the class session, and the students did not notice when one of the instructors left the classroom. After they finished discussing the questions, the students started exchanging their opinions about the content of the case study. The students concluded their conversations, and one of them stated quality criteria for the next week's videoconference. "We are doing it because we want to understand their [students from other countries] perception of it [topic of study]."

The students also acknowledged their own cultural bias to the videoconference. One said, "We have to get out of our Western skin to understand other cultures, and even if we think we do, we don't." They asked the international students who were part of this student group to tell their personal stories and share views on immigration policies as they related to the case study. The students then voiced their views and offered suggestions to solve immigration issues. During this discussion, the students frequently changed topics, which allowed them to approach immigration from different perspectives. They talked about the role of religion and ethics in cultural interactions, the significance of educational programs, and the importance of developing a sense of personal trust to make these programs work in culturally diverse communities. Once the class session was over, Instructor 1 wrapped up the students' discussion and asked them to make closing statements. The students continued discussing a videoconference agenda as they walked out of the classroom.

Class Session Two

On the second day of observing (see Data Points Chart– Day 2, Appendix G), Instructor 1 started the class session talking about the International Conference that one of the GSP students had attended the previous weekend. This student shared his conference experiences and encouraged others to attend next year. The students were then handed the discussion questions for a case study, and Instructor 2 invited the students to read the questions and think about them aloud. Each phase of this class session was very organized and stayed within a specific time frame. Students had five minutes to read the handout. However, there was no sense of the students being rushed. The discussion questions were in a list form, and the students started answering questions from the top of the handout.

The conversation started with one student voicing his thoughts about the first issue in the handout. Other students followed up on his statements, which made the interactions dynamic and interactive. Instructor 1 moderated the structure of this discussion by making connecting statements and moving the conversation to the next question on the list. Once all the questions from the handout were discussed, Instructor 1 suggested the students develop a scenario for the next videoconference and think about their 12-minute presentation. The students then formed a circle with their desks and started assigning roles for the videoconference and setting deadlines for exchanging their notes via email. The students' conversation was unfinished when the class was over, and they continued their discussion in a hallway. Instructors walked with the students down the hall. They laughed together and continued talking about questions raised in their class discussions. The students also arranged with one student who had a large van and volunteered to give them a ride to a videoconference site the next week.

Class Session Three

On the third day of observing (see Data Points Chart– Day 3, Appendix H), the students met at a parking lot on campus where they waited for their ride to the videoconference site. Once the van arrived, the students got in and checked on their classmates who were running late. On their way to the Virginia College of Osteopathic Medicine (VCOM) building, they joked about how early they had to get up to make it to this class. The students arrived to class before their instructors did. They sat down and started negotiating the sequence and the content of their videoconference presentation.

Once the videoconference started, they listened to the students from their virtual partner universities and reflected on their presentations. The students kept the microphone in the room muted, which allowed them to talk in their own group without interrupting the virtual presenters. During the virtual presentations, they discussed possible responses to the issues raised in their partners' virtual talks. As the virtual discussion on immigration issues became increasingly controversial, they anticipated being placed on the spot by their Latin American partners. Throughout, the instructors sat at the end of a large conference table and listened to their students without interfering.

For the next 30 minutes, the students received and answered questions from their partners. They realized that their responses represented opposite views from those of their participants. They made the effort to clarify their answers in a respectful manner. Each answer became an invitation to follow up. "Thank you. We'd like to know your perspective on it."

In their group, the students acknowledged the controversy of a case study topic, which they considered an advantage. They also appreciated the opportunity to learn about different cultures. The students re-phrased their group answers together to make them clear for non-English-speaking participants. Intending to learn more of different perspectives, the students redirected some of the questions they answered back to the virtual group. When the videoconference was over, one student wrapped up the virtual discussion and thanked all the

participants for the interesting discussion. The students were comfortable operating videoconferencing equipment and did not need any assistance with it during the class. At the end of the class session, Instructor 1 asked students to reflect on their videoconference experiences. For the next three minutes, all the students exchanged their thoughts about the class session, then they collected Peace Corps brochures that Instructor 2 brought to class and left the room. They continued talking about the videoconference and discussed the differences in views that they had with their international partners.

Class Session Four

On the fourth day of observing (see Data Points Chart – Day 4, Appendix H), Instructor 1 began with a homework reminder. Then he asked the students to reflect on their videoconference experiences. Instructor 2 initiated the conversation with the question: “How do our partner universities represent their own cultures?” The students responded by sharing their understandings of differences that they observed during the last class. The students wondered which of those opinions that their partners brought to the conversations accurately represented differences between their cultures. The students thought that some views their international partners shared sounded personal and “westernized.”

For example, the students doubted the opinions expressed in clear American English and those with many American idioms voiced by their foreign partners. After that, the instructors moderated the students’ discussion about the day’s case study topic. Instructor 2 wrapped up the class by reminding the students about next class deadlines.

Class Session Five

On day five of observing (see Data Points Chart – Day 5, Appendix G), the instructors invited a guest speaker to class. Instructor 2 introduced the guest speaker who started his PowerPoint presentation about Al Gore’s recent initiative on global warming. The

presentation lasted for about 45 minutes. During the presentation, the students primarily listened to the presenter. They took advantage of an invitation for questions and elaborated on the content of the presentation. At the end of class, they received presentation handouts. Instructor 1 wrapped up the class session and the students left the classroom.

Class Session Six

Day six of observing (see Data Points Chart – Day 6, Appendix H) began with Instructor 1 asking about students' comments on the previous week's conference led by the students from one of the GSP partner universities. For about the next 10 minutes, the students engaged in a conversation about successful moments of the videoconference and its downfalls. The students were impressed with the quality of the presentation given by community college students, talked about cultural moments of their virtual conversations, and noticed effect of sound issues on the quality of virtual communication. The students also discussed the style with which the GSP partners led the videoconference and agreed that the conclusions provided by videoconference leaders lacked clarity.

Then they reflected on the case study topic, salinization and irrigation, which was discussed during the videoconference, and modified its conclusions. One student asked a question about how advanced technology might help to solve global problems:

The important thing is that we start thinking about it. When I was growing up, videoconferencing was an unbelievable thing. Technology has evolved, and now we have Blackberries, which means we have no limit on technical solutions. What can we do to fix our problems with salinization with all these technologies?

The students discussed different solutions to this question, for example, new ways of generating energy compared to old ways of conserving it. Once the students finished their discussion, Instructor 1 directed the conversation toward the day's case study topic, which

dealt with agroforestry issues. Instructor 1 spent the rest of this class session explaining main principles of sustainable agroforestry, which he illustrated with descriptive drawings on a blackboard. During this part of the class, the students were listening and taking notes.

Class Session Seven

Day seven of observation period (see Data Points Chart – Day 7, Appendix H) was a videoconference session. The students met in the videoconference room before starting to set up the sequence of their virtual presentation and highlight its major points. They were very involved in their conversation and ignored a technician who walked in the room with a cup of coffee to say “hello.” After the students put their talk together, they started anticipating possible questions that their partners might ask them during the videoconference. The instructors walked in the classroom a few seconds before the videoconference started, greeted the students, and took their seats at the end of a conference table.

Once the videoconference started, all the students made notes of their virtual partners’ presentations. They exchanged brief comments about the presentations and then joined the discussion started by their partners from Europe. At one point, the students asked Instructor 1 for his expert opinion and he clarified the issue in question. During this videoconference session, the students felt comfortable discussing the case study topic internally within their own group. They did not hesitate to turn their microphones off so as not to broadcast their conversation to the rest of the virtual group. One of the students adjusted the camera located in front of the room to make all class members visible on a big screen.

The students made an effort to maintain meaningful conversations with their non-English-speaking partners. They listened carefully and verified the major points of understanding with each other. It was important for the students to exchange opinions with their fellow students. They were disappointed when one of the European instructors took over

the conversation and answered a question for her students. The students said, “She does not give them a chance to speak!”

Instructor 1 turned this situation into a cultural learning moment, explaining that the professor represented a traditional European style of education that emphasizes the authority of a teacher in the classroom. At the same time, he pointed out differences between European and North American teaching styles. He said with a smile that, as an American teacher, he was “just sitting here and grinding my teeth not to interrupt” the students. In return, the students laughed and joked about “Dr. (*name of the instructor*) who has only 45 minutes to talk.”

The students used different techniques to answer virtual questions. First they anticipated the nature of the upcoming question while their partners were presenting their opinion. Once the students received a question, they identified a person in the group with the most expertise on the relevant topic and requested his opinion. Then they analyzed alternative options and formed a final answer.

For example, the student who did his homework on the “technical solutions” of salinization issues shaped and represented the group response to the question about this topic posted by a partner university. Many times during this videoconference, students disagreed with the comments and conclusions of their partners. They had internal group discussions on whether or not they should voice their opinion and how to point out the difference without sounding too controversial. The students had a conversation about differences in cultural values, and they searched for proper ethical ways to present their views to people with different cultural backgrounds. The students also discussed questions that were addressed to other participants of the videoconference. For example, they discussed a GMO (Genetically Modified forms and Organisms) question in their group without entering a virtual discussion that two of their partner universities were having on this topic. “You don’t solve the problem, you just postpone it,” concluded one student at the end of their GMO group conversation.

Once they had a major comment to share with the entire GSP group, they wrote a large exclamation mark on a piece of paper and put it in front of a camera to draw partners' attention to them. The students had many questions for their partners about the content of the case study. At the same time, they paid close attention to the overall structure of the videoconference. They noticed different ways their partner universities handled the question-and-answer session and pointed out language translation problems and use of American idioms by non-English-speaking students. The students voiced the need for a follow-up class next semester with their partner universities. When the class was over, the students packed up and left the room.

Class Session Eight

During day eight of observing (see Data Points Chart – Day 8, Appendix G), Instructor 1 started with an introduction to the agroforestry case study. The students had already read the case handout and were prepared to discuss their homework. Then, Instructor 1 drew a map of the Chesapeake Bay on a blackboard to illustrate the case study's location and asked students to indicate major sources of its pollution and deforestation. The students started making comments and sharing their opinions about these problems.

The student who lived in that area years ago shared his insightful thoughts about farming and overall landowners' attitude toward the environment in the Chesapeake Bay. The students continued discussing the Chesapeake Bay pollution levels and its sources and then asked Instructor 1 a question. Instructor 1 answered the question, illustrating his talk with more drawings on the blackboard. The students then discussed a possible system of inducements for Chesapeake farmers to maintain a repairing zone in that area. Instructor 1 led this conversation by giving students more details on agroforestry issues and regulations. He also did multiple drawings on the blackboard to explain the science of soil and water pollution and mechanics of maintaining repairing zones.

Class Session Nine

Day nine of observing (see Data Points Chart–Day 9, Appendix H) started in Instructor 1’s office where he met with Instructor 2 and some of the GSP students before class. They all walked from the office to a classroom, talking about a pre-videoconference e-chat that they had the previous week. Once they arrived in the classroom, Instructor 1 started class with a general greeting and a reminder about the students’ “role” in the next videoconference: next week the students will represent the stance of local and governmental agencies on the issues described in the case study.

While Instructor 1 spoke, students took notes and clarified their responsibilities. Instructor 2 started brainstorming the idea of what the group could do in preparation for its new role. He suggested that the students might want to contact a local governmental or state agency, county courthouse, or campus water center to get examples of how these agencies deal with agroforestry issues.

Instructor 2 posed a question: “Are these agencies always about subsidies and tax money?” Responding to this question, one student gave an example of recent landscaping she observed on I-60. Instructor 2 re-phrased the student’s statements about the landscaping case and suggested that this case was perfect for her to contact a governmental agency and find out more. The instructors did not assign students to their tasks. They initiated a discussion about the role of the agencies and encouraged the students to volunteer to take on the task of contacting different institutions for more information.

At this point, the instructors and the students together brainstormed the resources available for learning about how agencies operate to address agroforestry issues. Those students who were unsure where to go for information were encouraged by the instructors: “We have got some people already signed up, and I have some ideas about whom else we can contact. Do you know (*name of a student*) whom you want to contact?” It was important to the instructors that the students make their choices based on the level of familiarity with the

agencies they would contact. Eventually all students signed up for their homework project. Then, they discussed the reasons for contacting the agencies they chose and the means of approaching this task to collect the information needed for next class.

The next 20 minutes of the class session were used to discuss the logistics of the upcoming videoconference. Instructor 1 asked students to think about what kind of questions would arise if some partner universities were not present. One of the students summed up the group's stance on the role of agencies in solving agroforestry issues. "It is about disconnect between land and people. We really have to educate, educate, and educate."

Then Instructor 2 addressed the course timeline and offered the students options to complete their semester. He clarified expectations about students' final papers and set a quality benchmark. "I want to see some critical thinking." At the end of the class, students asked Instructor 2 questions about Blackboard access and their postings on a discussion board.

Class Session 10

Day 10 of observing (see Data Points Chart – Day 10, Appendix G) started with an intense pre-videoconference session as students needed to shape their own group presentation. The students arrived in the classroom early and started discussing their assignments as soon as they entered the videoconference room. One student shared his findings about subsidies and taxes for farmers involved in agroforestry. He was curious to know the other students' opinions about whether those practices really made difference. Another student walked in the classroom and joined the discussion of the group's "homework" findings. "I called 10 agencies, and got ahold of only one, and I had an impression they did not know much about it."

The students arrived to class at different times, and they all shared their experiences about reaching the local and governmental agencies, saying they were not very informative.

Once they reported their findings to each other, they added their parts to a group assignment. Then, they formulated the final statement of their presentation, which was “to promote green infrastructure through local-level projects implemented by local groups (YMCA, 4-H, newspapers) with an emphasis on conservation.”

Students worked through differences in their opinions about what role subsidies and tax breaks play in promoting green infrastructure. Despite their polar opinions, they negotiated a middle ground on this issue and decided that the student who studied this problem the most would represent the entire group during the videoconference.

During this time, the instructors were not in the room. Once they walked in, they greeted the students and walked out to a downstairs coffee shop.

After the students decided the content of their presentation, they started arranging its structure: “We need to figure out who says what,” one student proposed. They agreed to present their individual homework findings in a top-down sequence: first to share the findings about the role of governmental agencies, and last to talk about the role of local agencies. The students added an educational component to the list of their case study solutions.

A few seconds before the videoconference, the instructors came to the room and asked if the students were ready. When the videoconference started, the students continued talking about their presentation. Instructor 1 passed a publication handout to the students that helped to add new lines to the presentation. Listening to their virtual partners, the students indicated issues of disagreement and discussed them in their own group. To gain more clarity, they addressed some of their questions to the instructors who shared their expertise and views on different agroforestry scenarios the students were discussing. The students were “standing by” the virtual conversation and continued discussing the agroforestry case study issues in their own group. The student reflected on the quality of “moderating” the videoconference by their partners.

When the video conference ended, the instructors thanked the students and reminded them about their final paper assignment and the options of submitting their papers that year. One student said that his grade was not posted on the Blackboard, and Instructor 1 asked the student to email him the score. “Just e-mail me your grade, no need for a paper. I trust you,” he said.

In the end, the instructors told the class that the discussion would be different at all the international sites that did not get connected last time. “They have quite a different perspective about agroforestry and it would make [discussion] more dynamic.”

Class Session 11

Day 11 of observing (see Data Points Chart – Day 11, Appendix G) started with Instructor 1 collecting homework assignments. It was the last class session of the semester, and one student brought muffins to class. At the beginning of the class, students were eating muffins, handing in papers, and asking Instructor 1 about their final papers. The overall atmosphere in class was easy and relaxed.

One student forgot the due date for the final assignment and announced in class that his paper was in pieces and not ready to be handed in. “I did not even put it together. I thought it’s due Thursday.” This situation was not stressful for the student or the instructor, as they laughed together about it. Instructor 1 cheered the student up saying that there was plenty of time in the day to put the paper together. For the next 10 minutes, the students talked about the case studies. One student suggested combining the GSP course with a *Conflict Resolution* course that was offered in the Spring semester.

At this point, the instructors distributed course evaluation forms, asked students to fill them out, and left the classroom. Then the students started filling out the evaluation forms. Once they finished, Instructor 1 came back and started the class by asking students to share their thoughts about the previous week’s videoconference. “What was your take on the

agroforestry videoconference?” The students had several responses. One student suggested that comparing world agroforestries and analyzing their differences would be the best way to understand issues raised by their international partners during the videoconference. Another student shared his observations about the specifics of European agroforestry approaches he learned when he traveled abroad. The students continued talking, and Instructor 1 started making notes and drawing on the blackboard that hung on the front wall of the classroom.

Once the students finished their conversation, the instructor explained to them the major differences in the world agroforestry, using the drawings to illustrate his points. After that, Instructor 2 returned the conversation topic back to the question he asked in the beginning of class: “What other reactions do you have on the videoconference?” The students responded by listing different perspectives on agroforestry issues that their partner universities represented during the videoconference. The students used examples from the sources they read for this class and their own experiences.

For example, one student described the global warming article that she read to illustrate her views on education about sustainability. “Education helps to observe the changes and better address them.” In their talks, the students used many personal examples related to the Chesapeake Bay case study. Instructor 1 summarized all the major conclusions that students made during this part of class and offered his summary to the students, saying, “There is a need to compromise to solve this problem.” Some students disagreed and started another group discussion about different negotiation scenarios and their consequences. The students used real-life examples to support their discussion statements. After about 10 minutes of talking, the students concluded that a local government would be the one responsible for promoting and supporting possible changes and solutions. Instructor 2 asked the students about different levels of governance and its impact on global issues. “There is one question I want to ask you about the governmental organizations: How much do these [global] issues get on a radio and what impact does it make?”

To answer this question, the students used examples of global warming and local anti-Wal-Mart initiatives covered on national and local TV. One student made a statement about the importance of shaping public opinion. He also mentioned that organizations must be concerned about ethical issues while addressing global issues. The students elaborated on this statement and discussed the role of media. One student said, “Personally, I support (*name of a student*). Media always wants a special angle. If we want to change things, they have to be financial. As far as changing things goes, one thing that people understand in this country is money.”

In disagreement, another student suggested that focusing on establishing values in young people, rather than affecting the checkbooks of the old generation, would be a long-run solution to this problem. This started up a group discussion about the role of education. “Money is for old people. Education works for people who are young,” said one student. At the end of the discussion, Instructor 2 summarized its major points.

The conversation then moved to another topic: natural preservation and conservation. Talking about solutions to the conservation issues, one student reflected on the challenging task of reaching out to people and said, “Sometimes, I wish I could just say ‘This is priceless!’ so we could preserve [outdoors], and people could see the value of it.” Instructor 1 followed on his student’s statement by explaining concepts of natural conservation and describing main principles of state parks, land trusts, and national land systems.

Instructor 2 finished the class by telling the students that their suggestions about the course would be reviewed during the GSP meeting in the summer. He read a list of the students’ suggestions and asked them to choose the most important ones. Instructor 2 said that these recommendations would have more power if the students were invited to the GSP conferences. Instructor 1 ended the class session with concluding remarks and briefly shared the GSP plans for the future semesters.

Observed Evidences of Deep Learning

The findings of deep learning that resulted from the GSP's direct observation can be grouped in three major categories: (a) observed development of students' "generic metacompetencies," (b) identified components of instructors' "teaching quality," and (c) recognized value of the relationships among course participants.

Observed Development of Students' Learning "Generic Metacompetencies"

The observations revealed that the GSP's processes were supportive of educational transformation along six dimensions of a deep-learning system that reflected opportunities for students to develop such "generic metacompetencies" as analysis, problem-solving and critical thinking, interaction and communication, self-reflection and application, collaboration, and independent self-regulation.

Analysis. The GSP students had plenty of opportunities to apply their analytical talents throughout the course. First, the analytical approach was required for students to explore the issues related to sustainability. Applying their own disciplinary knowledge to sustainability case studies, students were forced to examine and further synthesize their multiple understandings to solve the issues being studied. Since the majority of students had different disciplinary backgrounds, they approached the task of problem solving by integrating their own understandings of sustainability with their previous knowledge about this concept. In preparation for class, they used the class materials (readings, Web-references) posted on the project's Web site. However, students were motivated to investigate the sustainability topic using additional resources. During class sessions, they analyzed their thoughts, exchanged their knowledge in an open discussion, and formulated conclusions.

Second, the students investigated cultural differences by communicating with their classmates from different countries and other American universities that participated in the project. Analyzing cultural differences contributed to students' better understanding of their

international partners and inspired students to use different venues of communicating their thoughts in multi-cultural dialogues. Working in a diverse group required cultural understanding that the students developed as they were constantly analyzing their communication experiences. Each class session observed included a segment devoted solely to the analysis of the cultural moments that students experienced during a videoconference or in a virtual chat room.

Third, the students used their analytical skills and considered multiple team management strategies to coordinate the GSP's student-led class sessions. The students started each videoconference session with "blending" their homework findings together, developing their collective stance of the topic of a videoconference, and getting prepared for the videoconference's question-answer session. During these preparatory sessions, they addressed potential discussion issues by identifying controversial topics. The students also evaluated the dynamics of each videoconference, which allowed them to better manage and further improve their conversations with the GSP virtual partners.

Problem-solving and critical thinking. The overall course structure assisted students in developing their problem-solving and critical-thinking capabilities. The students used these techniques to approach the open-ended, non-linear situational cases that defined the GSP methodology. Every GSP class session was highlighted by students' discussion of sustainability issues that encouraged them to think critically and negotiate the best possible solution for the problem presented in a case study. The students ended each conversation, virtual and real-time, with thoughtful conclusions. Together, they formulated core statements of their virtual group presentations. In some instances, they modified the case study's conclusions made by their partners from other universities, which illustrated their critical thinking approach to learning. Using the same approach, students composed their group assignments: they assimilated the pieces of an individual homework into one group presentation, discussing each segment of it before class.

This course inspired students' follow-up conversations, both virtual and real-time. The students continued their classroom discussions in a hallway after class, talked about case study topics before class sessions started and in the instructors' offices, and actively posted their opinions on the class discussion board. The students took advantage of the diversity of views originated by partner universities' students on a variety of sustainability issues and continued some of their discussions outside the GSP virtual classroom. After one such session, they proposed to organize a follow-up semester to continue discussing sustainability issues with their virtual partners.

Interaction and communication. The highly interactive nature of this course encouraged students' learning through the multi-cultural and inter-disciplinary dialogues and negotiation. The students communicated intensively within their local group and with their virtual partners from other universities. They felt comfortable using different means of communication that were offered in GSP, such as discussion boards, virtual chat rooms, videoconference sessions, and e-mails. The students enjoyed using technology devices that ensured instant and, in some cases, synchronous connection with other students in their cluster group. They used their laptops in class for sending their videoconference questions to the entire group as they discussed them in class or uploading the videoconference agenda on the GSP Blackboard site after they composed it together in class. They handled videoconference equipment with ease, adjusting cameras and microphones to serve their communication styles.

The students carefully planned and managed virtual class sessions that helped to establish meaningful conversations with the GSP non-English speaking participants. The students listened to the virtual presenters from other countries and verified the meanings of their talks with each other. They also discussed ethical issues of making their talks sound less controversial by considering cultural biases of their own and other members of the virtual group. The students strived for understandings of diverse views expressed by the GSP participants with different cultural backgrounds. By the end of the course, students gained

more understanding of inter-cultural communication issues, learned to overcome cultural and language barriers in discussions, mastered planning virtual conversations with their classmates, and organized self-led class sessions.

Self-reflection and application. The students reflected on their class experiences using their prior disciplinary and personal knowledge. Practicing their self-reflection and application strategies, they set the goals for their course tasks first, evaluated how effectively their learning strategies helped them meet those goals next, and finally adjusted their learning strategies accordingly. For example, getting ready for one of the videoconferences, the students set the goal “to understand their [students from other countries] perception of it [topic of study].” In accordance with this purpose, they prepared the videoconference discussion questions, planned the sequence of virtual talks, and attempted to foresee the possible conversation issues that would arise during the discussion. After the videoconference, they monitored the efficiency of the class session by reflecting on their experiences. This allowed the students to change conversation tactics and better prepare for the future GSP videoconferences.

In addition to self-organizing some of the GSP’s class sessions, the students applied their knowledge and skills as they developed their own side-projects for the case study sessions. To gather information for one such session, they identified and contacted different agencies, prepared summaries of their experiences, and put them all together to generate the quality group presentation for a videoconference.

While solving the problems presented in situational case studies, the students had an opportunity to interlink sustainability theory with its practical applications. The students always had examples from their experiences or disciplinary practice related to the case study issues. Linking theory and practice helped students to build better understandings of a sustainability context of each case study and acknowledge multiple options to case study solutions. Supported by the instructors, students learned to integrate knowledge from different

sources and distinguish between important and less relevant information to generate solutions for the case studies. The possibility to connect knowledge and practice kept students motivated and excited to learn more and master the competencies for their work in a real-life situation.

Collaboration. The collaborative projects that the students handled in this course were based upon real-time and virtual interactions with the local and international GSP partners. The collaboration activities varied from simple e-mail exchanges and virtual discussions to more complex projects such as planning a videoconference, negotiating a solution for a case study, and planning a group presentation. Prior to collaboration activities, students studied Web pages of their international classmates to learn more about their majors and personal interests. The students carefully planned their collaboration activities and used constant peer-feedback, which improved their experiences. The students were able to establish personal contact with each other as they communicated outside the class, provided each other rides to the videoconference site, and followed up on class topics by posting their opinions on the GSP discussion board. Non-English speaking students welcomed the opportunity to collaborate in a foreign language and gained more confidence communicating in English with their partners outside the virtual classroom.

Independent learning and self-regulation. The course's flexible yet well-structured facilitation encouraged the students to apply self-regulated strategies to their learning. They were free to set learning goals and plan their work within established course timeframes and deadlines. The students obtained autonomy in shaping their own class sessions, often leaving instructors outside of their planning circles. Students' autonomy was encouraged and supported by the instructors, which kept students self-motivated throughout the course. Facilitating a safe and trusting class environment, the instructors provided opportunities for students to comfortably investigate the course content issues and express their personal and

academically related concerns. As a result, the instructors created a relaxed and trustful classroom atmosphere that encouraged students' self-regulation and independent learning.

The issues of miscommunication did not occur in the classroom during the research observation as the students felt safe and understood by their instructors. In one instance, a student missed a deadline for his paper and announced it to class. The instructors and students laughed together as they found the solution for this incident. When another student had no grades posted on a Blackboard, the instructor asked him to e-mail the score, saying that he does not need to see the paper because he trusts the student. As part of their self-regulating strategies, students needed to discover how the course content best suited their learning needs, which helped them to move toward autonomy and boosted their self-motivation. During class discussions, students often requested the instructors' expert opinions, which indicated their trust in the instructors' expertise and illustrated GSP's safe learning climate.

Identified Components of Instructors' "Teaching Quality"

The observations helped illustrate the dimension of "teaching quality" within the GSP learning environment, which was comprised of the following categories: teaching the course subject with expertise, managing the class with care, promoting course goals, providing proper and fair feedback to and from the students, and facilitating students' self-regulation and promoting independent learning.

Teaching the course subject with expertise. The GSP co-teaching method increased students' access to the sustainability experts who belonged to different disciplinary fields. In class, instructors provided students with detailed and extended explanations of the major concepts in study, which were linked to the class discussion topics and students' experiences. Instead of lecturing, instructors provided their expert opinions when it was appropriate, either while answering students' questions or responding to their request for help understanding the issue in study. To expand their expertise even more, instructors invited a guest speaker, who

gave a traditional PowerPoint presentation about Al Gore's recent initiative on global warming.

Managing the class with care. The instructors carefully managed each class session by facilitating discussions and keeping students' conversations within current class topic, asking students transitional and follow-up questions, reminding them about class assignments, organizing class projects, and keeping them within certain timeframes.

Promoting course goals. Instructors constantly promoted the GSP goal of globalizing the curriculum by asking the students to describe their understandings of cultural moments and different views expressed by their international partners. The instructors usually initiated such conversations with questions about how the partner universities represented their own cultures or what students thought about the last week's videoconference session. The students spent at least 10 minutes in the beginning of each class session sharing their understandings of cultural differences that they observed during the previous class.

The students themselves were eager to learn about other cultures as they re-stated the course goal several times during their preparation for videoconference sessions. They also initiated follow-up discussions to gain more understanding of their partners' views. After one videoconference, students asked the instructors to help them compare different world agroforestry systems to better understand different views their partners had on this topic.

Providing proper and fair feedback to and from the students. The instructors asked students for feedback at every class session, confirmed postings of students' grades after each assignment, and made sure that the class projects' expectations were clear to students. Students' feedback was valuable for the entire GSP project. At the end of the course, students composed a list of suggestions that the instructors shared with the rest of the GSP cohorts at the annual GSP conference.

Facilitating students' self-regulation and promoting independent learning. The instructors facilitated the process of students' self-regulation, which included the students

setting their goals, taking action to accomplish these goals, and self-evaluating the results of their actions. First, instructors facilitated a safe and trusting class environment by providing students with opportunities to investigate course content and openly share their views and concerns in class. This created a relaxed and trustful classroom atmosphere that encouraged students' self-regulation activities, autonomy in making decisions about their learning, and students' self-motivation. The instructors used different strategies to promote students' self-regulation. They asked facilitating questions that would help students set their goals, provided the students with resources and brainstormed the possible sources of information together. The instructors facilitated and monitored students' discussions and let students speak up while the instructors accepted the role of note takers.

Secondly, instructors coached their students to plan and lead the videoconference sessions. The observations revealed that once set up, instructors trusted the students to accomplish this complicated task. Giving the students complete responsibility for organizing videoconference sessions, the instructors arrived to a videoconference site a few minutes before videoconferences and did not participate in preparatory sessions. During the videoconferences, instructors sat in the back of the classroom at the far corner of a conference table. This supported students' learning autonomy and contributed facilitation of student independent learning. At the same time, instructors continuously monitored students' learning processes to understand the source of students' problems or confusion.

During the GSP real-time class sessions, instructors rarely maintained their position in front of a classroom facing the students. Instead, they sat in the back or in the corner seats of the classroom. In many cases, students formed a circle with their chairs, visually leaving the instructors outside their discussions. During the discussions, instructors were free to leave the classroom without students noticing their absence.

Instructors emphasized establishment of high-order learning practices for students, who were expected to focus on thinking that involves the entire spectrum of activities, from

analysis and synthesis to drawing meaningful conclusions. Instructors encouraged students to use a broad range of resources and knowledge as well as develop critical-thinking skills while dealing with the course assignments. “I want to see some critical thinking,” stated one instructor describing requirements for the course’s final paper. Beyond simply holding students to high course standards and supporting students’ autonomy, instructors established the dynamics of caring and trusting relationships.

Recognized Value of the Relationships Among Course Participants.

The observations revealed that the GSP’s deep learning system was characterized by close and trusting relationships among participating students and instructors. At the beginning of the course, instructors spent time establishing and nurturing relationships between the course participants and teaching course expectations. These contributed to facilitation of a caring and trusting climate in the GSP classroom. The instructors had an “open door” policy, and students were often meeting in one of the instructors’ offices before class. The instructors addressed students’ concerns instantly and at their first request and also celebrated their achievements. For example, one student attended an international conference. Instructors asked him to share his experiences with the classmates. The students always had their “share time” routine to exchange news and reflect on their experiences during the class sessions. Instructors also provided students with assignment options and, whenever possible, asked for their input.

Direct Observation Summary

In this section, I applied a framework of deep learning (Biggs, 2003) to analyze the ways in which GSP has contributed to the possibilities of establishing deep learning practices within its learning environment. I used 11 observations of the GSP classroom out of 24 class sessions to describe the teaching and learning instances that have fostered the development of

deep learning practices within the five dimensions of the GSP's learning environment derived from the interviews.

First, the observations revealed that GSP's processes were supportive of educational transformation along six dimensions of a deep learning system that reflected opportunities for students to develop such "generic metacompetencies" as analysis, problem-solving and critical thinking, interaction and communication, self-reflection and application, collaboration, and independent learning and self-regulation.

Secondly, the observations revealed the important components of the GSP's "teaching quality," which included five categories: (a) teaching the course subject with expertise, (b) managing the class with care, (c) promoting course goals, (d) providing proper and fair feedback to and from the students, and (e) facilitating students' self-regulation and promoting independent learning.

Finally, the observations revealed the importance of caring and trustful relationships among the course participants. This aspect of the GSP learning environment has contributed to the description of the GSP's deep learning system.

Combined, these observation results have provided grounds for the triangulation of the research interview results and documents and artifacts analysis that, overall, confirmed the research credibility.

Chapter Summary

This research focused on the description of a global learning environment as it appears in higher education. It was the purpose of the study to describe (a) characteristics of the Global Seminar Project (GSP) at the establishment of its global environment and (b) GSP's contributions to deep learning. Data collection was achieved by in-depth semi-structured interviews of the GSP instructors, direct observation of the GSP classroom, and the analysis of GSP's documents and artifacts. Using the voices of the GSP's faculty first, I described their

own understandings of the GSP educational model and perceptions of the teaching and learning practices within the project. Next, I observed the GSP classroom to indicate the unique course practices that possibly generated deep learning within the GSP's global learning environment (GLE). Through triangulating the research data, I ensured a high level of confidence concerning the credibility and dependability issues within the analysis and conclusions of this study.

CHAPTER FIVE
DISCUSSION AND CONCLUSIONS

While addressed only at its institutional level in most educational research, the understanding of globalization's influence on education remains one-sided and unclear. The basic premise of this study is that in order to obtain the complete picture of educational change, the problem of globalization influence on educational practices should be addressed from the participatory level of an educational inquiry and placed outside the popular managerialist framework that views education as a commodity.

In this study, I addressed the issue of changes in higher education operating under pressure of globalization by defining the global learning environment (GLE), as it appears in the Global Seminar Project (GSP). The combination of constructivist theory and a Biggs' (2003) deep learning concept provided a broad perspective for answering the following research questions: (a) what project components make the course global? and (b) in what ways does the Global Seminar Project contribute to deep learning?

To conduct a descriptive study of a global learning environment, I employed a qualitative research design. To fulfill the research goals, I used three forms of data collection procedures, completed in two steps. First, I used in-depth, open-ended interviews of 20 GSP instructors who attended the Eighth International Global Seminar meeting in Arlington, VA, from June 28 to July 2, 2005. Second, I completed 11 direct observations of the GSP classroom in the Spring 2007 semester. During the both stages of the data collection, I analyzed the GSP's written documents and artifacts. All the participants for this study were purposefully selected. I used the open-coding feature of ATLAS.ti software to analyze the data. The interview analyses revealed that the GSP's global environment included five areas:

course structure and academic leadership/management, stakeholder involvement, institutional support, course-conducive content, and teaching and learning practices (see Appendix H). These items collectively comprised the conditions required for bringing about the GSP's unique global learning environment.

Within these five major areas of the GSP's learning environment, the global elements of a GSP model were comprised of four categories. The first three global categories were described as *Three I's*: innovative, international, and interactive. The culture of mutual learning established in this course emerged as the fourth global category of the GSP learning environment.

The findings of deep learning resulted from the course observation, included observed development of students' generic metacompetencies, identified components of instructors' teaching quality, and recognized value of the relationships among course participants. Table 4 presents the research results in relation to the research questions.

This study contributes to educational theory and practice in a number of ways. First, it expands conceptual development of the idea of global learning environment in a university setting. Second, the research examines possibilities of global learning environment for producing quality learning. Third, the research methodology suggests ongoing mechanisms for evaluating future learning environments in terms of their global characteristics. Finally, this study fills a gap in academic literature by defining and providing insights into the nature and dynamics of global learning environments.

This chapter includes a definition of the GLE as a conceptual phenomenon and an educational model, as it appears in higher education. In close connection with the established research frameworks, I aspire to open a dialogue regarding how the proposed understandings of the GLE could initiate meaningful changes in educational theory and practices. Finally, I suggest directions for further research and implications of the results for educational practices.

Table 4 *Results in Relation to Research Questions*

Research Questions			
What project components make the course global?		In what ways does the GSP contribute to deep learning?	
Results			
GLE components	Global features of GLE	GLE's deep learning	
Course structure and academic leadership/management	Innovative International	Observed development of students' generic metacompetencies	Analysis, problem-solving and critical thinking, interaction and communication, self-reflection and application, collaboration, and independent self-regulation
Stakeholders' involvement	Interactive		
Institutional support	Mutual learning	Identified components of instructors' teaching quality	Teaching the course subject with expertise, managing the class with care, promoting course goals, providing proper and fair feedback to and from the students, facilitating students' self-regulation, and promoting independent learning.
Course conducive content			
Teaching and learning practices		Recognized value of the relationships among course participants	Instructors have an open door policy, instantly address students' concerns, celebrate their achievements, provide students with assignment options and ask for their input; students have time during the class sessions to exchange news and reflect on their experiences

Defining Global Learning Environment

To fulfill the goal of this study and define the GLE in higher education, I would like to distinguish between two co-dependent understandings of the GLE as they appeared in this research: the GLE as a conceptual phenomenon and the GLE as a practical model. These two approaches to defining the GLE are inter-reliant because once the idea of the GLE is implemented in a university setting, it provides a compelling model for transforming higher education practices in promotion of global learning. From this understanding, I developed two definitions of the GLE using the research parameters defined by the theoretical frameworks, the initial research questions, and the results were reported in the previous chapter of this dissertation.

GLE as a Conceptual Phenomenon

As a conceptual phenomenon, the GLE can be viewed as a specific property of an educational structure that occurs when teachers and students are engaged in innovative experiences with the purpose of acquiring understanding of complex global-scale issues by means of cross-cultural interactions and on the basis of mutual learning. The GLE is a dynamic concept, as all its attributes appear to be socially and culturally situated. In this sense, the GLE is closely connected with Wertsch's (1991) sociocultural approach to mediated action, which addressed the issues of individual learning as a complex endeavor shaped by institutional, cultural, and historical factors. Wertsch used the social constructivism of the Vygotskian theory, arguing that the understanding of learning phenomena is rooted in the analysis of interactions among its multiple dimensions:

The ideal unit of analysis preserves in a microcosm as many dimensions of the general phenomenon under consideration as possible, thereby allowing one to move from one dimension to another without losing sight of how they fit together into a more complex whole. (Wertsch, p. 121)

Using Wertsch's idea to analyze the GLE as a learning phenomenon, I argue that to better understand the GLE and its appearances in higher education, the global aspects of this concept (international, interactive, and innovative; interconnected by the culture of mutual learning established in the course) should be viewed together as educational constructs employed in social, cultural, and institutional situations.

From my view, among the global features of the GLE that emerged in this research, the culture of mutual learning was of vital importance as a way of preserving the GLE's international, interactive, and innovative features, illustrated in Figure 2.

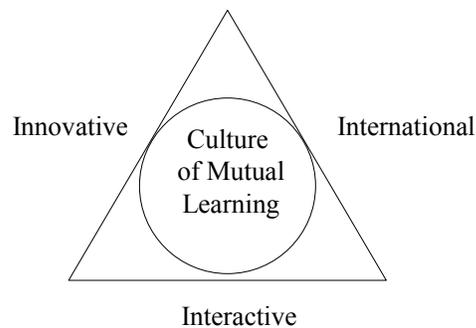


Figure 2 GLE's conceptual parameters: The place of a culture of mutual learning among other global features.

In the context of this research, the culture of mutual learning implies a learning curve for students and instructors who built their understandings of the project in two ways: through challenging each other's fundamental assumptions about the course and capturing different ways of constructing individual and group meanings of their teaching and learning practices in intensive interactions established through multiple means of a course's communication. The understanding of the culture of mutual learning as it appeared in this study parallels with those

found in the literature. Nielsen, Dirckinck-Holmfeld, and Danielsen (2003) also defined mutual learning as a guiding principle for the establishment of the international and interdisciplinary dimensions of their research project. Posch and Steiner (2006) viewed mutual learning as the aspect of their inquiry that enhanced their understanding of interdisciplinarity. It is important to note that much in line with Posch and Steiner's findings, the culture of mutual learning, as it emerged in this research, has established grounds for innovations among the course participants. They challenged each other's basic understandings of the course, which forced them to reorganize some pre-course fundamental assumptions about teaching and learning and implement new educational practices.

The GLE's conceptual parameters reaffirm the perceptual elements of global education presented by Kirkwood (2001) and Merryfield (1997), which included the development of global mindedness, empathy, resistance to prejudicial thinking, and stereotyping of cross-cultural knowledge. Seen this way, the GLE's global features can be viewed as the means by which the global education framework (Case, 1993; Kirkwood, 2001) can establish itself effectively within practice. Understanding the GLE in relation to the idea of global education that promotes global perspective and awareness (Hanvey, 1976; Hanvey, 1982) helps to connect it with the existing educational theory. Hanvey defined global awareness as an appreciation for the diversity of perspectives, which helps a group create their own unique view of the world beyond their local one. From this perspective, the GLE promotes all the elements of Hanvey's global awareness, such as perspective consciousness, state-of-the-planet awareness, cross-cultural awareness, knowledge of global dynamics, and awareness of human choices.

GLE as an Educational Model

Applied to an educational practice, the GLE can be viewed as a constructive and participatory educational model that provides possibilities for transforming higher education

practices that promote global learning. The notion of its transformative power arose from the multiple revisions of the Global Seminar Project's (GSP) participants' perceptions of the course's educational model, analysis of their teaching and learning strategies, and quality of the GSP's educational processes. While examining the aspects of the GSP's learning environment within the frameworks of constructivist theory and a deep learning concept, I grew to appreciate each area of its educational model as constructive and participatory in style, structure, management, and content. It is the GLE's constructive and participatory attributes that make its processes and practices truly transformative to education. Table 5 summarizes the GLE's transformative characteristics as they appeared in the GSP.

The results of the study clearly showed that the GLE was remarkable for its capacity to generate and support constructivist practices that produce deep learning. Despite a well-supported trend in educational research that questions the value of the constructivist framework for studies on educational change (Prosser & Twiggel, 1997), the results of this study let me suspend the possible theoretical formulations of the GLE's image that would ignore its ability to produce deep learning in a constructive and participatory way.

Performed from a standpoint of constructivism and deep learning, the research analysis demonstrated the active role that participants play in the building of their own courses of teaching and learning and in the shaping of their learning environments. Both personal and situational factors of the Biggs' (2003) model emerged among the research findings. In alignment with Biggs' concept, the GSP's students and instructors mastered and critiqued their ways of knowing by creating new meanings with respect to their personal lives and culturally constructed understandings of their own reality at the deepest level of the processing of knowledge. I believe that the understanding of the GLE as a constructive and participatory approach to teaching and learning opened analytical avenues for the exploration of teaching and learning that in the words of O'Loughlin (1992) possibly "leads to genuine ownership of ideas and possibilities for transformation" (p. 809).

Table 5 *Transformative Characteristics of the Global Learning Environment*

Constructive	Participatory
Based on intrinsic values of the GSP's participants	Based on scholarly networks of GSP's participants
Promotes educational goals and practices that encourage the growth of students' responsibility, initiative, and development of generic metacompetencies	Develops sense of camaraderie among participants
Promotes learning through intense interaction and communication within cultural contexts	Operates within a flexible and non-centralized structure
Facilitates self-regulation and promotes independent learning	Develops participants' academic potential and autonomy
Establishes a culture of mutual learning	Promotes constant application of new ideas based on an immediate internal feedback
Encourages use of local resources to solve real-life problems	Promotes practices that imply integrity, ethical consideration, respect, and equity
Process oriented	Ongoing process
Uses case study methodology	Cultivates collaboration among participants
Responsive and dynamic	Utilizes participants' creativity based on the GSP's dynamics and interdisciplinary
Focused on conceptual understanding and capacity building	Relies on the participants' expertise
Provides opportunities for multicultural and interdisciplinary learning	

This understanding of the GLE's model is also important as it contributes to the ongoing debate about a managerialist discourse in education, which is criticized for its view of education as a "commodity" and for mimicking goals, structures, and processes of a globalized corporate business. Clarke and Newman (1997) criticized the effects of the managerialism paradigm of education as follows:

[It] offers particular representations of the relationship between social problems and solutions. It is linear and oriented to "single goal" thought patterns. It is concerned with goals and plans. . . It is about action rather than reflection. It draws on analysis rather than synthesis. It sets up boundaries between "policy" and "delivery," "strategy" and "implementation," "thought" and "action." It offers a technicist discourse which strips debate of its political underpinnings, so that debate about means supplants debate about ends. (p. 148)

Applying the main points of Clarke and Newman's critique to the findings of the study, I cannot suggest that the managerialist changes in educational landscapes associated with global transitions were deleterious for the Global Seminar Project or its participants. In this study, the effects of managerialism, as described by Clarke and Newman in the quotation above, did not emerge within the GLE's aspects. It is apparent from the detailed description of the GSP, which is provided in chapter four of this dissertation, that the elements of the GSP were very well organized and managed, but not in a managerialist's manner.

However, it is important to note that, although the results did not indicate the GSP's managerialist nature, the project itself operated in the educational system, which, as experts (Carr, 1989; Inglis, 1989; Rizvi, 1989) have argued, is influenced by managerialism. Perhaps the most logical explanation of such paradox is that the managerialism itself has changed since the late 1990s when the debate about its influence of educational systems was at its peak. As argued by Sterling (2001),

The glaring irony of the managerialist approach to education is that the business world it is mimicking has moved on . . . education-*follows*-business-*follows*-science. But now, while progressive business is beginning to echo a

changing scientific paradigm based on complexity, education managers and policy makers still rehearse yesterday's management paradigm . . . which espoused cause-effect determinism, predictability, control, and objectivism. (p. 45)

Considering the qualitative and participatory nature of the educational inquiry used in this study, it is also possible to presume that the managerialist paradigm manifests differently at the participatory level of an educational system, and, therefore, the research analysis did not capture the instances of institutionalized managerialism as defined by Clarke and Newman (1997). Under a different research focus, this study has the potential to fully address the managerialist concerns, especially because the GLE's components such as "institutional support" and "strong leadership and management" emerged among the main components of the GLE.

In the context of this research, these descriptive components clarified the insights of the "management for complexity" as opposed to the "management for control" approaches. Illustrating the "management for complexity" style in its operations, the GLE, in the words of Sterling (2001), can be described as an approach that "values and emphasizes genuine participation and collaboration, flexibility, trust, diversity, autonomy, and the role of local and personal knowledge as inherent to the learning process. And it tolerates uncertainty and instability, as necessary for self-organization, group learning, and innovation" (p. 46).

As I argued in my earlier publication (Savelyeva, 2007), the GSP's educational model can be viewed as an alignment of its structural elements. At this concluding point of my research, I am inclined to believe that to capture a more complete picture of the GLE, all its elements should be perceived simultaneously and considered in close relation to each other. I argue that while examining the GLE's conceptual structure, its image should not be done trivially in a linear system-designed fashion of input, process, and output. Instead, I based the narrative of the GLE on the analysis of instructors' perceptions and understandings of the

components of the model in relation to teaching and learning acts in which they were engaged.

Approaching the GLE this way, I find that the relationship between its elements can be best perceived as an interactive system, which, as argued by Meyer (2000), might imply more complex bonds among components of an educational model. I also maintain that the teaching and learning experiences of the participants affect the interactions between the GLE's components. It is significant to note that in educational modeling the experiences of a researcher and participants are always affected by a "temporality" factor (Trigwell & Prosser, 1997), which implies that all parts of an educational model viewed together and are presented and experienced simultaneously by participants at the moment of inquiry. Applied to this research, the "temporality" factor contributes to the understanding of the contextual status of the GLE's components by highlighting the issue of complex relationships among their elements.

Recommendations

Recommendations for Future Research

Based on the findings of this study, I suggest the following ideas for further research follow-up. First, I think that further research should continue to develop a solid conceptual base for newly emergent educational practices that indicate transformative changes in education and possibly affect overall globalization process. Second, based on the development of the GLE's global components, it is also important to explore the idea of a GLE at the different levels of an educational system. Third, I believe that to capture a complete and an accurate image of the GLE, it is important to continue focusing on constructivist and participatory practices, such as different projects, innovations, and courses developed by the practitioners in the field. Last, I believe this research provides possibilities for further studies to extend the understanding of the GLE's conceptual structure by exploring the nature of the

relationships among its elements. To get even greater insights regarding the GLE, comparative studies might be conducted in the countries that were involved in this project.

Recommendations for Practice

To apply the results of this research to an educational practice and establish the GLE's model outside its present research setting, I offer the following suggestions:

1. *Develop a course proposal in alignment with the university's strategic goals.*

The institutional support is an important element of the successful project's establishment and growth; therefore, its goals should be reflected in a course proposal. Because the GSP is dependent upon top decision makers for resources, contacting them and discussing the course prospects with the university or departmental administration will help to ensure the flow of resources toward the course implementation.

2. *Seek advice from local experts in diverse areas of academic expertise and from other GSP instructors.*

The expert advice provided by a group of local experts at your university and from the GSP faculty will help to illuminate possible constraints by uncovering information, looking beyond present university culture, and providing solutions. Using knowledge, skills, and abilities of the diverse group of people is invaluable for the prosperity of the GSP.

3. *Consider attending the GSP annual planning conference.*

As a strategic initiative, the annual meetings propel the innovative thinking of the participants, simultaneously provide opportunities to evaluate their experiences, and establish trust and respect among the participants. The annual meetings also serve as training seminars for current instructors and a recruiting ground for potential faculty.

4. *Consider observing the course during the first year participation.*

Observing GSP practices during the first semester of your university's participation helps to understand the complex interaction patterns among all the aspects of the GSP model. Getting involved gradually decreases miscommunication and confusion associated with working in a complex-structured, multi-cultural environment.

5. *Consider fostering a climate of mutual learning in the classroom by focusing on participants' relationships.*

Fostering trusting and caring relationships among all course participants will sustain the positive climate in a classroom. Focusing educational values on the quality of teaching and learning experiences instead a managerialist approach (rankings of the course, number of participants, students' grades, etc.) decreases the stress associated with challenging and intense interactions.

6. *Promote course goals to students and encourage their autonomy.*

Promoting the goal of globalizing the curriculum to students increases their ability to appreciate the difference of opinions presented in the course and remain open to learn about other cultures. Giving them the autonomy to organize class sessions will encourage independent learning and enhance their sense of responsibility.

7. *Emphasize clear communication.*

Clear and open communication is important to keep up with the entire course schedule and coordinate your activities with those in other universities involved in the course. Working in multicultural groups requires time and effort to establish and maintain the understanding of each other's capabilities and idiosyncrasies.

Final Thoughts

The GLE represents a future of transformation in academia; it stakes out areas of genuine educational quality and gives participants sincere aspirations for teaching and learning that will positively affect values and praxes. Serving as an example, the GLE illustrates the changing climate that is transforming the global nature of teaching and learning in universities' classrooms. I believe that the GLE, as a concept and as a model, has a tremendous potential for practical applications.

The GSP's participants, instructors and students, created the GLE as a conceptual phenomenon and applied it as a model to generate real change in their practices within the classroom. I believe that the GLE can be universally applied to different disciplinary areas at the different levels of higher and secondary education, and can be established within different cultural and political environments. A prime example would be my home country of Russia, where the GLE could be utilized to address the issues of ethnic diversity and environmental conservation within the former Soviet block.

I believe there is no simple solution to the world's problems; however, the GLE gives us a single opportunity to create real transformational change in the minds of students and teachers. It gives a voice to those who dream about quality education, genuine values, and real change. The results of this study provide an avenue for teachers and students to grow together and transform the world.

REFERENCES

- AED Global Education Center. (2005). *The role of teachers, schools, and communities in quality education: A review of the literature* (Issue Brief No.1). Washington, DC: Leu, E. & Global Learning Group.
- Alexander, S., McKenzie, J., & Geissinger, H. (1998). *An evaluation of information technology projects for university learning*. Canberra, Australia: Committee for University Teaching and Staff Development.
- Anfara, V., Brown, K., & Mangione, T. (2002). Qualitative analysis on stage: Making the research process more public. *Educational Researcher*, 31(7), 28-38.
- Atkinson, P., & Coffey, A. (2003). Revisiting the relationship between participant observation and interviewing. In J. Holstein & J. Gubrium (Eds.), *Inside interviewing: New lenses, new concerns* (pp. 415-428). Thousand Oaks, CA: Sage.
- Arnett, J. (2002). The psychology of globalization. *American Psychologist*, 57(10), 774-783.
- Astin, A. (1980). When does college deserve to be called "high quality?" *Current Issues in Higher Education: Proceedings of the American Association of Higher Education, USA, 1*, 1-4.
- Beck, R., King, A., & Marshall, S. (2002). Effects of video case construction on pre-service teachers' observations of teaching. *The Journal of Experimental Education*, 70(4), 345-361.
- Becker, J. (Ed.). (1979). *Schooling for a global age*. New York: McGraw Hill.
- Becker, J. (1982). Goals for global education. *Theory into Practice*, 21(3), 228-233.
- Bennett, C. (2001). Genres of research in multicultural education. *Review of Educational Research*, 71(2), 171-217.
- Bhagwati, J. (2002). Coping with anti-globalization: A trilogy of discontents. *Foreign Affairs*, 81(1), 2-7.
- Biggs, J. (2003). *Teaching for quality learning at university*. (2nd ed.). Berkshire, UK: The Society for Research into Higher Education and Open University.
- Bloom, D. (2000). Globalization and education: An economic perspective. In M. Suarez-Orozco & D. Qin-Hillard (Eds.), *Globalization: Culture and education in the new millennium* (pp. 56-78). Berkeley: University of California.
- Bloom, D. (2004). *Measuring global education progress*. Retrieved July 14, 2008, from <http://www.amacad.org/publications/bloom.pdf>
- Bloom, D., & Cohen, J. (2002). Education for all: An unfinished revolution. *Daedalus*, 131(3), 84-95.

- Brown, A., & Campione J. (1996). Psychological theory and the design of innovative learning environments: On procedures, principles, and systems. In L. Schauble & R. Glaser (Eds.), *Innovations in learning. New environments for education* (pp. 289-325). Mahwah, NJ: Lawrence Erlbaum.
- Burbules, N., & Torres, C. (2000). *Globalization and educations: Critical perspectives*. New York: Routledge.
- Capra, F. (2002). *The hidden connections: A science of sustainable living*. London: Harper Collins.
- Carnegie Commission on Advanced Teaching (CCAT). (2006). *2005 Carnegie classification initial release*. Retrieved March 8, 2006, from <http://carnegieclassification-preview.org/>
- Carr, W. (Ed.). (1989). *Quality in teaching: Arguments for a reflective profession*. Philadelphia: Falmer.
- Carson, R. (1962). *Silent spring*. Greenwich, CT: Fawcett.
- Case, R. (1993). Key elements of global perspective. *Social Education*, 57(6), 318-325.
- Castels, S., & Davidson, A. (2000). *Citizenship and migration: Globalization and the politics of belonging*. New York: Routledge.
- Charmaz, K. (2003). Qualitative interviewing and grounded theory analysis. In J. Holstein & J. Gubrium, (Eds.), *Inside interviewing: New lenses, new concerns* (pp. 311-330). Thousand Oaks, CA: Sage.
- Clarke, J., & Newman, J. (1997). *The managerial state: Power, politics and ideology in the remaking of social welfare*. Thousand Oaks, CA: Sage.
- Cognition and Technology Group at Vanderbilt (CTGV). (1996). Multimedia Environments for enhancing learning in mathematics. In S. Vosniadou, E. De Corte, R. Glaser & H. Mandl (Eds.), *International perspectives on the design of technology supported learning environments* (pp. 285-307). Mahwah, NJ: Lawrence Erlbaum.
- Commission on Technology and Adult Learning (CTAL). (2001). *A vision of e-learning for America's workforce: Report of the Commission on Technology and Adult Learning*. Retrieved December 2, 2003, from: <http://www.masie.com/masie/researchreports/ELEARNINGREPORT.pdf>
- Cook, S. (2007, August 20). *Baucus plans to introduce Education Competitiveness Act soon*. Retrieved September 14, 2007, from http://www.helenair.com/articles/2007/08/20/montana/a06082007_01.txt
- Corbin, J., & Strauss, A. (2007). *Basics of qualitative research: Grounded theory procedures and techniques*. (3rd ed.). Newbury Park, CA: Sage.
- Corcoran, P., & Wals, A. (2004). *Higher education and the challenge of sustainability problematics, promise, and practice*. Assinippi Park Norwell, MA: Kluwer Academic.

- Creswell, J. (1998). *Qualitative inquiry: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. (2003). *Research design. Qualitative, quantitative and mixed approaches*. Thousand Oaks, CA: Sage.
- De Corte, E. (1996). Changing views of computer-supported learning environments for the acquisition of knowledge and thinking skills. In S. Vosniadou, E. De Corte, R. Glaser & H. Mandl (Eds.), *International perspectives on the design of technology supported learning environments* (pp. 129-145). Mahwah, NJ: Laurence Erlbaum.
- Dewey, J. (1998/1925). The development of American pragmatism. In L. Hickman & T. Alexander (Eds.), *The essential Dewey (Volume 1). Pragmatism, education, democracy* (pp. 3-14). Bloomington, IN: Indiana University.
- Dijkstra, S., Collis, B., & Eseryel, D. (1999). Instructional design of www-based course-support environments: From case to general principles. In B. Collis & R. Oliver (Eds.), *Proceedings of ED_MEDIA 99: World conference on educational multimedia, hypermedia & telecommunications* (pp. 231-235). Seattle, WA. Association for Advancement of Computing in Education.
- Durkheim, É. (1977/1904). *The evolution of educational thought*. London: Routledge & Kegan Paul.
- Durkheim, É (2004/1925). Education: Its nature and its role. In H. Lauder, P. Rown, J. Dillabough, & A. Halsey (Eds), *Education, globalization & social change* (pp. 76-87). New York: Oxford University.
- Education Competitiveness Act of 2006*, 109th Cong., 3902 Sess. (2006). Retrieved September 14, 2007, from GovTrack.us database of federal legislation, <http://www.govtrack.us/congress/bill.xpd?bill=s109-3902>
- Education For All (EFA). (2000). *Dakar framework for action, education for all: Meeting our collective commitments*. Retrieved October 15, 2007, from http://www.unesco.org/education/efa/ed_for_all/dakfram_eng.shtml
- Edwards, M. (n.d). *The depth of the exteriors*. Retrieved October 22, 2007, from <http://www.integralworld.net/edwards17.html>
- Ehrlich, P. (1968). *The population bomb*. New York: Sierra Club-Ballantine.
- Ellis, T., & Cohen, M. (2001). Integrating multimedia into a distance learning environment: Is the game worth the candle? *British Journal of Educational Technology*, 32(4), 495-497.
- Entwistle, N., & Ramsden, P. (1983). *Understanding student learning*. London: Croom Helm.
- Evans R., Newmann, F., & Saxe, D. (1996). Defining issues-centered education. In R. W. Evans & D. W. Saxe (Eds.), *Handbook on teaching social issues* (pp. 2-5). Washington, DC: National Council for the Social Studies.

- Fontana, A., & Frey, J. (2003). The interview: From structured questions to negotiated text. In N. Denzin & Y. Lincoln (Eds.), *Collecting and interpreting qualitative materials* (pp. 47-79). Thousand Oaks, CA: Sage.
- Fosnot, C. (1993). Rethinking science education: A defense of Piagetian constructivism. *Journal of Research in Science Teaching*, 30(9), 1189-1201.
- Fosnot, C. (1996). *Constructivism: Theory, perspective, and practice*. New York: Teachers College, Columbia University.
- Fuller, B. (1969). *Operating manual for spaceship earth*. New York: Aeonian.
- Gardner, H. (2004). How education changes: Considerations of history, science, and values. Retrieved October 15, 2007, from http://www.pz.harvard.edu/PIs/HG_HowEducationChanges.pdf
- Gaudelli, W. (2003). *World class: Teaching and learning in global times*. Mahwah, NJ: Laurence Erlbaum.
- Giangreko, M., & Taylor, S. (2003). "Scientifically based research" and qualitative inquiry. *Research and practice for persons with severe disabilities*, 28(3), 133-137.
- Grant, C., & Sleeter, C. (1998). *Turning on learning: Five approaches to multicultural teaching plans for race, class, gender, and diversity*. Princeton, NJ: Merrill of Prentice Hall.
- Haakenson, P., Savukova, G., & Mason, T. (1998/99). Teacher education reform and global education: United States and Russian perspectives. *The International Journal of Social Education*, 13(2), 29-47.
- Haberman, J. (1968). *Erkenntnis und interesse*. Frankfurt, Germany: Suhrkamp.
- Hahn, C. (1984). Promise and paradox: Challenges to global citizenship. *Social Education*, 48(4), 240-243.
- Hannerz, U. (1990). Cosmopolitans and locals in world culture. *Theory, Culture & Society*, 7(2-3), 237-251.
- Hanvey, R. (1982). Attainable global perspective: Theory into practice. *Global Education*, 21(3), 162-167.
- Hanvey, R. (2004/1976). *Attainable global perspective*. New York: American Forum for Global Education.
- Harvey, L., & Green, D. (1993, April). Defining quality. *Assessment & Evaluation in Higher Education*, 18(1): 9. Retrieved September 25, 2007, from Education Research Complete database. <http://ezproxy.lib.vt.edu:8080/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=e hh&AN=9707085278&site=ehost-live&scope=site>
- Hicks, S. (2000). Evaluating e-learning. *Training & Development*, 54 (12), 75.

- Hopkins, D. (2001). *School improvement for real*. London: Routledge.
- Hurworth, R. (2005). *Encyclopedia of evaluation*. London: Sage.
- Inayatullah, S., & Gidley, J. (2003). *The university in transition*. Westport, CT: Bergin & Garvey.
- Inda, J., & Rosaldo, R. (2001). *Anthropology of globalization: A reader*. New York: Blackwell.
- Inglis, F. (1989). Managerialism and morality: The corporate and the republican school. In W. Carr (Ed.), *Quality in teaching: Arguments for a reflective profession*. Philadelphia: Falmer.
- James, H. (2001). *The end of globalization: Lessons from the great depression*. Cambridge, MA: Harvard University.
- Jenkins, H. (2004). Pop cosmopolitanism: Mapping cultural flows in an age of media convergence. In M. Suarez-Orozco & D. Qin-Hillard (Eds.) *Globalization: Culture and education in the new millennium* (pp. 114-141). Berkeley: University of California.
- Kirkwood, T. (2001). Our global age requires global education: Clarifying definitional ambiguities. *Social Studies*, 92(1), 10-15.
- Kniep, W. (1987). *Next steps to global education: A handbook for curriculum development*. New York: American Forum for Global Education.
- Lamy, S. (1990). Global education: A conflict of images. In K. Te (Ed.), *Global education: From thought to action* (pp. 43-63). Arlington, VA: Association for Supervision and Curriculum Development.
- Lauder, H., Brown, P., Dillabough, J., & Halsey, A. (2007). *The prospects for education: Individualization, globalization, and social change*. Oxford, UK: Oxford.
- Laurillard, D. (1999). A controversial framework for individual learning applied to the “learning organization” and the “learning society.” *Systems Research and Behavioral Science*, 16(2), 113-122.
- Laurillard, D. (2001). *Rethinking university teaching* (2nd ed). London: Routledge.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge, UK: Cambridge University.
- Leonardo, Z. (Ed.). (2004). Theme issue: Disciplinary knowledge and quality education. Editor’s introduction. *Educational Researcher*, 33(5), 3-5.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Marshall, C., & Rossman, G. (1989). *Designing qualitative research*. Newbury Park, CA: Sage.

- McLoughlin, C., & Luca, J. (2001). *Quality in online delivery: What does it mean for assessment in e-learning environments?* Retrieved December 2, 2003, from <http://www.edrs.com/Webstore/Download.cfm?ID=713794&CFID=3495262&CFTOKEN=97069017>
- McLaughlin, M., Talbert J., & Bascia, N. (1990). *The contexts of teaching in secondary schools: Teachers' realities*. New York: Teachers College.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: Mentor.
- Merryfield, M. (1996). *Making connections between multicultural and global education: Teacher educators and teacher education programs*. Washington DC: American Association of Colleges for Teacher Education.
- Merryfield, M. (1997). A framework for teacher education. In M. Merryfield, E. Jarchow, & S. Pickert (Eds.), *Preparing teachers to teach global perspectives: A handbook for teacher educators* (pp. 1-24). Thousand Oaks, CA: Corwin.
- Meyer, J. (2000). The modeling of a “dissonant” study orchestrations in higher education. *European Journal of Psychology of Education, 15*(1), 5-18.
- Miles, H. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.
- Minstrell, J., & Stimpson, V. (1996). A classroom environment for learning: Guiding students' reconstruction of understanding and reasoning. In L. Schauble & R. Glaser (Eds). *Innovations in learning: New environments for education* (pp. 175-202). Mahwah, NJ: Lawrence Erlbaum.
- Morton, F., & Säljö, R. (1976a). On qualitative differences in learning I: Outcome and processes. *British Journal of Educational Psychology, 46*(1), 4-11.
- Morton, F., & Säljö, R. (1976b). On qualitative differences in learning II: Outcome as a function of the learner's conception of the task. *British Journal of Educational Psychology, 46*(3), 115-146.
- National Association of Multicultural Education (NAME). (2003). *Multicultural Education* [Electronic Version]. Retrieved on September 12, 2007, from www.nameorg.org/resolutionsdefinition.html
- National Commission on Excellence in Education (NCEE). (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Government Printing Office.
- Nielsen, J., Dirckinck-Holmfeld, L., & Danielsen, O. (2003). Dialogue design with mutual learning as guiding principle. *International Journal of Human-Computer Interaction, 15*(1), 21-40.
- O'Loughlin, M. (1992). Rethinking science education: Beyond Piagetian constructivism toward a sociocultural model of teaching and learning. *Journal of Research in Science Teaching, 29*(8), 791-820.

- Pascarella, E., & Terenzini, P. (2005). *How college affects students: A third decade of research* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Piaget, J. (1962). *Comments on Vygotsky's critical remarks concerning "the language and thought of the child, and judgment and reasoning in the child."* Boston: M.I.T.
Retrieved October 22, 2007, from <http://www.marxists.org/archive/vygotsky/works/comment/piaget.htm>
- Popkewitz, T. (1980). Global education as a slogan system. *Curriculum inquiry*, 10(3), 303-315.
- Posch, A., & Steiner, G. (2006). Integrating research and teaching on innovation for sustainable development. *International Journal of Sustainability in Higher Education*, 7(3), 276-292.
- Prosser, K., & Twiggel, M. (1997). Towards an understanding of individual acts of teaching and learning. *Higher Education Research & Development*, 16(2), 241-252.
- Ramsden, P. (1992). *Learning in higher education*. London: Routledge.
- Rinehart, G. (1993). *Quality education: Applying the philosophy of Dr. W. Edwards Deming to transform the educational system*. Milwaukee, WI: ASQC Quality.
- Rizvi, F. (1989). Bureaucratic rationality and the promise of democratic schooling. In W. Carr (Ed.), *Quality in teaching: Arguments for a reflective profession*. Philadelphia, PA: Falmer.
- Rockman, S. (1991). Telecommunications and restructuring: Supporting change or creating it. In A. Sheekey (Ed.), *Education policy and telecommunication technologies* (pp. 24-36). Washington, DC: Department of Education, Office of Educational Research and Improvement.
- Rossmann, G., & Rallis, S. (2003). *Learning in the field: An introduction to qualitative research*. Thousand Oaks, CA: Sage.
- Rothman, R. (1987, May 20). Report urges schools to think globally in a changing world. *Education Week*, 15-16.
- Russell, T. (1999). The "no significant difference" phenomenon. Retrieved December 2, 2003, from <http://teleeducation.nb.ca/nosignificantdifference>
- Savelyeva T. (2007). The transforming potential of global learning environments: A case for the Global Seminar Project. *European Journal of Natural History*, 2(2), 129-131.
- Sen, A. (2000). *Global doubts*. Commencement address, Harvard University, Cambridge, MA. Retrieved October 15, 2007, from <http://commencement.harvard.edu/sen.html>
- Sfaard, A. (1998). On two metaphors for learning and the danger of choosing just one. *Educational Researcher*, 27 (2), 4-13.

- Shuy, R. (2003). In-person versus telephone interviewing. In J. Holstein & J. Gubrium (Eds.), *Inside interviewing: New lenses, new concerns* (pp. 175-193). Thousand Oaks, CA: Sage.
- Singer, P. (2002). *One world: The ethics of globalization*. New Haven: Yale University.
- Spector, M. (2000). Designing technology enhanced learning environments. In B. Abbey. (Ed.), *Instructional and cognitive impacts of web-based education* (pp. 241-261). Hershey, PA: Idea Group.
- Sterling, S. (2001). *Sustainable education: Re-visioning learning and change*. Devon, UK: Green Books.
- Suarez-Orozco, M., & Qin-Hillard, D. (2004) *Globalization: Culture and education in the new millennium*. Berkeley, CA: University of California.
- Tagg, J. (2003). *The learning paradigm college*. Boston: Anker.
- Tanner, D., & Tanner, L. (2006). *Curriculum development: Theory into practice* (4th ed). Upper Saddle River, NJ: Merrill of Prentice Hall.
- Thornton, S. (2001, November-December). From content to subject matter. *The Social Studies*, 92(6), 237-242.
- Tiffin, J., & Rajasingham, L. (2003). *The Global Virtual University*. New York: Routledge.
- Tinto, V. (1998). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago.
- Twigg, C. (2001). *Innovations in online learning: Moving beyond no significant difference*. Retrieved October 12, 2007, from <http://www.thencat.org/Monographs/Mono4.pdf>
- Trigwell, K., & Prosser, M. (1997). Towards an understanding of individual acts of teaching and learning. *Higher Education Research and Development*, 16(2), 241-252.
- Urry, J. (2003). *Global complexity*. Oxford, UK: Blackwell Publishing.
- Van Dusen, G. (1997). *The virtual campus: Technology and reform in higher education*. ASHE-ERIC Higher Education Report 25, No. 5. Washington, DC: The George Washington University, Graduate School of Education and Human Development.
- Von Glasersfeld, E. (1996). Introduction: Aspects of constructivism. In C. Fosnot (Ed.), *Constructivism: Theory, perspective, and practice* (pp. 3-8). New York: Teachers College, Columbia University.
- Vosniadou, S. (1996). Learning environments for representational growth and cognitive flexibility. In S. Vosniadou, E. De Corte, R. Glaser, & H. Mandl (Eds.), *International perspectives on the design of technology supported learning environments* (pp. 13-23). Mahwah, NJ: Laurence Erlbaum.
- Vygotsky, L. (1979/1925). Consciousness as a problem in the psychology of behavior. *Soviet Psychology*, 17(4), 3-35.

- Wenger, C. (2003). Interviewing older people. In J. Holstein & J. Gubrium, (Eds.), *Inside interviewing: New lenses, new concerns* (pp. 111-130). Thousand Oaks, CA: Sage.
- Wengraf, T. (2001). *Qualitative research interviewing*. Thousand Oaks, CA: Sage.
- Wertsch, J. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University.

APPENDIX A

Correspondence

Dear _____,

My name is Tamara Savelyeva, I am a doctorate candidate at Virginia Tech and my dissertation involves a study of the *Global Seminar* project

I am conducting a study of the Global Seminar Project in July 2005. Your feedback on the *Global Seminar* events and experiences is very important for a success of the entire *Global Seminar* project. Our hope is that this study will enable us to identify the areas of the GS that promote global learning and global nature of the modern education so that we could develop suggestions for the *Global Seminar* stakeholders.

We are inviting you to spend 20 minutes and sign up for the *Global Seminar* research interview during the GS annual conference in July 2005. Prior the research, you will receive (via e-mail) the drafts of interview questions, copies of IRB forms, and a brief bio of the researchers. Feel free to make changes and provide your comments! We will meet in person during the conference and discuss the study in detail before the interviews start.

The study has received the IRB approval from the Virginia Tech. Please consider to review the participants' consent form attached to this message. You will be asked to sign this form in person when you prior the interview session.

Thank you, in advance, for your assistance with this project.

Sincerely,

Tamara Savelyeva
Doctoral Candidate, Virginia Tech

APPENDIX B

Interview Protocol and Interview Questions' Coding Schema

Date:

Time:

Location:

Interviewee:

Instructions to the interviewer:

Initial interview involves main questions or statements directly related to the research statement, guiding research questions and the themes reflected in the reviewed literature. Further questions or comments will emerge to clarify answers and encourage the participants to elaborate on their answers.

Key Interview Questions and Coding Schema

Codes	Interview Questions by Section
R	<u>Interview Section One: Role & Portrait of a GSP Participant</u>
R1	How long have you been involved in the Global Seminar?
R2	If you are just exploring, when did you start and why?
R3	What is your role in the Global Seminar?
P	<u>Interview Section Two: The Coordinators' / Instructors' Perceptions of Their Use of the GSP Educational Model and Technology</u>
P1	What do you think are the educational strengths" or "is the educational strength of the GSP model?
P2	If you have been involved for a while, how do you think that this model has evolved?
P3	If you are new to the GSP, what are your expectations and reservations about using the GSP model?
P4	What are three things that come to your mind about the technology?
P5	What do you think is there about the technology in GSP that contributes to a better educational environment?

Codes	Interview Questions by Section
O	<p>Interview Section Three: GSP's Opportunities to Engage the Project Participants in Meaningful Interactions</p> <hr/>
O1	How would you describe students' growth and changes that occur throughout the GSP?
O2	How do you and/or your students learn interactive techniques by the end of the semester, and how would you and/or your students evaluate these techniques?
O3	How do you think the interaction with your GSP partners affects your ability to create an innovative educational environment?
O4	What is it about the GSP strategy that changes some of your traditional views on teaching and learning?
O5	What are the accomplishments of the GSP model in terms of making interactions important?
G	<p>Interview Section Four: Globalization of Program Objectives Across National and Cultural Boundaries</p> <hr/>
G1	What are your views with regards to students' taking responsibility for their own learning?
G2	How does this occur in the GSP?
G3	Would you tell me more about the multicultural aspects of the GSP?
G4	In your opinion, how is the GSP different from regular courses?
G5	What do you think are the educational gains that the GSP provides to your students?

Elaborative transition messages

1. Would you expand on that?
2. Can you provide me with more details on how this has happened?
3. If I understood you right, then that would be like...

Reflective notes

APPENDIX C
Observation Analysis Sheet

Date and Time

Location

Research Objective Two: To determine specific Global Seminar Project (GSP) contributions to deep learning.

Research Question Two: In what ways does the GSP contribute to deep learning?

Observation Notes

Descriptive

Reflective

Data Points

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion			Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)			Navigating discussion and posting questions
Prepared and immediate discussion ideas			Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)			Improvisation moments (questions and comments from instructors that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations			
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)			

APPENDIX D

Document Summary Form

Site: _____

Document: _____

Date received: _____

Name or description of the document:

Event or contact, if any, with which document is associated:

Date:

Significance or importance of the document:

Brief summary of the contact:

If document is central or crucial to a particular contact (i.e. a meeting agenda, newsletter clipping...)

Adapted from: Miles, H. B., & Huberman, A. M. (1994, p. 55). *Qualitative data analysis: An expanded sourcebook*. Thousand Oaks, CA: Sage.

APPENDIX E

Participant Consent Forms

Informed consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed consent form for participants of Research Project Involving Human Subject

Title of the Project: Applying concept of globalization to the Global Seminar educational model

Investigator: Tamara Savelyeva

Adviser: Dr. Dean Sutphin

I. The Purpose of this Research/Project

The purpose of this study will be to understand how global educators participating in the Global Seminar (GS) project implement globalization concept to their practices across national boundaries. The proposed study will address the critical issues related to globalization experiences within the education environments. The addressing these issues is important in order to understand the nature of different global models and techniques to improve educators' practices worldwide.

II. Procedures

If you choose to participate in this study, I will ask you to complete one open-ended semi-structured interview that will last approximately twenty minutes. You will have a chance to look at the list of questions before the interview to make your comments and corrections to the topic. You will be allowed to interrupt or stop the interview any time during the procedure. The interviews will be scheduled in the place and at the time convenient for you. Interviews will be audio-tape recorded. In addition to this, I will watch the records (DVDs) of the GS videoconference to elaborate on your global education experiences.

III. Risks

Risks to the participants are minimal. The only identifiable loss is the loss of time given up to be interviewed. To minimize the disruption, interviews will be scheduled at the subject's convenience. Every effort will be made to protect the identity of all participants. The actual participation in interviews is not likely to cause any harm.

IV. Benefits of the Project

This study will benefit the field of global education by expanding the theory base on understanding the nature of global environments. You will probably not gain any potential benefits as a result of your participation.

V. Extent of Anonymity and Confidentiality

I assure the confidentiality to all participants of the study. However, anonymity cannot be guaranteed. Your name will not be associated with the content of the interview. In addition, any confidential information shared with me will not be used. You will be given a pseudonym to protect the privacy. Nevertheless, pseudonym might be penetrated by people close to the situation.

All subject data will be recorded by the researcher only. The audio tapes will be stored in a locked cabinet. No one other than the researcher will have an access to the data, nor will anyone be permitted to see the interview and survey notes. Further, interview notes will be coded so as not to include the name of the participants. After distributing the results of the study, all documents will be shredded and tapes will be destroyed by burning.

This study is being conducted solely for educational purposes and the resulting data and interpretations will also be the part of the researcher's academic work. Consistent with these academic purposes, any results would be freely publishable. However, to protect your identity, neither personal nor institutional names nor distinguishing information will be used in any published works. I am willing to share drafts of reports with you before submitting them for publication. Any confidential information shared with the researcher will not be used.

VI. Compensation

There is no compensation for participation in this study.

VII. Freedom to Withdraw

Participation in the study is voluntary and the decision about whether you wish to participate is strictly your own. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. Withdrawal from the study will not result in any adverse effects.

VIII. Approval of Research

This research project has been approved by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University and by the Department of Agriculture and Extension Education of the College of Liberal Arts and Human Sciences

IRB Approval Date

IRB Expiration Date

IX. Participant's Responsibilities

Upon signing this form below, I voluntarily agree to participate in this study. I have no restriction to my participation in this study.

X. Participant's Permission

I have read and understood the Informed Consent and conditions of this study. All of my questions have been answered. I agree to participate in this project and abide all rules sited above.

Participant's Signature

Date

Should I have any question about the research or its conduct, I may contact:

Tamara Savelyeva

e.mail: tsavelye@vt.edu

Phone: (540) 231-3773

Advisers:

Dr. Dean Sutphin

e.mail: sutphind@vt.edu

Phone: (540) 231-8187

David Moore, Chair, IRB

e.mail: moored@vt.edu

Phone: (540) 231-4991

Informed consent form

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
Informed consent form for participants of Research Project Involving Human Subject

Title of the Project: Applying concept of globalization to the Global Seminar educational model

Investigator: Tamara Savelyeva

Adviser: Dr. John Hillison

I. The Purpose of this Research/Project

The purpose of this study will be to understand how global educators participating in the Global Seminar (GS) project implement globalization concept to their practices across national boundaries. The proposed study will address the critical issues related to globalization experiences within the education environments. The addressing these issues is important in order to understand the nature of different global models and techniques to improve educators' practices worldwide.

II. Procedures

If you choose to participate in this study, I will ask your permission to observe the Global Seminar class sessions in the spring 2007.

III. Risks

Risks to the participants are minimal. The only identifiable loss is the loss of time given up to be interviewed. To minimize the disruption, interviews will be scheduled at the subject's convenience. Every effort will be made to protect the identity of all participants. The actual participation in interviews is not likely to cause any harm.

IV. Benefits of the Project

This study will benefit the field of global education by expanding the theory base on understanding the nature of global environments. You will probably not gain any potential benefits as a result of your participation.

V. Extent of Anonymity and Confidentiality

I assure the confidentiality to all participants of the study. However, anonymity cannot be guaranteed. Your name will not be associated with the content of the interview. In addition, any confidential information shared with me will not be used. You will be given a pseudonym to protect the privacy. Nevertheless, pseudonym might be penetrated by people close to the situation.

All subject data will be recorded by the researcher only. The observation notes will be stored in a locked cabinet. No one other than the researcher will have an access to the data, nor will anyone be permitted to see the observation records and notes. All observation notes will be coded so as not to include the name of the participants. After distributing the results of the study, all documents will be shredded.

This study is being conducted solely for educational purposes and the resulting data and interpretations will also be the part of the researcher's academic work. Consistent with these academic purposes, any results would be freely publishable. However, to protect your identity, neither personal nor institutional names nor distinguishing information will be used in any published works. I am willing to share drafts of reports with you before submitting them for publication. Any confidential information shared with the researcher will not be used.

VI. Compensation

There is no compensation for participation in this study.

VII. Freedom to Withdraw

Participation in the study is voluntary and the decision about whether you wish to participate is strictly your own. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. Withdrawal from the study will not result in any adverse effects.

VIII. Approval of Research

This research project has been approved by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University and by the Department of Agriculture and Extension Education of the College of Liberal Arts and Human Sciences

IRB Approval Date

IRB Expiration Date

IX. Participant's Responsibilities

Upon signing this form below, I voluntarily agree to participate in this study. I have no restriction to my participation in this study.

X. Participant's Permission

I have read and understood the Informed Consent and conditions of this study. All of my questions have been answered. I agree to participate in this project and abide all rules sited above.

Participant's Signature

Date

Should I have any question about the research or its conduct, I may contact:

Tamara Savelyeva e.mail: tsavelye@vt.edu Phone: (540) 231-3773

Advisers:

Dr. John Hillison e.mail: hillison@vt.edu Phone: (540) 231-8187

David Moore, Chair, IRB e.mail: moored@vt.edu Phone: (540) 231-4991

APPENDIX F

Institutional Review Board (IRB) Approval Letters



Institutional Review Board

Dr. David M. Moore
IRB (Human Subjects) Chair
Assistant Vice President for Research Compliance
CVM Phase II- Duckpond Dr., Blacksburg, VA 24061-0442
Office: 540/231-4991; FAX: 540/231-6033
email: moored@vt.edu

DATE: June 20, 2005

MEMORANDUM

TO: H. Dean Sutphin Director, CALS Resident Instruction 0334
John H. Hillison Agricultural & Extension Education 0343
Tamara Savelyeva

FROM: David Moore 

SUBJECT: **IRB Expedited Approval:** "Applying Concept of Globalization to Global Seminar Educational Model" IRB # 05-395

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective June 20, 2005.

Virginia Tech has an approved Federal Wide Assurance (FWA00000572, exp. 7/20/07) on file with OHRP, and its IRB Registration Number is IRB00000667.

cc: File

Department Reviewer: H. Dean Sutphin



Office of Research Compliance
Institutional Review Board
1880 Pratt Drive (0497)
Blacksburg, Virginia 24061
540/231-4991 Fax: 540/231-0959
E-mail: moored@vt.edu
www.irb.vt.edu

FWA00000572(expires 7/20/07)
IRB # is IRB00000667.

DATE: July 27, 2006

MEMORANDUM

TO: John H. Hillison
Tamara Savelyeva

FROM: David M. Moore

Approval date: 7/27/2006
Continuing Review Due Date:7/12/2007
Expiration Date: 7/26/2007

SUBJECT: **IRB Expedited Approval:** "Applying Concept of Globalization Within the Global Seminar Educational Model" , IRB # 06-417

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective July 27, 2006.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:

If you are conducting **federally funded non-exempt research**, this approval letter must state that the IRB has compared the OSP grant application and IRB application and found the documents to be consistent. Otherwise, this approval letter is invalid for OSP to release funds. Visit our website at <http://www.irb.vt.edu/pages/newstudy.htm#OSP> for further information.

cc: File

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE UNIVERSITY AND STATE UNIVERSITY

An equal opportunity, affirmative action institution

APPENDIX G
Data Points Chart

Day 1

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1, S2, S3	I1	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S1, S3, S2, S2, S5, S2, S2	I1, I1, I2, I1, I2, I1, I1	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S1, S3, S2, S5	I1, I2	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S1, S1, S3	I2, I2	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S3, S1, S2		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S3-S4PD S1-I1ID S2-I2TD S2-I1TD S3-S4PD S1PD S4TD, S3SD S1-S5SD	I1, I2	

Day 2

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S3, S2	I1, I1, I1, I1, I2	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S1, S4, S5, S5, S3, S3, S2, S1	I1, I1, I2, I2, I1, I1, I2	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S1, S4, S1, S5, S3, S2, S3, S2	I1, I2, I2, I1, I2, I1, I1	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S2, S3, S3, S2	I1, I1, I1	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S1, S4, S3, S4, S1, S5, S2, S3, S5, S2, S3, S3, S4		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S3-I2TD S4-I2TD S3-I1TD S2SD S3PD S3SD S4PD S5SD		

Day 3

Indicators	Student	Instructor	Indicators
<p>Implicit structure of the discussion</p> <p>Frequency of planned and unplanned questions (both convergent-divergent and high-low level)</p> <p>Prepared and immediate conversational discussion ideas</p> <p>Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)</p> <p>Student elaboration of known content—different interpretations</p> <p>Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)</p>	<p>S5, S3, S4, S1, S1</p> <p>S5, S3, S2, S4, S2, S4, S1</p> <p>S2, S2, S4, S5, S2</p> <p>S2, S4, S5, S1, S2, S4, S5, S2</p> <p>S1, S2, S3, S4, S5 (all as a group)</p> <p>TD (all)</p>		<p>Moderating discussion</p> <p>Navigating discussion and posting questions</p> <p>Encouragement of students' interpretation</p> <p>Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)</p>

Day 4

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion		I1, I2	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S3	I1, I2, I2, I2, I1	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S2	I1, I2	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S2	I1	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S1, S4, S2, S1, S4, S3, S2, S4, S5, S6		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S2TD S4TD S3-S2PD		

Day 6

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1, S4, S2	I1	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S4, S2, S1, S2, S4, S2, S1, S2	I1	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S1, S4, S1, S1, S2, S4, S2, S1, S2	I1	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S4, S1, S1, S2, S1, S1, S4, S4, S2, S2, S1	I1	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S2, S2, S1, S2, S4, S1, S2, S4, S2		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S2PD S2TD S2SD S5SD S2PD		

Day 7

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1, S4, S3, S2, S4, S4, S4, S4, S2, S1, S5	I1	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S3, S1, S5, S4	I1, I2	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S3, S2, S1, S3, S4, S2	I1, I1	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S4, S3, S2, S2, S1, S5, S4, S1, S5, S2	I1, I1, I1	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S1, S3, S4, S2		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S2SD S2TD S1PD S2SD		

Day 8

Indicators	Student	Instructor	Indicators
<p>Implicit structure of the discussion</p> <p>Frequency of planned and unplanned questions (both convergent-divergent and high-low level)</p> <p>Prepared and immediate conversational discussion ideas</p> <p>Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)</p> <p>Student elaboration of known content—different interpretations</p> <p>Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)</p>	<p>S3, S4</p> <p>S3, S1, S6, S4, S1, S3, S6</p> <p>S3, S6, S3, S4, S1, S4, S3, S2</p> <p>S2-S1, S3</p> <p>S4, S1, S6 S3, S2, S4, S3, S5, S2</p> <p>S1-S6PD S1-S4PD S3-S5PD S2-S4PD S1PD S1-S3PD S2-S1PD S1-S2PD</p>	<p>I1</p>	<p>Moderating discussion</p> <p>Navigating discussion and posting questions</p> <p>Encouragement of students' interpretation</p> <p>Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)</p>

Day 9

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1	I2, I1,	Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S1, S2, S3, S2, S6, S5	I2, I1, I2	Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S1, S1, S3	I2, I2	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S5, S6, S3, S4	I2, I2, I2	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S1, S2, S2, S2	I1, I2	
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S1ST S2ST S3ST S2ST S6ST S5ST		

Day 10

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1, S5, S5, S6, S1, S2, S2, S3, S3, S3, S3, S2, S1, S6, S5, S4, S4		Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S1, S2, S3, S4, S5, S2, S2, S3, S1, S1		Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas		I1, I1	Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S1. S2. S2. S4. S3. S5	I1	Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S4, S5, S3, S3, S3, S1, S2		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S1PD S5PD S5PD S6PD S1PD S2PD S2PD S3PD S3TD S4PD		

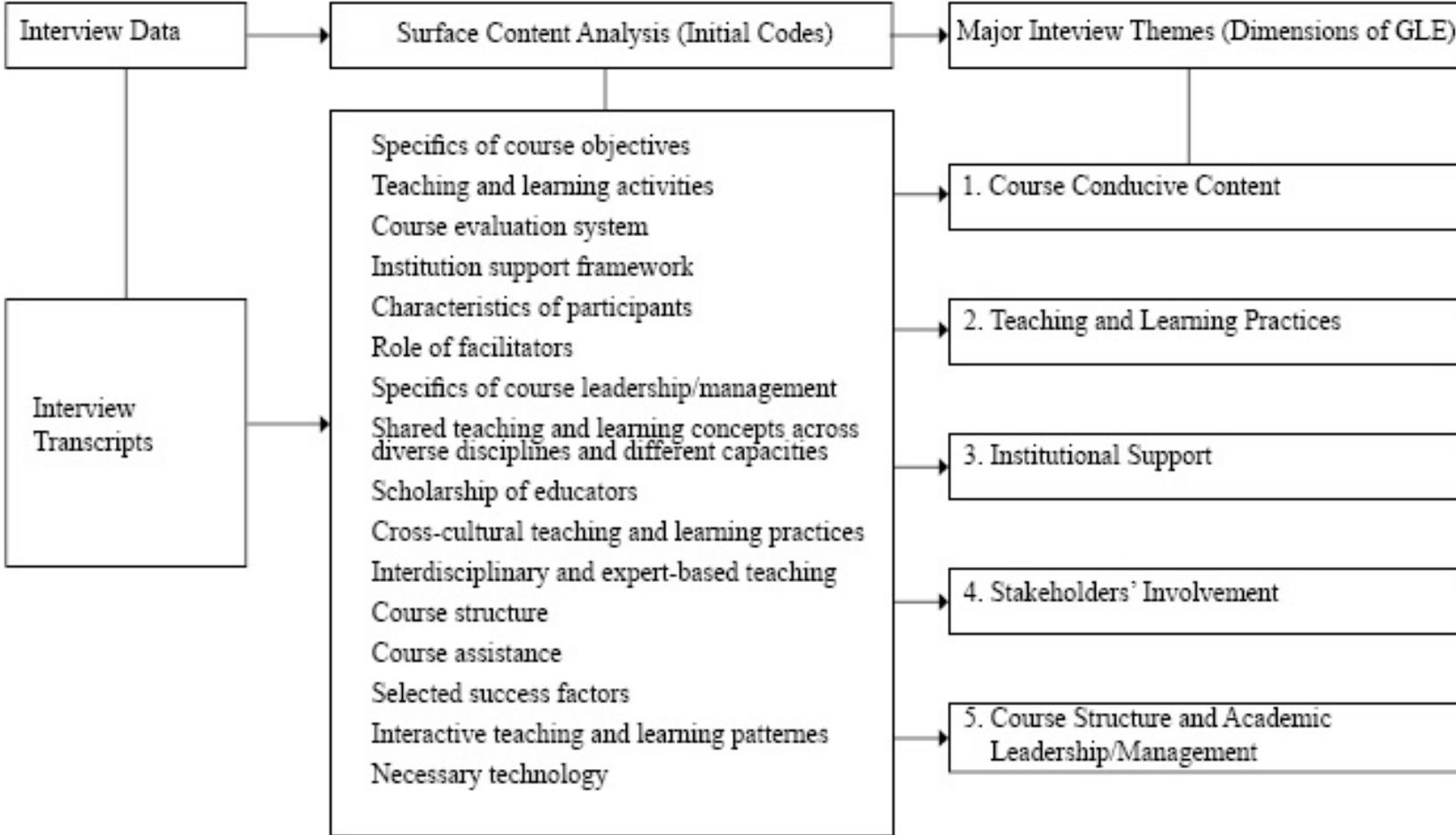
Day 11

Indicators	Student	Instructor	Indicators
Implicit structure of the discussion	S1, S2, S2, S4, S5, S3, S3, S4, S3		Moderating discussion
Frequency of planned and unplanned questions (both convergent-divergent and high-low level)	S4, S1, S3, S1, S5, S4, S2, S3		Navigating discussion and posting questions
Prepared and immediate conversational discussion ideas	S3, S2, S1, S4, S5, S1, S1, S3		Encouragement of students' interpretation
Improvisation moments (questions and comments from students that indicate a basis for re-thinking and re-construction of new and existing ideas)	S1, S2, S5, S3		Improvisation moments (questions and comments from teachers that inspire re-thinking and re-construction of new ideas)
Student elaboration of known content—different interpretations	S1, S2, S1, S5, S3, S1, S4, S5, S5		
Student-student learning interactions within their own peer group and with their virtual peers (peer-directed, self-directed and teacher-directed)	S1PD S2PD S2TD S4PS S3PD S3TD		

Note. Composed during the observations, the Data Points Chart represents the part of the research observation notes that assisted me in my goal to capture the elements of the course global environment that potentially contribute to deep learning in accordance with the research purpose two, which was guided by the following research question: in what ways does the GSP contribute to deep learning? The coding schema for the charts includes two types of codes: the “participants” codes (S- Student and I-Instructor) and the “types of interaction” codes (Peer-Directed PD, Self-Directed SD, and Teacher-Directed TD)

APPENDIX H

Dimensions of the GSP's Learning Environment



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