Connecting, Making Meaning, and Learning in the Electronic Classroom: Reflections on Facilitating Learning at a Distance

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Abstract : The increasing use of technology to meet the vast educational needs of our expanding world has led to heightened concerns about learning experiences within educational environments that are removed from the immediate purview of instructors (Duffy & Kirkley, 2004). Recent calls for use of more collaborative environments in which students interact with their instructors as well as with fellow students, have become more pronounced because of the purported learning benefits for students (Bonk, 2002). Constructivism, a theory of learning that is based on collaboration and interactions, provides such an environment (Jonassen, 1991). We report on the experiences of one professor who maintained a constructivist approach while teaching a foundation course in education (classroom learning theory) in a distance education setting. Emphasized are the challenges associated with creating the appropriate conditions for learning when moving from the face-to-face interactions of the regular classroom to the setting of compressed video. The implications of the medium for her role as facilitator, the establishment of a learning community, techniques of questioning and inquiry, and group collaboration are addressed. The impact of the medium and the greater cultural diversity of the distance education classes on how the tenets of constructivism are manifested and experienced by the students is also discussed.

I. Introduction

There is considerable use and application of technology for instructional purposes in the electronic classroom. Distance education including video conferencing, Web-based courses, and compressed video, has greatly increased the breadth and scope of educational outreach (Mangan, 2001). Educators use distance education to span the distance between groups and to ensure equitable access to educational opportunities for those interested in receiving additional training and/or expanding their educational repertoire in a number of disciplines (Mangan, 2001; Raymond, 2000).

Accompanying the increased use of distance education and its technological tools is the clarion call for effective pedagogical strategies to ensure that the learning processes within this medium are as authentic and effective as those provided in traditional on-site, face-to-face (F2F) classrooms. To ensure that the learning experiences are equitable to those offered in F2F classrooms, Bernard, deRubacava & Pierre (2000) recommend that courses offered via distance education be comparable in format and content to the F2F courses. Given the structural and technological realities of teaching at a distance, adhering to this recommendation can be

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challenging. Fostering and maintaining the interactions that are endemic to F2F classrooms further compounds the difficulty.

Interactive instructional approaches that complement and build upon students' existing knowledge base and experiences are touted as being highly effective for enhancing the learning experiences for a wide range of students, and for fostering higher-order thinking and problem-solving skills (Abdal-Haqq, 1998; Keiny, 1994). The student's role in interactive instructional environments is to work with others to discover, construct, and participate in social collaborations that bring about meaning (Crumpacker, 2001). This is true for courses offered F2F as well as those offered via distance (McAlpine, 2000). Constructivism as a philosophy and approach to learning embodies these axioms.

This article examines one instructor's quest to remain true to her constructivist beliefs while leading a classroom of aspiring teachers via compressed video, an interactive video format. Her experiences while teaching the course via distance to three groups of students over four years are compared across the three classes as well as with those of the students she taught F2F. The foci of the discussion are the contributions, challenges, cultural and logistical implications arising from maintaining an effective constructivist environment via distance; and, the influence these experiences have had on the professor's beliefs regarding teaching and learning processes.

The questions addressed in this article are:

1. Can an instructor guided by constructivism remain true to the major precepts of this approach when physically distant from students?
2. How are learning community, collaboration, question/inquiry, and student voice manifested in distance-learning environments?
3. Does distance differentially affect students' reactions to a theoretical, foundational course that is taught based on constructivism?
4. How do students' reactions to and understanding of material delivered via distance compare to that of students in the typical, F2F classroom setting?
5. at are the implications of cultural understanding and compatibilities for reactions to and learning within constructivist classrooms via distance?

II. Constructivist Theory

The traditional transmission model of education views learning as an infusion of facts and information from one individual to another (Abdal-Haqq, 1998; Keiny, 1994). Constructivism diverges from this pedagogical model with its emphasis on collaboration and active participation of students as they seek to understand the material and resolve any inner conflicts it may cause. Students play an active role in constructing meaning from material studied based on their experiences and background knowledge (scheme). Their prior conceptions form a basis for determining the meaning of new knowledge. Collaboration and interaction among peers to "test" and mediate the knowledge process is integral to the process of making meaning from new experiences. Learning is considered a long-term phenomenon that requires discussion, debate, and opportunities to reconstruct ideas (Brooks & Brooks, 1999; Watts & Pope, 1989). Because knowledge is generated in collaboration rather than transmitted from one (a teacher) to another (a student), the role of the instructor is one of facilitator as opposed to "transmitter" of knowledge (Brescia, 2003, Abdal-Haqq, 1998). To effectuate these principles, collaborative learning is a major practice within constructivist approaches (Bonk, 2002). These ideas concerning learning and its interactive nature are founded and endorsed by a number of theorists including Jean Piaget, Lev Vygotsky and Paulo Friere.

For Piaget, the development of scheme, the cognitive mental organization within the minds so fundamental to learning, hinges on experiences and the meanings individuals attribute to them (Wadsworth, 1996). These meanings are mediated by interactions with others. Vygotsky's view on cognitive processes differed from Piaget's in that he did not see cognition as being influenced by interactions, but as being determined by them. The implications of culture for these interactions and the meanings given to them are an integral part of his ideas on learning (Wertsch, 1985).

Freire (1970) brought another dimension to the interactive nature of learning by proposing the idea of critical pedagogy. Rather than education serving as a mechanism to assimilate youth into the existing order of things, critical pedagogy seeks to provide young people with the mechanism to build anew and revise the existing order of ideas and concepts. Freire was critical of the "banking" paradigm in education which asserts that we seek to "deposit" knowledge into children, with little to no recognition of their culture, i.e., what they bring to the educational experience, or the relevance of the new information for what they already know. This process of depositing is considered detrimental to the authentic, contextual learning which Freire contended is necessary for the incorporation of information, lifelong learning, and praxis – action based on knowledge. For Freire, teachers facilitate learning and do not determine or provide the learning. As with constructivism, the trend or tradition of teachers as transmitters of knowledge is antithetical to Freire's beliefs about learning and the transformative nature of the learning process.

Each of these theorists emphasized raising the level of cognitive processing by building and expanding on what students bring with them experientially, culturally, and educationally so that they become learners capable of analytical reasoning in any learning environment. These ideas/concepts are especially pertinent for distance education given the nature of the medium and the variety of contexts that converge in the virtual classroom. Likewise, educators who believe in these principles should endeavor to ensure that authentic, transformative learning processes are germane to their instructional approaches. Facilitating is an instructional technique which is essential to effectuate these principles. For preservice teachers, coursework that reflects these principles enhances their ability to make meaning of foundational theories and furthers their understanding, incorporation and subsequent use of these principles when they construct educational practices (Keiny, 1994; Abdal-Haqq, 1998).

To ensure that students/preservice teachers are exposed to these principles in action, instructional strategies such as group work and focusing on major ideas are regularly used (Muirhead, 2001). In groups, ideas are discussed, debated, and negotiated with peers and instructors. These class dialogues are integral to students processing and formulating meaning of the material across varied perspectives. Focusing on major concepts rather than facts in isolation and ideas out of context allows students to incorporate information in a more meaningful and contextualized manner (Abdal-Haqq, 1998; Van Looy, Callaert, Debackere, & Verbeek, 2004). Both practices reflect the belief that knowledge is constructed and predicated on the relevance or meaningfulness of the knowledge for the student. For distance learning these practices are even more pertinent given the nature of the medium with students who differ by location, experience, and educational background. Negotiation of meaning is more complex and richer given these differences but its success hinges on the learning community that is developed.

Establishing a learning community is critical to the success derived from these interactive practices for student learning. The community ethos is an essential component of a constructivist classroom. It provides the safety net that frees students to share their experiences and ideas in an

otherwise risky environment. Establishing a distance environment in which students feel safe makes it possible for learners to share their knowledge across the various sites (Brown, Collins & Duguid, 1989).

These principles and practices are standard within classes taught by the authors whether they are F2F or via distance. In the next sections, the context, i.e., course, program and class activities; students and their reactions, including those on campus as well as those at a distance; and the instructor and her reactions are discussed.

III. Constructivism F2F

A. Course Information

This course is part of a five-year, Masters of Arts in Teaching (M.A.T.) licensure program. It is an upper-level (junior or senior) educational psychology/learning theory course required for all education majors. It is taken after a student has completed the introductory course in education. The instructor taught this course three years in a F2F setting; was among the inaugural group who developed and taught the course; and has been integrally involved in its development and evolution over the years. The instructors who collaborated on the design of the course ascribe to constructivist principles and agreed that the course would reflect these ideas. The activities were developed for F2F classes based on constructivist ideology.

B. Students

The majority of students in the F2F classes are traditional in that they range in age from 19 – 23 years old, are single, have limited experiences outside high school, and have few responsibilities beyond themselves. Most of the students are of European descent and grew up in ethnically homogenous areas of the state. The course is a core course for all students majoring in education, and, as a result, each class contains students from various concentrations: elementary, secondary, music, art, agricultural, and special education.

C. Classroom Practices – Student Reactions

Over the years, it has become evident that students are basically unfamiliar with anything which approximates constructivism in an educational environment. To expeditiously introduce them to this approach, the following paragraph is included in the instructor's syllabus for the course.

> *Course Requirements*: *Class Attendance/Participation*: A constructivist approach is employed in class whereby students are encouraged to be actively involved in and responsible for their learning. Students are encouraged to read the material, note any questions or areas where concepts were not fully understood, and raise these questions during the class. However, the readings will not be "rehashed" during class. The focus in class is on students' interpretation and synthesis of the reading material; different dimensions of the issues/ideas will be explored. A variety of learning approaches are used within the class for interpreting and analyzing the material.

During the first days of class, this passage is discussed including what is explicit in this paragraph and the implied expectations. To further familiarize students with the approach and its tenets, one of the topics assigned for group presentation is constructivism. Peers (group members) give their interpretations of the approach and the underlying rationale for the instructor's seemingly ambiguous responses and unstructured activities.

Although largely unfamiliar with the constructivist approach, some students do report they have "heard about" the instructor from other students who have taken the course from her (mixed reviews). Based on these reports, the students have some preconceptions about the instructor. However, the instructor has no knowledge of them as students/learners. Every class is novel with its own unique personality and needs; the ongoing challenge is to develop each distinctive personality into a community of learners whereby the principles of learning within constructivism's parameters can be manifested.

The development of a learning community is integral to the success of this approach because it is vital to elicit sincere, reflective thinking on issues (Bonk, 2002). To facilitate this type of environment, a significant amount of attention is given to "reading" and knowing the students. The first and most basic way of becoming familiar with the students is to recognize them by name. Becoming familiar with names and hearing students' voices are initial steps to building community among the students.

Name cards are created (students write their names on folded index cards– 5" x 8") the first day of class. These cards are placed on the students' desks during the first few classes, until the instructor recognizes them by name.

Another practice that contributes to the association of names with faces is calling on everyone at least once during the course of a class session. In addition to gaining familiarity with the students' names, this practice indicates that value is placed on hearing the different "voices" within the class. However, a student always has a right to "say no." That is, if they do not wish to "share" when called upon, a student can say he or she does not wish to share their perspective on that issue. This norm is established at the beginning of the semester and adhered to throughout the term.

Groups are another means to build community and they also contribute greatly to the mediated process of learning. For each class, there is a major assignment to be part of a group presentation for the class. This assignment reflects collaborative learning's principle of interdependence in that the same presentation grade is given to each member of a group. Individually, students write a paper or an article critique related to the research done for their contribution to the presentation. This ensures some measure of individual accountability (Johnson, Holubec, & Roy 1984). In addition to this assignment, groups are formed within class on a regular basis to discuss or explore the concepts being studied. The format and manner for responding within the groups varies.

An example of an in-class group activity that is used during the study of Piaget and his theoretical principles follows. Students are placed into groups and directed to depict on newsprint (markers are provided), without using sentences or paragraphs (narrative), Piaget's major theoretical precepts concerning thinking and cognition (assimilation, accommodation, organization, scheme, equilibrium, and disequilibrium) (Woolfolk, 2004). The idea is not to just restate a precept (e.g., "assimilation is fitting new information into existing schemes,"– repeating a statement from the book [Woolfolk, 2004, p. 31]). Students are required to somehow demonstrate/illustrate the meanings and relationships of Piaget's theoretical precepts for cognitive development. Initially, most students express apprehension about this assignment and

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cite a lack of drawing ability and/or uncertainty about how to create a depiction as reasons why they lack the skill or expertise necessary to participate in the activity. However, with prodding and encouragement, they slowly begin to discuss the meaning of the terms.

Eventually the class is buzzing with ideas as students become engaged in the activity. Discussions concerning the meanings of the terms/precepts and the best way to illustrate and present these meanings emerge and enable students to illustrate their interpretations of the precepts in insightful ways. This activity reflects constructivist principles in that students' backgrounds, majors, interests and educational experiences are incorporated in these depictions. A wide range of motifs including animals, knitting, sports, farming, etc., become a backdrop for explaining these concepts and their relationships. Group processes are monitored by checking with each group, asking clarifying questions about the depiction and its meaning, and addressing questions the group members could not resolve for themselves concerning the precepts and/or the appropriateness of their drawings. The activity and the illustrations allow the instructor to make a firsthand assessment of students' understanding and interpretations of the material. Peers also assist in addressing misconceptions.

This activity also incorporates another supporting belief of constructivism: the importance of recognizing and valuing multiple intelligences, i.e., the varied ways in which students process information (Gardner, 1983). Often students who struggle with traditional learning activities which emphasize memorization and recitation excel in this activity. On the other hand, many students who excel in these traditional activities are challenged by this exercise.

Another area of angst for students is the inquiry nature of the course. Students in general are initially uncomfortable with nature of the professor's questions and her responses to their inquiries. Questions that focus on the major concepts and how students incorporate them into their practices prevail in the classes. Questions are asked concerning the relevance of the assigned readings (What idea or concept in the chapter "spoke" to you and why?); familiarity with the practices shown (Have you ever experienced this practice? If so, what were your reactions?); and the implications of these ideas for educational practices (Given the research on the effectiveness of this approach/idea/concept/practice, will you incorporate it into your practice?). Follow-up questions are often asked to further explore students' meanings, perceptions, and interpretations of the material. The intent of these questions is to get students to grapple with the ideas and assess the implications for them as educators.

Often, the professor responds to students' questions with a question: "What do you think?" Initially, students are frustrated with this response because they want the instructor, to "just tell me the correct answer." They want to be imbued with the instructor's understanding of a concept rather than develop their own. Instead, they are told that "correct" is contextual and that, although they are expected to follow certain analytical processes when studying material, they are expected to arrive at their own conclusions concerning how effectively a model explains phenomenon. As facilitator, the instructor places the onus of responsibility for addressing their issues and concerns with students – which adds to their frustration. They are given assistance in the process of making decisions about the relevance and implications of the material studied, but this is not determined for them.

The question and answer procedure allows the community – both instructor and students – to better recognize any confusion or misinterpretation of material. When a student explains his/her thoughts on an issue, others gain insight into how someone else interprets the concept. Listeners can then assess that interpretation in light of their own perceptions of the concept. As

the semester progresses, students tend to: become increasingly active in their learning process; address each other's questions or concerns; and accept that answers are contextual and may differ based on perspectives.

IV. Constructivism at a Distance

A. Program/Course Information

The off-campus licensure program was initiated to support the training and local employment of new teachers, particularly those of African descent (because of the largely African American population of the area). Reflecting national trends in education, the number of African American teachers in the state's schools has declined (American Council on Education, 2000). Rural, economically depressed regions such as the one targeted by this off-campus M.A.T. program, are usually the first to feel the effects of this decline. The region has difficulty attracting and creating employment opportunities to replace the agriculture-related jobs lost because of technological innovation. The program also contributed to the flagship university's stated mission to meet the needs of all the citizens of the state.

The program was set up so that students completed their first two years of coursework at the regional community college. The upper-level courses for the undergraduate degree leading to the M.A.T. program and the graduate courses in the M.A.T. program were offered via compressed video at a location 300-plus miles from the state's flagship university which was the instructor's home campus. Initially, it was expected that the students would travel to the flagship university to complete the last two years of undergraduate coursework and courses for M.A.T. degree. However, most of the students were nontraditional (over 25 twenty-five years of age), had families, were employed full-time, and were not able or willing to leave their families and jobs to complete the degree program in residence. Distance education (interactive video) was a viable alternative for the students to complete the degree program. The only degree/licensure program offered via distance education was elementary education.

Instructor

The instructor shared a common ancestry, of African descent, with the majority of students within the program, but was not born or raised in the state. During her time at the university, she had worked as a consultant with the schools in the area where the M.A.T. program was directed. However, the distance education course was her inaugural instructional experience teaching a university course to a class composed entirely of students from the region.

When first asked to teach this theoretical course using distance education, the instructor was hesitant, resistant, and apprehensive. Could a constructivist approach be implemented effectively without physical presence and proximity? The opportunity to interact with a population of students from another part of the state who did not otherwise have access to the course was a strong incentive that overrode her initial hesitancy and trepidation. The challenge was to use the advantages provided by this medium without compromising the integrity of her beliefs about the roles of learner and teacher.

The instructor's initial impression of distance education and its learning expectations (lecture, transmission model) was based on the setup of the room from which the video was to originate. The setup resembled that of a principal's office. There was a chair set up at a table with controls and a microphone. After a consultation with the technical-support people, the setup was changed to be more in line with the instructor's preferred mode of instruction. The chair and a podium were placed next to the controls, which eliminated the appearance of a

barrier separating the instructor from the students. It was a seemingly minor change, but it gave the instructor the freedom to move around during the class which conveyed a more interactive persona.

A. Students

Over the course of four years, the course was offered three times via distance education. Although similar in some respects, each group has its own unique quality.

The first class (Group 1) was predominantly African American (12 of 15) students; nontraditional in that 80% were over 25 and had families and jobs. These students were selected based on their excellent academic records and high grade-point averages. They were the program's pioneers who experienced the usual intricacies of a new program. These common experiences and frustrations bonded them to each other.

The second class (Group 2) was similar to the first in terms of ethnicity (16 of 19 students were of African descent) but differed in terms of age and experiences; less than 60% were under 25, had families and outside jobs. In addition, the educational backgrounds were less stellar than those of the first group. For the inaugural group, high performers were selected to ensure the success of the program. The program received a significant amount of publicity and public response which was very positive. People from the community, the region, and the state were impressed with the program's intent–providing schools in the area with well-prepared teachers– and with the distance-education format. This support was a catalyst for continuing the program for subsequent cohorts of students. Those who came after the first group were recruited less aggressively and with less stringent academic requirements.

The third class (Group 3) differed from Group 1 and Group 2 in terms of ethnicity. Ethnically, the class was more diverse with only nine of the eighteen students being of African descent and nine of European descent). Ages and experiences resembled those of Groups 1 and 2; only three of the eighteen (17%) were traditional students.

As with the F2F classes, each class had its own unique personality. The varied personalities affected reactions to the lessons and the climate that evolved in the class.

B. Classroom Practices – Student Reactions

The distance-education students were also unfamiliar with a constructivist approach to learning and initially had mixed reactions to it. Most students responded amicably to being asked to bring their realities into the classroom and share their opinions and ideas about the material and its relevance for them (Knowles, 1990). In general, there had been little (if any) attention given to their experiences or perspectives by other instructors (Delpit, 1995; Freire, 1970). They welcomed opportunities to relate the course material to their lives and varied realities. These opportunities albeit gratifying and somewhat unexpected, did not preclude the discomfort associated with the process.

Overall, these were high-caliber students whose high grade-point averages (pervasive in the first class, somewhat common in the second and third classes), were indicative of their success with the traditional transmission model of learning. Similar to the students in the F2F classes, the students preferred the didactic approach to teaching and learning, which involved listening to lectures, taking notes, reading the assigned texts, studying the notes and readings for exams, and responding with memorized information to exam questions. Tolerance of ambiguity was minimal. The focus was on completing assignments and getting correct answers. Similar to

the F2F students, the explore-and-find-meaning approach emphasized by the instructor was different than what they were accustomed and, therefore, a source of great frustration. For the distance-education students, this frustration was further compounded by obligations to families and employment. They wanted (sometimes demanded) to know the exact, "correct" answers so they could recite them on cue just as they had done in the past with great success. They were not inclined to analyze and grapple with issues.

Interacting with the material and analyzing concepts for relevance and meaning were not customary practices for most of the students and they were unsure of the steps in and/or the feasibility of the process. When confronted with this situation on campus, being physically present the instructor can note students' reactions, more readily assuage any discomfort, and facilitate their thinking about and interacting with the material. Being 300 miles away and viewing students via a monitor presented a significant challenge to this mode of accommodating students' needs.

Establishing a learning community and nurturing risk-taking behavior within the classes via distance was a challenge that was met with mixed results. Methods used successfully in the F2F environment were initially employed for the distance-education classes. Name cards were constructed, but the faces and the cards were not always clearly visible on the monitor. As an accommodation, students were asked to state their names before speaking. This helped to familiarize the instructor with the names in a time comparable to that in F2F classes. For a short time, students were acknowledged via an attribute or characteristic – "the young man in the red shirt," "the person sitting beside [student name]," or "the person sitting in the corner." This method, due to its impersonal nature, was used only during the first class period for Group 1.

Reactions to being called upon to share one's perspectives were also mixed. Although they welcomed the opportunity to relate the material to their experiences, culturally, they did not appreciate or accept the process for communicating their understanding of material to the instructor. African American response style influences how constructivist ideology and practice is perceived and implemented. Delpit (1995) discusses the direct response style prevalent in African American communities and its incompatibility with obscure approaches to instruction, such as process approaches to literacy and constructivism. She posits that the ambiguousness of response that is endemic to constructivism is foreign to the direct/straight-forward style of communication and discussion prevalent in African American communities. This premise is mostly applicable to literacy approaches for children of color when trying to incorporate sounds and meanings of words that are incongruous with their backgrounds.

The instructor was aware of and had reflected on this contradiction and its significance for her approach to teaching and learning. Previous to teaching the distant education class, she had not had an opportunity to really grapple with this enigma given the majority European American student population she usually teaches. However, with the distant education students who embodied these realities, her beliefs on culture and its implications for meeting student needs were under scrutiny in conjunction with her constructivist philosophy. Although somewhat in agreement with this premise, she had a different "take" on this seemingly contradiction. She believed that the constructivist approach to teaching and learning does not run counter to the response style prevalent in African American communities under certain conditions.

Students of color are constantly dealing with ambiguities in language and meaning as a matter of cultural style (Delpit, 995). Translating this into classrooms and using it to enhance student learning was the challenge. Shared ancestral background helped in meeting this

challenge. Common understandings of words, interaction styles, and conventions, allowed the class and the instructor to interact directly as they capitalized on meanings and extended them – reflective of constructivist precepts. Multiple responses that were recognized and valued to the seemingly vague questions (more than one "correct" answer) empowered and furthered students' "voice." They explored personal meanings and expressed their feelings about the course and its requirements.

Once the students were more familiar and comfortable with the instructor, they directly expressed their frustration with query and response in the expectation that she would be more forthcoming with the "correct answer." When the instructor continued to probe and explore their meanings and interpretations of the materials, students addressed the questions and displayed their frustrations in varied ways. As in the F2F classes, many times when a student was asked a question, there was a seemingly long and uncomfortable silence while waiting for a response. Using wait time, the question was not passed to another student until the first student indicated he or she did not know the answer or did not wish to answer. Via distance, this uncomfortable silence hangs between the two locations and its manifestation is difficult to gauge with limited vision of students and their reactions. Frequently, students attempted to address the discomfort by assisting each other in providing an answer to the question. They offered clues, hints, and, on some occasions, answers based on what they perceived the instructor wanted. The combined efforts of students in this situation were crucial in furthering the analysis and understanding of material by the distance classes. Via distance, with the instructor limited to the capabilities of a monitor, students restating a question or providing cues/hints for a classmate greatly aided in the shared understanding of the material and its meaning. In addition, the instructor was able to hear how students collectively processed and interpreted the information. Similar ancestry helped mediate the understanding process. However, given the differing backgrounds of instructor (midwestern, urban) and students (southern, rural), these clarifications were instrumental to understanding the context and meanings given to concepts by the students. The students' common experiential knowledge helped them negotiate meaning in a context that was relevant for them (Kim & Hannafin, 2004).

This process evolved in Group 1 and was often observed in Group 2, but not in Group 3. The interdependence of Group 1 based on their similar backgrounds and goal to successfully complete the program, intensified their sense of community and served to define a common purpose for the class as they sought to make collective meaning of the material. Group 2 was not as solidified as a learning community, but their similar experiences within and outside the course served to mold them into more of a community than Group 3. Group 3 had little sense of community. It was more fractured on the basis of their experiences and backgrounds. Additional effort was required to get them to collaborate on the meanings of the material. These experiences with the three classes underscored the benefits of establishing a learning community for the class if one is not already in place. The community serves the needs of the class in a number of ways.

Developing community is contingent on hearing and honoring student voice but more often than not, students resist this objective/focus. In Group 1 a student requested that she not be asked questions in class. When the instructor explained the need to hear her voice and interpretations of the material, the student countered with she was shy and wanted to hear everyone else and learn from them. A compromise was reached, in which an attempt would be made to forewarn her before calling on her. This compromise had been used in F2F classes on rare occasions for students with similar issues and/or diagnosed special learning needs. Over

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time, the interactions enabled the student to become more vocal in class, offering responses based on her interests. She realized that by speaking voluntarily on issues which held her interest, she was able to choose when and how she participated. For other students who expressed similar concerns, a compromise was struck whereby their voices were heard during class without (as they perceived it) being "put on the spot."

Group presentations were required of the distance-education classes, but accompanied with additional challenges. The topics for the presentations were selected by the instructor and were broad in scope (Vygotsky, multiple intelligences, constructivism, etc.) to allow each group considerable latitude in determining their focus and areas of interest within the category for their presentation. Based on their collective interests, each group was to determine its focus; research the areas of interest; and, develop a presentation based on their collective research. Maintenance and monitoring of groups to ensure they function effectively proved to be a major challenge given the distance and the available resources.

In F2F classrooms, if a group had problems or concerns, students requested assistance after class. Sometimes an intervention was made that same day or by the next class period. Typically, issues were minor and pertained to differences in working styles or opinions concerning the appropriate manner of presentation. In the distance environment, students' concerns were more difficult to address. Students could not talk to the instructor after class because the audio and video feed connection between the locations was shut down at the ending time for the class. Students used email, but in many cases that did not provide the desired level of immediate and personal interaction preferred in these situations. Thus, for the distance learning classes, personality and working-style issues that were ameliorated early and easily in the F2F classes became major stumbling blocks to developing an effective presentation.

An associated issue stemmed from the complex restraints on time and responsibility for the students with families and jobs. Finding time to meet outside of class to decide on the focus and manner of a group presentation is problematic even for relatively unencumbered traditional college students. However, when one works all day and attends class in the evenings – distance education classes were scheduled from 4:00 to 9:00 PM, two or three days per week – meeting this requirement becomes even more complicated.

It became obvious after the experiences with Group 1 that more support from the instructor via email and phone was needed to ensure they were functioning adequately. Subsequent to Group 1, one or two persons in each group emerged as leaders and became the major contacts at the off-campus site through which the instructor monitored the process. Additionally, individual group members were contacted to discuss any evident frustrations or concerns in order to support and encourage their involvement with the group. These measures helped to make the experience less stressful and more viable for the students.

A major issue was access to library resources necessary to adequately investigate a presentation topic. Technically the distance-education students were enrolled at the flagship university. However, for library access they were limited to the inadequate collection of reference books and periodicals at the local community college. Theoretically, students had access to the ample resources, i.e., educational literature and periodicals, at the flagship university. Realistically, students often did not have ready access to these collections due to problems with the local Internet service through which they obtained online access to the university library.

After several unsuccessful attempts to resolve library-access issues, the group presentations for Group 1 were cancelled. Instead, students wrote about their experiences

working with their groups and trying to secure adequate literature for the presentation. For Groups 2 and 3, library issues were addressed early via email and consistent updates in class. Access to resources did improve in subsequent years, after the university library became involved and worked to ensure access, but the problem was never completely resolved. Some students had access to more technologically updated servers and Internet providers, while others remained on the wrong side of the digital divide. To address this challenge of equity and access, books were recommended by the instructor on the presentation topics which the group could consider reading and using as an alternative resource to research articles. These books were available at the local libraries, through purchase from the community campus bookstore and/or online sources. With these adaptations, the group presentations remained a requirement for Groups 2 and 3.

Classroom activities requiring group collaboration, such as the one on Piaget's theoretical precepts, proceeded as with F2F classes but with some adaptations. Displaying and presenting results for distance education classes were done via the document camera because the drawings were harder to decipher if just held up by students and shown on screen. Moreover, additional description and explanation were often required. Students explained their depictions with rich detail and defended them when questioned about whether there had been appropriate application of the theoretical precepts.

Reactions to questions about the non-written depictions and their meanings (how reflective of the precepts and their relationships) varied by class. In Groups 1 and 2, students tended to display their drawings and have them questioned with little to no display of defensiveness or hard feelings. By this point in the term, the understood response style allowed students to take risks and directly state their perspectives on the instructor's interpretations of their ideas. Generally, the clarifications and explanations enhanced the shared understanding of the class on concepts being discussed. However, Group 3 lacked a strong community ethos and generally were more defensive about any comments or questions that challenged their depictions and interpretations of concepts.

Eliciting the higher-order thinking required to address the questions raised in class was also a challenge to maintain and foster. When asked a question, students were hesitant to address it because of the possibility of follow-up questions requiring application and analysis. They feared they would not be able to address them adequately, thereby seeming incompetent to their peers. The community (peer) assistance was helpful, but as the class endeavored to explore implications of theoretical precepts for their communities and its students, it was obvious that many were unaccustomed to these types of questions and/or how to address them. According to Freire (1970), the students were not accustomed to learning as a basis for praxis or action.

In the F2F classes, the instructor walked around the classroom, stood next to students, probed and encouraged responses recognizing that students were not accustomed to investigative/analytical questions. They were most comfortable when repeating a concept or principle from the book than when thinking about its meanings for meeting differing students' needs. With a sense of community established, students were more likely to move from their comfort zones and venture to answer questions and/or propose solutions to issues. When they shared, the instructor provided encouragement and assisted them in making connections between the theoretical underpinnings of the concepts and their practical experiences with them. Distance-learning environments which by definition make physical proximity impossible changed the dynamics of these strategies resulting in them being less personal in format and function for the students.

These impersonal realities of the distance education environment impact the role of facilitator and prove challenging when handling students' frustration. Similar world views and communication styles helped in finding the right degree of directness for addressing student concerns. This was not as successful with the F2F classes due to the ethnic and cultural differences between students (primarily European American) and the instructor (African American). With F2F classes, a more subtle approach was used to address student frustration. With the distance education students, frustration was discussed candidly. Students openly complained to the instructor about the requirements and her "hard" grading. Conversely, the instructor directly addressed the class regarding concerns she had about the level of response and their performance on assignments. The common understanding concerning directness of response without ill feelings served the instructor's purposes with the class also.

Once, when concerned about the overall quality of their work (poor, inarticulate, and careless), the instructor discussed her frustration with this issue in the class. What came from the discussion was enlightening and reflected research findings for student populations in lower socioeconomic status areas. The students explained that the constructivist approach with its emphasis on collaborative learning, processing of information, and reaching higher levels of thinking, was new and unfamiliar to them. Past educational experiences had emphasized the rudiments of learning and focused on lower levels of thinking – rote memorization, comprehension, etc., known to predominate in areas where the poor and lower socioeconomic levels of people preside (Oakes, 1985). They were not "slacking" in their work but were finding it extremely difficult to engage in the analytical processes expected. Their explanations helped the instructor better understand why their level of disequilibrium was high and somewhat debilitating.

The class explored how and why these lower-level cognitive exercises prevailed in the locality as well as the implications of a link between low socioeconomic status and the predominance of these approaches to learning (Apple, 2004). One student shared that she had recently observed these practices in her daughter's classroom and had become more cognizant of them as a result of the class. She pondered the implications of these practices for area students' future academic achievement and analytical abilities given that these higher-order thinking skills are necessary in higher education and in life. This was an extraordinary educational moment: the class had examined an issue and its implications for them making a difference as educators with their training – praxis (Freire, 1970).

Based on this feedback, the instructor provided more opportunities in class for discussing concerns with the coursework. Questions and issues were addressed as directly as possible, while still allowing students to analyze the material based on their own realities rather than those of the instructor. Additional time for processing of information was recognized as necessary for the students to better fulfill required assignments.

Periodically conducting the class F2F with the distance-education students was significant for familiarizing the instructor with the students and the students with the instructor's approach to teaching. During these visits the instructor walked around the classroom and asked questions just as she does in her classes on campus. Students experienced constructivism in close proximity as opposed to having it modeled from the podium via distance education. They appreciated and understood the approach much better after those classes. They became more understanding and comfortable with the instructor and her approach after the visits. She tried to make at least three visits to the area: one to observe the group presentations, another to teach a concept, and the third for the presentation of the portfolio at the end of the semester.

After the semester ended, the instructor continued her affiliation with some of the students. Several emailed her to express gratitude and their thoughts about the value of the course. The most memorable email came from a student in Group 1; the sentiments expressed embody her goals for the course and the students. She wrote:

> I just wanted to let you know how much I have enjoyed taking this class under your instruction. Some of my fellow classmates feel that you expected too much from us. However, they fail to realize that through it all they met all deadlines and they fulfilled all requirements. Therefore, they should realize something about themselves. I have really and truly enjoyed taking Classroom Learning Theory. Dr. Johnson, you will never understand how much you have helped me this semester. You have helped me to explore avenues within myself that I never knew existed. You made me push myself to excel far beyond that of which I felt I was capable of.
>
> Reflecting back over the semester, I realize more so now than ever before, the reason why you pushed us the way you did is because you want us to become the best educators that we possibly can. You want us to do more than just memorize answers, you want us to comprehend and fully understand the concepts and ideas. In my opinion, I honestly feel that you are the type of educator that I hope to become. An educator that cares about her students, both inside the classroom and outside of the classroom. Even when I thought that no one noticed how I felt at the time, you noticed. You encouraged me to hold on. I wanted to say thank you. Thank you for caring, thank you for pushing me to do the things of which you felt I was capable of doing. Thank you for being "TRUE" and thank you for being "REAL."

This email was received after grades were posted and the semester was done. Other students have expressed similar sentiments, but not as eloquently. In subsequent years, some have emailed the instructor about the value of the course when preparing for the licensure exams, PRAXIS II. It seems that the skills gained from having their ideas, beliefs and perspectives challenged, and being prodded to articulate their rationales proved beneficial for analyzing issues that are a major emphasis of the test. Additionally, case study is a part of the class, so it provides some exposure to this type of assessment.

C. Instructor's Reaction

As a constructivist, the instructor's questioning techniques were enhanced, and her commitment to groups remained steadfast in spite of its challenges. Her initial reaction to the idea of distance education has changed. She sees the value and efficacy of distance education for reaching students who would not otherwise be able to fulfill degree-program requirements. The exposure to another reality–i.e., rural, economically depressed area – was enlightening and led to a careful reexamination of her perspectives on difference and its manifestations. She especially appreciated having an opportunity to become privy to and interact directly with the different contexts and realities of student learning.

Every class began with Current Events – this is true in F2F as well as distance classes. The instructor's rationale, which is shared with the class, is that events worldwide have

implications for classrooms. In both F2F and distance education, local and world news are discussed and evaluated for relevance to the classroom, students, and educational issues. However, for the distance-education students, this activity became a forum for assessing local news and events from their perspectives. Local realities and histories brought different dimensions to the material being studied. Some of these realities have become part of the instructor's educational scheme and continue to be incorporated into course activities when teaching precepts F2F. In this instance, distance education has informed the practices on campus.

Educationally, the instructor has benefited as a facilitator and as a learner. Her questioning, active listening, and facilitation skills were enhanced as a result of these experiences. She has learned that her methods for detecting and handling student discomfort and disequilibrium in a F2F setting are not as effective when used in a distance learning environment. However, with attention to students' needs and realities, a few alterations, some flexibility, and considerable patience, it can be just as productive.

A dominant area of intelligence for the instructor is interpersonal intelligence (Gardner, 1983). Although aware of its influence on her as a learner and an instructor, the distance education experience further validated that the feedback and energy from the class are fundamental to her functioning in the classroom. There is a symbiosis of energy and involvement between instructor and students. The distance caused the instructor to be livelier and more involved in an effort to invoke this symbiotic relationship with the students. This is an area warranting additional attention as it relates to distance education – how do different intelligences and learning styles impact receptiveness to this medium as a learner and as an instructor?

Although F2F interaction is the instructor's preferred style, she understands that the attributes she dislikes most about the medium – lack of personal interaction, anonymity, and exclusive use of written responses, are the ones that some students find most suitable for their learning. To better meet student needs and "hear" the multiplicity of voices and tones, more familiarity and ease with this medium is warranted. A major benefit of the instructor's involvement with the distance-education classes is her increased use and familiarity with technology for educational purposes. She has developed listservs and uses email much more frequently than before becoming involved with distance education.

The areas of interpersonal intelligence and technology converge when the instructor emails students. Humor is a major tactic used by the instructor to maintain focus and interest in material considered to be "dry", i.e., theories and their tenets by most students. In F2F classes when students misunderstand the instructor's humor, her response, or manner of responding; their body language usually signals this and she immediately addresses the confusion. Email and listserv posts do not include these clues.

The instructor became acutely aware of the importance of "tone" in email. Based on students' reactions to content of her emails and on students' perceptions concerning the "tone" of her messages, she has discovered that her audience may receive a message other then the one she intended to convey. She has worked on this aspect of her communication with some of the technical advisors at the institution and implemented several of their recommendations to use emoticons as indications of humor (smile, ☺, grin, etc.) in email responses. Improvement in this area has enhanced her communication skills for all classes.

V. Conclusion and Implications

The initial hesitancy, frustration, and bafflement concerning the constructivist approach and its expectations were as common at a distance as F2F. With each succeeding class, the instructor learned more about the importance of the sense of community within the class for the student interaction and involvement which are fundamental to the effectiveness of the pedagogical methods and student assignments. Over the years she has learned how to be more effective at mediating interpersonal and systemic challenges, to ensure that students receive equitable assignments and exercises (Anderson, 2001; Hardwick, 2000).

For each class the degree to which a learning community is established needs to be assessed, and in the case of there not being one, it needs to be facilitated. For distance education this challenge is especially cogent because the instructor is less knowledgeable about all the realities and/or experiences of the students who are taking the course.

The experience of distance education students with the library sources is characteristic of the logistic problems and the "hidden curriculum" embedded within distance education that has received limited attention in the literature (Apple, 2004). To ensure that the experiences of distance education students especially those in rural, less-developed areas are equitable with students on campus, access arrangements must be made for technological linkages (Anderson, 2001).

Calling on students and asking several questions related to or associated with the local realities helps to establish community and build interpersonal relationships. Listening and using information from previous responses regarding the area and its realities when referring to a theoretical idea also invoke insightful responses. Students are often surprised that an instructor listens, values their responses, and builds on them. Active listening in any class is important when sincere, continued responses from students are a goal. However, at a distance, this is even more critical to the success of the collaboration and sharing of ideas.

Instructors need to receive focused training and be given opportunities to practice using the relevant technologies before they face students who are relying on them for instruction. In addition to practicing with the technology, practicing appropriate distance-learning techniques is necessary for all instructors who want to foster fruitful collaborations and interactions.

The establishment of community is necessary for collaboration and for constructivism to be effective in classrooms whether they are F2F or distant (Bernard et al. 2000; Hardwick, 2000; Keiny, 1994; McAlpine, 2000; Raymond, 2000). The necessity and benefits of designing instruction for distance education with these philosophical beliefs in mind have been documented (Bernard et al. 2000; Hardwick, 2000; McAlpine, 2000; Raymond, 2000). Creating appropriate environments involves more labor and time, and has its own distinctive set of challenges. However, doing so is beneficial for higher-order learning. Ensuring that learning experiences develop analytical and problem-solving skills equitable to those nurtured in students in F2F classes is essential for those who do not have direct access to university classrooms. Otherwise, distance education becomes another means by which the societal hegemony is continued by providing less for those most in need.

Given that the focus or purpose of distance education is to extend educational equity and access, assurances must be made that students who receive their education via this medium are sufficiently skilled to compete and achieve. It is expected that in the future there will be an even greater need for higher-order thinking skills, problem-solving skills, and effective interaction skills with a range of individuals. Concurrently, the use of technology to meet the growing needs

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of our students is growing exponentially. Therefore, further study on how to use and implement collaboration and constructivism more effectively via distance is needed. Additionally, better understanding of the impact of culture on the distance education learning processes is integral to developing effective environments that are equitable for a wide range of students with differing realities.

References

Abdal-Haqq, I. (1998, December). "Constructivism in teacher education: Considerations for those who would link practice to theory." *ERIC Digest, ERIC Clearinghouse on Teaching and Teacher Education*.

American Council on Education (2000). *Annual status report: Minorities in higher education.* Washington, DC: Author.

Anderson, T. (2001). "The hidden curriculum in distance education." *Change,* 33(6) 28 – 35.

Apple, M. W. (2004). *Ideology and Curriculum, 25th Anniversary* 3rd Edition. New York: Routledge.

Baec, Y. K. & Westrom, M. (2001). "Building a cyber training center for teachers in Korea." *Journal of Technology and Teacher Education,* 9(2), 171-179.

Bernard, R.M., deRubalcava, B.R., & St. Pierre, D. (2000). "Collaboration online distance learning: Issues for future practice and research." *Distance Education, 21*(2), 260 – 277.

Bonk, C. J. (2002, November/December). "Collaborative tools for e-learning." *Chief Learning Officer*, pp. 22-24, & 26-27. Retrieved October 1, 2004: http://www.clomedia.com/content/templates/clo_feature.asp?articleid=41&zoneid=30

Brescia, W. F. "A Support Taxonomy for Improving Online Discussions." *Journal of Public Affairs Education,* 9(4) 289-298, 2003.

Brooks, J.G. & Brooks, M.G. (1999). *In search of understanding: The case for constructivist classrooms (2ⁿᵈ ed).* Alexandria, VA: Association for Supervision and Curriculum Development.

Brown, J. S., Collins, A., & Duguid, P. (1989). "Situated Cognition and the culture of learning," *Educational Researcher*, *18*(1) 32-42.

Crumpacker, N. (2001). "Faculty pedagogical approach skill and motivation in today's education milieu." *Online Journal of Distance Learning Administration*, *4*(4) Retrieved online October 19, 2004: http://www.westga.edu/~distance/ojdla/winter44/crumpacker44.html.

Delpit, L. (1995). *Other people's children: Cultural conflict in the classroom*. New York: The New Press.

Duffy, T. & Kirkley, J. (2004). "Learning theory and pedagogy applied in distance learning: The case of Cardean University." In T. Duffy & J.R. Kirkley (Eds.), *Learner-Centered Theory and*

Practice in Distance Education: Cases from Higher Education (pp. 107-141). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Freire, P. (1970). ***The pedagogy of the oppressed***. New York: Continuum Publishing

Gardner, H. (1983) ***Frames of Mind: The Theory of Multiple Intelligences***. New York: Basic.

Hardwick, S.W. (2000). "Humanizing the technology landscape through a collaborative pedagogy." ***Journal of Geography in Higher Education***, *24(*1) 123 – 129.

Johnson, D.W., Johnson, R., Holubec, E.J., & Roy, P. (1984*). **Circles of learning: Cooperation in the classroom***. Alexandria, VA: Association for Supervision and Curriculum Development.

Jonassen, D. H. (1991). "Objectivism versus constructivism: Do we need a new philosophical paradigm?" ***Educational Technology Research and Development***, *39(*3), 5-14.

Keiny, S. (1994). "Constructivism and teacher's professional development." ***Teaching and Teacher Education***, *10(*2), 157 – 167

Kim, M. & Hannafin, M (2004). "Designing online learning environments to support scientific inquiry." ***The Quarterly Review of Distance Education***, *5(1),* 1-10.

Knowles, M.S. (1990). ***The adult learner: A neglected species*** (4th ed.). Houston, Gulf Publishing.

Mangan, P. (2001). "What is distance learning?" ***Management Quarterly***, *42*(3), 30 – 35.

McAlpine, I. (2000). "Collaborative learning online." ***Distance Education***, *21(*1), 66 – 80.

Muirhead, B. (2001). "Practical strategies for teaching computer-mediated classes." ***Ed at a Distance***. *15*(5). Retrieved October 14, 2004 from http://www.usdla.org/html/journal/MAY01_Issue/article02.html

Oakes, J. (1985). ***Keeping track: How schools structure equality***. New Haven, CT: Yale University Press.

Raymond, F.B. III (2000). "Delivering distance education through technology: A pioneer's experience." ***Campus-Wide Information Systems***, *17(2*), 49 – 55.

Van Looy, B., Callaert, J., Debackere, K. & Verbeek, Arnold. (2004). "Patent related indicators for assessing knowledge-generating institutions: towards a contextualized approach." ***Journal of Technology Transfer***. *28*(1) 53-61. Retrieved October 14, 2004 from http://journals.kluweronline.com/issn/0892-9912/contents

Wadsworth, B.J. (1996). ***Piaget's theory of cognitive and affective development: Foundations of constructivism*** (5th ed.). White Plains, NY: Longman Publishers.

Watts, M. & Pope, M. (1989). "Thinking about thinking, learning about learning: Constructivism in physics education." ***Physics Education***, *24,* 326–331.

Wertsch, J.S. (Ed.) (1985). *Culture, communication and cognition: Vygotskian perspectives*. New York: Cambridge Press.

Woolfolk, A. (2004*). Educational psychology* (9th ed.). Needham Heights, MA: Allyn and Bacon.