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METAPHORS AND REFLECTIVE DIALOGUE ONLINE

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Abstract

The primary purpose of this study was to examine how adult learners used a WebCT bulletin board space to construct knowledge. Cognitive psychologists are clear that active involvement with other people is necessary for learning. Yet, what stimulates the discussion online? How does simple “posting” or “argument” develop into “deep reflection?” How does this online learning environment provide for significant and sustained interactions? What is it about a WebCT bulletin board space that facilitates adult learning? In this analysis, metaphors and questions of possibilities were the “tools” that connected reflection, dialogue and self-direction to create new understandings. The space itself provided unique opportunities for self-directed learning and reflective dialogue.

Introduction

“How do I know that I know what I need to know to know what I am expected to know in order to know what I am supposed to know from having participated in this learning environment. . . .” Dan

Dan, like many adults in an online bulletin board, is challenged to make sense of the space and the way it shapes thinking. Socialized in academic environments where discussion and dialogue are often devalued, where debate and combativeness are often encouraged, the online bulletin board provides a new way to function.

The primary purpose of this study was to examine how adult learners used a WebCT bulletin board space to construct knowledge. Cognitive psychologists (Bruner, Peper, Vygotsky, Dewey and Resnick) are clear that active involvement with other people is necessary for learning. Yet, what stimulates the discussion online? How does simple “posting” or “argument” develop into “deep reflection?” How does this online learning environment provide for significant and sustained interactions? What is it about a WebCT bulletin board space that facilitates adult learning?

In this analysis, metaphors and questions of possibilities were the “tools” that connected reflection, dialogue and self-direction to create new understandings. The space itself provided unique opportunities for self-directed learning and reflective dialogue.

Definitions of Reflection

What is reflection and why is it important in the learning process? Dewey (1933) stated that reflective thought is “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends” (p. 9). Kolb (1984) suggested that reflection is one of four critical steps in the experiential learning cycle. Schon (1983, 1987) demonstrated that reflection is an essential component of professional knowledge and practice. He emphasized reflection-on-action and reflection-in-action, differentiating between reflection on past and present actions. Boyd and Fales (1983) defined reflection as “the *process* of creating and clarifying the meaning of experience (present or past) in terms of self (self in relation to the self and self in relation to the world). The outcome of the process is changed conceptual perspective. . . the shift from one perceptual perspective to another, which . . . has always been the focus of those who seek to understand human growth” (p. 101). Boud, Keogh, and Walker (1985) developed a model for reflection that had three key factors: a return to the experience, attending to the feelings that arose out of the experience and re-evaluation of the experience. Brody (1994) stated that reflection is “an attempt to impose order and coherence on a stream of experience and to work out the meaning of incidents and events” (p. 33). Saban, Killion, and Green (1994) identify three types of reflection: reflection-in-action, reflection-on-action, and reflection-for-action. They suggest that the latter type “comes usually as a result of the other two types of reflections” and “forecasts how we will use what we have learned from reflection-in-action and reflection-on-action. We adjust our behavior based on our increased knowledge base and a more informed perspective” (p. 17). Mezirow (1994) defines reflection as “attending to the grounds (justification) for one’s beliefs” and “involves a critique of assumptions to determine whether the belief, often acquired through cultural assimilation in childhood remains functional for us as adults” (p. 223).

While there may be nuances of difference in the previous definitions, all authors would agree that reflection involves a rethinking of experiences so that perspectives change and practice (action) is improved. Their emphasis is on the cognitive aspects of reflection, however, the next section elaborates on the social aspects of reflection.

Reflective Dialogue

As constructivism and the social construction of knowledge have become more widely accepted notions about how people learn, it is not surprising that educators have begun to think about reflection as it may be facilitated in conversations among people. Hatton and Smith (1994) use the term “dialogic reflection” to define a kind of reflecting that “involves stepping back from, mulling over, or tentatively exploring reasons” (p. 42). In their research, conversation that was “personal, tentative, exploratory, and at times indecisive” was considered “dialogic” (p. 42). Spitzer, Wedding, and DiMauro (1994) contrast reflective dialogue with information seeking dialogue and assert that “reflective dialogue tends to begin with a triggering message

that offers a “window” into one’s professional practice, exploring personal beliefs, and philosophies” (p. 1).

Isaacs (1999) uses the term “reflective dialogue” to refer to a process/place “where you become willing to think about the rules underlying what you do – the reasons for your thoughts and actions. You see more clearly what you have taken for granted” (p. 38). He suggests that “reflective dialogue can then give rise to generative dialogue, in which we begin to create entirely new possibilities and create new levels of interaction” (p. 38). He believes that this level of dialogue does not occur often and that in order for it to take place, we need to develop and nurture capacity for four behaviors: suspending, voicing, listening, and respecting.

Lamy and Goodfellow (1999) use the terms “monologue,” “dialogue,” “conversation” and “reflective conversation” to analyze their online interactions. They define “monologue” as messages that do not refer to other messages and do not require or invite a reply. “Conversation” types of messages are exchanges of a social nature whereas “dialogue” messages are information processing exchanges – often controlled by the teacher or tutor. Those interactions that were both information processing and social they named “reflective conversations” (p. 48). Mezirow (2000) used the term “reflective discourse” to refer to

that specialized use of dialogue devoted to searching for a common understanding and assessment of the justification of an interpretation or belief. This involves assessing reasons advanced by weighing the supporting evidence and arguments and by examining alternative perspectives. Reflective discourse involves a critical assessment of assumptions. It leads toward a clearer understanding by tapping collective experience to arrive at a tentative best judgment.” (p. 10 & 11)

In summary, dialogue is associated with the reflective process (Mezirow, 1994, Koppi, Lublin & Chaloupka, 1997) and online dialogue may stimulate reflective activity, whereby previous experiences are examined. Marsick and Mezirow (2002) suggest that transformative learning differentiates between instrumental and communicative learning. This study looks at the communicative aspect and shows how adult learners used an online bulletin board to reflect on and expand their experience in higher education.

The Context of the Study

The students in this online discussion were enrolled in a graduate program in Leadership. This program is a nontraditional, competency based program that is job-embedded. The class assignments were primarily to read articles on 6 topics and discuss them in a WebCT forum. The objective was to use the articles on learning organizations, life-long learning, problem-based learning, professionalism and interdisciplinary studies to help the students make connections with their Leadership program. It was my first experience facilitating an online class and I was intrigued by the level of thinking in the conversations. I immediately began analyzing the posts.

Initially, I used Gunawardena, Lowe, and Anderson’s (1997) interaction analysis model for examining social construction of knowledge in computer conferencing. Using their model that was developed and applied to an online debate, 350+ interactions between 5 men and 5

women were analyzed. Gunawardena, Lowe, and Anderson's (1997) model has five phases: (a) sharing/comparing of information, (b) the discovery and exploration of dissonance or inconsistency among ideas, concepts or statements, (c) negotiation of meaning/co-construction of knowledge, (d) testing and modification of proposed synthesis or co-construction, and (e) agreement statement(s)/applications of newly constructed meaning. They portray their model as a patchwork quilt with precise patterns suggesting rather predictable patterns of interactions. I soon discovered that like their study the majority of my student's statements were at phase one. However, I felt the model was not really getting at the subtle changes I was noticing in my student's thinking. I also noticed that some statements engendered timely and thoughtful reactions from others and, since I was also interested in how interactions are maintained, I decided to analyze all the statements that elicited three or more comments. This study reports the findings around one topic: learning organizations in one forum.

Using this more focused approach to understand the interactions I found 10 "posts" that resulted in what I called "hot spots." They seemed to represent bursts of interactions and learning. Seven of the posts suggested and expanded metaphors, six endeavored to make connections with experience, and seven of the posts asked questions. Some of the posts did all three: used metaphors, connected to experiences, and raised questions. However, the questions did not seem to fit into Gunawardena, Lowe, and Anderson's (1997) model: questions to clarify details or to clarify the source and extent of disagreement. These were questions to raise a possibility. For example, Dan said, "Why does learning always have to be measured in credit? Learners are all around you in the work place. Ask them to be your cohort. Your regional group is not your only resource when it comes to dialogue and learning. Collaboration has no boundaries." And Leslie wondered, "As leaders, how can we provide a climate that makes change something to look forward to and not something to dread? Maybe part of the answer is my own reaction to change. Do I model for others that change can be creative and stimulating? Or do others see me resisting and dreading change?"

These questions of possibilities open the mind to thinking about different ways to live – no credit and embracing change rather than fearing it. They provide an opportunity whereby participants can "suspend judgment" until they have had a chance to decide how they will integrate the new ideas into their schema. It is not surprising that these kinds of questions engendered multiple responses. They provided an opportunity to wrestle with new ways to function without having to take sides - which is what happens often in a debate environment. They seemed to align well with Spitzer, Wedding and DiMauro's (1994) ideas of reflective dialogue and Lamy and Goodfellow's (1999) idea of reflective conversation.

The metaphors were also an unexpected result of the online conversations. Four metaphors, embedded in the 10 "hot spots" engaged the learners in dialogue: the compost heap as a metaphor for change in organizations (the new grows out of the old), the sacred cow as a symbol of processes limiting change, the "fast-food university" as a metaphor for online instruction and a baby with a wet diaper as a metaphor for those resistant to change. Each metaphor was the source of rich interactions and conceptual understanding of issues around learning, organizations, and change. The metaphors seemed to provide a way to nudge people toward insights about new ways to be. They were invitations into an imaginary world. For example, Mickey said,

Peter Senge . . . likens effective organizations to organic systems of nature. . . He says that new grows out of the old (**check your local compost heap**) and learning that growth requires “paying attention to the interplay between reinforcing processes and limiting process.” The limiting processes are key because they are our **sacred cows**. . . What are the limiting processes in the Leadership Program? How is the staff doing at letting go of the old to make way for the new? How are we doing this in our work? In our quest for our PhD’s? At home?

This is a rich post with two metaphors, the compost heap and sacred cows, as well as multiple questions, and an invitation to make connections with the Leadership program experience. Dan, one of five who replied, said, “I particularly like the metaphor of the compost pile. When everything is in a mess, it can be the first signs of new growth. Hmmm . . . kind of describes what this past year has felt like.” The idea of a compost pile gave Dan a way to think about the Leadership program. And gave him hope that new growth often emerges from a mess! I replied to Mickey’s post by saying,

Is it helpful to name the **sacred cows**? There is so much in higher ed that has been sacred/untouchable for so long!! For example, the Carnegie unit – the idea that we give credit based on seat-time – if not that – then what??

This post also resulted in multiple responses. It may also have legitimized a critical look at higher education. For the next two weeks, the bulletin board space buzzed with questions and comments. Lamy and Goodfellow (1999) suggest that “self-sustaining threads arise in response to questions deemed worth asking by the learning community, but these may not necessarily coincide with those deemed worth asking by the teacher” (p. 57). This question happened to be worthwhile for this particular community. It was the only “hot spot” generated by me, the teacher. All of the other “hot spots” were created by students. How should a teacher respond when their questions are ignored? In a face to face classroom, students will rarely ignore their teacher, but in an online space it happens all the time! I had to learn to deal with this phenomenon and in time realized that the space was a place where learners could exercise significant choice and control. And choosing to respond to some posts and ignore others - even my own was one of the strengths of an online conversation.

The next post that resulted in multiple responses continued the discussion about sacred cows and developed the **fast food university** metaphor that had been introduced by Joe.

Terry O’Banion . . . says that our problem in higher ed. is that we’re so bound: semester-bound, credit-bound, campus-bound, grade-bound, etc., that we’ve lost sight of what affects real learning. The fact that the K-12 system still holds to a school schedule that’s based on the agricultural model is the biggest example of “boundedness” and **sacred cows** (this one elevated to god-hood!) The fact that we are talking about dropping out of the discussion, then picking it back up when we have a critical mass to begin again is a beautiful example of loosening those bindings! Of course, we have to be cautious about quality as Joe suggests, but if we are quality minded, we can make these changes. Joe, the **fast food industry** makes millions of dollars and is a conduit for folks to have heart

attacks, but remember, people choose to eat those burgers – they could also choose to eat the salads! I think we can have education on demand, AND quality.

One of the multiple responders was Joe who said, “You write ‘education on demand, AND quality.’ Sounds like a great slogan to me. I think the quality will come in as we implement what we are learning from this great experiment.” And Gary said, “Education on demand AND quality. That one is a winner! . . . I am making progress on my Leadership program. There are times when we struggle to keep our nostrils above water level (another metaphor!) and parts of our learning (like this internet course) take a back seat. I think that will always be true as long as our program is tied into our job descriptions.”

Another response that brought multiple reactions was from Ginna. It raised a very sensitive issue – that of regional groups. In the Leadership program, because it is job-embedded and students are away from the university for the majority of the program they are expected to develop their competencies with other students in their geographical region. Ginna clearly is not happy with what is happening in her group and the multiple metaphors give her an opportunity to share her frustrations.

We’re just too busy to concern ourselves with very many things that don’t meet our own immediate needs or wants. Where in all this effort and experimentation to improve education do we fit in the idea of seeing others as important as ourselves, of doing onto others what we would have them do to us, of loving our neighbor (or group member) instead of using them for our personal gain. Is there a way to leave our human “me first” attitude on the **compost pile** or will that always have to be something that every class and every group must struggle with? If we are not accountable to be there for one another, can our educational experience really be high-quality? Or don’t the relationships matter that much? And if they do, how do we get us all to the place where when we come to **Fast Food University**, we make the healthy choices: we order the relationship salad instead of the fatty burger of selfishness?

Again we see a rich post with experiences, metaphors and questions of possibility. Joe responded by saying, “WOW, Way to put it!” and Alison said, “Go Girl!” Mickey was more thoughtful. “Ginna, I’m not sure I agree with how you characterize what we’ve been doing in this program—at least you’re certainly not characterizing me correctly. . . . My regional group members know they can count on me for lots of things. Tracie dropped off some materials for me at my house this morning to deliver for her. Sharon called me last week because she was having some conflict at work she wanted to talk about. No, there is nothing selfish about what I am doing in this program – far from it.”

These two interactions, Ginna’s post and Mickey’s response, can best be characterized as the “voicing” ability Isaacs (1999) suggests needs to be present for reflection to take place. Mezirow (2000) states that “discourse is the forum in which ‘finding one’s voice’ becomes a prerequisite for free full participation” (p. 11). The regional group experience is being examined from multiple perspectives and Ginna and Mickey are modeling for the others their use of authentic voices. In another widely responded-to post, Gary introduced the **diaper** metaphor,

“There is a saying that, ‘the only one who likes change is a baby with a wet diaper.’ So, how do we make the transition from a mind that just adjusts, to one that actively looks forward to and seeks change?”

Leslie responded with “Gary, your comment is great! My youngest is just finishing up potty training so I can relate.” Then she goes on to question whether she herself models resistance to change. And Sudds said, “I can only speak for my experience, but the only time I can remember actively looking forward to change is on those occasions when I am dissatisfied with the present and desiring something better.” He goes on to describe how he balances his work life by not chasing every new idea – even waiting to buy software until the bugs have been worked out. Sudds’ comment, “I can only speak for my experience” is provocative. Is experience the only place we speak from? The definitions of reflection would suggest that personal experiences are central to the reflective process. And in this bulletin board space, experiences emerged as a strong theme.

The students were clearly using the WebCT space to reflect on their experience by using metaphors. Other metaphors emerged, but did not create such large bursts of activity. For example, Gary said,

Your comments made me think of the flow of life long learning. Excuse the metaphor of a river (I am a naturalist), but it seems like the Leadership Program can potentially provide learning experiences that flow more naturally. We too often view learning as short intense periods (classes), after which we vegetate. . . .The obstacles associated with our work setting at times provide the greatest learning experiences. But it is the interaction between the water flow and the river bed that creates the dynamic of the fresh mountain stream. Well that is my metaphor for this class!

His final statement suggests that while others were expanding the four major metaphors for this particular section, they did not quite work for him. Yet, it may have been the discussion with multiple metaphors that urged him to develop his own and share it. Leslie responded to Gary by posting, “Now, you’re sounding like Peter Senge in the recent Fast Company article. His premise is that in order to change we must move from thinking like mechanics and acting like gardeners. Right down your alley!”

With this comment Leslie was leading Gary back to the compost heap/organic metaphor. Why did metaphors have such a prominent place in this online space? In what ways were personal experiences connected to metaphors? Why did these “hot spots” engender further interactions?

Vygotsky (1978) has helped us understand the importance of social interaction for the internalization of new knowledge. These “hot” spots seemed to represent the “zone of proximal development” for the learners. In children the “zone of proximal development” is the mental/physical space where new ideas are “tried on,” almost like wearing mother’s high heeled shoes. In adults the playful engagement with metaphors and questions of possibility provide the cognitive space whereby new ideas are formulated. Provenzo et al. (1989) indicate that “an individual’s creation of metaphor is part of a fundamental human impulse to find meaning in life” (p. 551).

What is a metaphor? Webster's definition is "a figure of speech in which a word or phrase denoting one kind of object or action is used in place of another to suggest a likeness or analogy between them." According to Webster, the roots "meta" and "pherein" mean to change, transfer or bear. Is it possible that one concept bears/carries an idea until the learner can reshape the other one and make a new connection? Bowers (1980) agrees that "this drive to name, to give meaning, to categorize involves the use of metaphor, that is, the establishment of an identity between dissimilar things" (p. 271). A partially known concept or phenomenon is explored in terms of the known. Kottkamp (1990) stated that "metaphor is a powerful and flexible means for reflection" (p. 191).

The multiple metaphors in this bulletin board indicate the examination of personal experiences. They were "tools" to think with. Others have noted the generative nature of metaphors -- the way they facilitate understanding of a complex phenomenon. Marshall (1990) uses metaphor "not as a literary device but as a heuristic tool to uncover unproductive patterns and create possibilities for new modes of interacting" (p. 129). The students in this online discussion didn't need instruction in the use of metaphoric language. The WebCT space seemed to open a door to a place where they could do what they naturally do. Metaphors are another way humans think and are pervasive in our language systems (Lakoff & Johnson, 1980). Provenzo et al. (1989) state that "through its capacity to clarify meaning in complex settings, metaphor is able to go beyond the limitations of scientific language and description" (p. 551).

Bruner (1996) articulated the important role of narrative in contrast with the science paradigm.

We devote an enormous amount of pedagogical effort to teaching the methods of science and rational thought: what is involved in verification, what constitutes contradiction, how to convert mere utterances into testable propositions, and on down the list. For these are the "methods" for creating a "reality according to science." Yet we live most of our lives in a world constructed according to the rules and devices of narrative. (p. 149)

The paradigmatic mode of knowing (Bruner, 1985) has been dominant in education and in our culture but that seems to be changing as the value of stories/narratives are emerging and folks are becoming disillusioned with the debate culture and the inevitable arguments based on logic. Tannen (1998) asserts,

The argument culture, with its tendency to approach issues as a polarized debate, and the culture of critique, with its inclination to regard criticism and attack as the best if not the only type of rigorous thinking, are deeply rooted in Western tradition, going back to the ancient Greeks. . . . The tendency to value formal, objective knowledge over relational, intuitive knowledge grows out of our notion of education as training for debate. It is a legacy of the agonistic heritage. . . . Throughout our educational system, the most pervasive inheritance is the conviction that issues have two sides, that knowledge is best gained through debate, that ideas should be presented orally to an audience that does its best to poke holes and find weaknesses, and that to get recognition, one has to "stake out a position" in opposition to another. (p. 257, 261)

My initial analysis used Gunawardena, Lowe, and Anderson's (1997) model. It was developed using data from an online debate. My students were not debating - they were dialoguing using multiple metaphors. And metaphoric conversation is unpredictable and more like a crazy quilt than the predicted patterns of Gunawardena, Lowe and Anderson's (1997) model. My students were teaching me that dialogue and questions of possibility were ways to encourage the construction of powerful metaphors. I was learning there was something unique about this online environment.

Discussion

How does a WebCT Bulletin Board space enable adult learners to be reflective? Does the WebCT space itself influence the ability for reflective dialogue to take place? The purpose of this section of the paper is to discuss the space that is provided by a WebCT bulletin board and the ways that it facilitates or limits reflective dialogue. Isaacs (1999) states,

What is often missed when people try to create dialogue is that our conversations take place in an envelope or atmosphere that greatly influences how we think and act. The space from which people come greatly influences their quality of insight, clarity of thought, and depth of feeling. This space is composed of the habits of thought and quality of attention that people bring to any interaction. By becoming more conscious of the *architecture of the invisible* atmosphere in our conversations, we may have profound effect on our words." (p. 30)

What is the *architecture* of a WebCT bulletin board? Is it a space where the "habits of thought and quality of attention" are conducive to reflection and higher order thinking? Initially students and teachers often use the space to "post" assignments. They are bringing to the bulletin board space, the invisible *architecture* of previous learning experiences. They see no real need for dialogue, nor do they see the value of an online discussion. The teachers first concern is often, "How many posts should I require?" and "How will I evaluate the discussion?" When first using a bulletin board, I required two postings and two responses to other posts. But the conversations were stilted and the focus of everyone seemed more on the numbers of posts rather than the quality of posts. Over time, I learned that the *architecture* of the space itself provided an atmosphere where my adult learners could function in ways that were comfortable for them. In this section I make connections between four features of an online bulletin board space and adult learning theories.

Independence and Collaboration

Knowles (1970) will be remembered as the Father of Andragogy. In his differentiation between adult learners and children, he identified experiential learning and self-direction as critical components of an adult's learning activities. Garrison (1992) stated that "to have any meaning, self-direction, like critical thinking, must include being responsible for relating new ideas and experience to previous knowledge, as well as actively sharing that new understanding in order to justify and validate it" (p. 146). Tam (2000) states that "distance learning provides a unique context in which to infuse constructivist principles where learners are expected to

function as self-motivated, self-directed, interactive, collaborative participants in their learning experiences by virtue of their physical location” (p. 1).

The WebCT bulletin board seems to be an ideal place for learners to be responsible for their own learning. They have to be independent in terms of figuring out what the “experience” (in this case, the Leadership program) means to them. The bulletin board format doesn’t allow them to “hide” behind other verbal learners as sometimes happens in the f-to-f classroom. They have to think and verbalize their own ideas in the bulletin board space. The WebCT bulletin board gives them a “space” where they can share their thinking and adapt and change it. Yet, they do not remain in isolation in their efforts to make sense of the “experience.” As Mezirow (1985) observes, there “is probably no such thing as a self-directed learner, except in the sense that there is a learner who can participate fully and freely in the dialogue through which we test interests and perspectives against those of others and accordingly modify them and our learning goals” (p. 27). Harasim (1990) states that “educational research identifies peer interaction among students as a critical variable in learning and cognitive development at all educational levels” (p. 43). Her references come mostly from cooperative learning researchers -- Johnson and Johnson, Slavin and Sharan.

It is assumed, however, that the posts would appeal to “social-interactional senses” (Lamy & Goodfellow, 1999) and respond to others, as well as invite others to respond. Statements such as “I agree, Mickey,” “True enough,” “Exactly, Joe!”, “Your comment is great!”, “Alison, very much agree with you!”, “Really, that frustrates you?”, “Love this conversation!”, “Gary, how true are your points of modeling change,” “Leslie, the process will become what we all make it so thanks for your input,” “Right on, Mickey, Your point is well taken,” and “Gary, your comment on the ‘political issues involved’ in making change struck a responsive chord with me” help encourage everyone to stay involved. They are indicators that someone is “listening” and “respects” their comments (Isaacs, 1999). The use of names and quoting parts or all of previous posts seemed to help keep everyone coming back to the online space. The space itself appeared to meet the needs of adult learners: independence and collaboration through social interaction. Koppi, Lublin, and Chaloupka (1997) state that “a requirement for the acquisition of active knowledge by the learner is communication” (p. 246). However, there appears to be a need for learners to have certain communication skills and expectations in order to utilize the space for optimal learning. We might expect that not all learners are ready for this level of interaction. Teachers may have to be more intentional about teaching the behaviors that are needed and the expectation to “see” the behaviors exhibited in the bulletin board space. The Staged Self-Directed Learning Model developed by Grow (1991) shows how a teacher can facilitate the process of moving learners from being dependent towards increasing self-direction.

Individualized Integrative Learning

Koppi, Lublin, and Chaloupka (1997) define several outcomes of “effective teaching and learning in a high-tech environment.” They suggest the term ‘active knowledge’ is “concerned with the integration of information, knowledge, skills and values leading to understanding and the ability to take appropriate action on the basis of integration” (p. 246). The WebCT bulletin board seems to be ideally suited for this kind of integration. The threaded nature of the bulletin

board allows a student to read many different “posts” and respond only to those that “call forth” a response from them. Students choose where to begin their interaction, the level of their interactions, and with whom to interact. If students want to start a new thread, they can easily do this using the “compose” button. In Canning’s (1991) study one of the teachers, Nancy George said, “The more I think about it, the more I feel the reflection assignment *should* be without structure, even though I was adamant about wanting one in the beginning. When you try to fit into someone else’s framework, you lose the flow of your ideas. You have to create the structure that fits your own reflection as you go” (p. 19). For students who are active constructors of their own knowledge a WebCT bulletin board provides a “space” for them to structure, investigate and construct their own understanding.

Reflection and making connections with past, present and future experiences is personal and unpredictable. Insights may come at 2am, 10am, or at 11pm. Bulletin boards allow students to individualize their learning to suit their time-frames. In this study students posted communication at hours almost around the clock. This kind of opportunity may increase levels of reflection and integration, because it does not require everyone to respond at a particular time. They can respond when they are ready – when they have had opportunity to think and prepare a response. This kind of flexibility honors the individuality of the learner. Collis (1998) describes five areas of flexibility that allow “the learner some critical choices in the learning situation so that it better meets his or her needs and individual situation”: flexibility in location, flexibility in program, flexibility in types of interactions, flexibility in forms of communication, and flexibility in study materials (p. 377). This study demonstrated that such types of flexibility gave the learners opportunity to integrate their knowledge with prior experiences.

The Written Component

The WebCT bulletin board space requires a written response. Hatton and Smith (1994) found that reflection was facilitated by a “high degree of verbal interaction with trusted others” and that incorporating “a written record which could be used later as a stimulus to further reflection” also was beneficial (p. 41). Holt et al. (1998) state the “data suggest that participative reflection may be greater in a Web conference because of the ability to reread an entire sequence of postings while composing a response” (p. 47). VanHorn (1999) found that levels of reflection were higher when nursing students were paired for their reflective journal writing than those who journaled independently.

An online environment may provide a space where the benefits of written responses and verbal interactions are optimized. As an individual journals in an online bulletin board, they can “see” their ideas/perspectives in a new way. Ginna said, “On rereading my post I can see why you might have thought I was being critical of individuals or even the program.” This very public space then becomes a place where a learners’ “meaning-perspective” can be examined by themselves and trusted friends for coherence. Mezirow (2000) states that “a frame of reference is a ‘meaning perspective,’ the structure of assumptions and expectations through which we filter sense impressions. . . . It provides the context for making meaning” (p. 16). How can a meaning-perspective change? Does a WebCT bulletin board provide opportunities to reorganize ones’ meaning-perspective? Dan seemed to think so! He said,

Wow! What a thread! It seems more like a rope. I'm not sure what to post. First - "what needs to rot." Imaginary boundaries that define learning environments. Self defeatism that states "I have nothing to offer the group." Self serving which asks, "What can I get from the group?" Second - Relationships. . .they are the cornerstone of learning. Check out the lessons you hold dear and you will find a dear one who holds the lesson. Third - Read the threads of each others lives . . . together they form a tapestry.

Dan's last statement is an invitation to take the perspective of others – read the threads of their lives! Mezirow (2000) states the "more reflective and open we are to the perspective of others, the richer our imagination of alternative contexts for understanding will be" (p. 20). He continues, "We change our point of view by trying on another's point of view" (p. 21). The WebCT space seems to be a place where that is possible.

Schwandt (1999) suggests that "to be in a dialogue requires that we listen to the Other and simultaneously risk confusion and uncertainty both about ourselves and about the other person we seek to understand. It is only in an engagement of this kind, in a genuine conversation, that understanding is possible" (p. 5). McHenry (1997) explores the "gift of being together" and the "shared invention" of an idea through Buber's notion of dialogue and "I-You." Does the architecture of a bulletin board provide a space where each becomes aware of the other in their uniqueness? Does the perspective of another become more obvious, more reverent when written? Does the frame of reference change in the presence of others? This study supports such possibilities. Mezirow (1994) sums up the transformation process, "In my view, the developmental process in adulthood centrally involves the process of transforming meaning structures" (p. 228). What I was observing were subtle changes in "meaning perspectives."

The "compile" option in WebCT bulletin board spaces allows students to compile and print out all the messages in one thread so that those who want to engage themselves more deeply in the dialogue or those who wish to underline and reread posts can do this. Gary said, "By downloading the threads I was able to place them in a binder and refer to them as needed." This post seems to suggest that "frames of reference" need time to change and that the bulletin board space may have only been a part of an ongoing transformation.

Development of 'Voice'

One of the capacities Isaacs (1999) identified as needed for real dialogue to take place is "voicing" which he defines as "speaking the truth of one's own authority, what one really is and thinks" p. 419. Canning (1991) found that the teachers in their study "had lost touch with their voices or assumed their voices were not important in professional reflection – they had developed internal patterns of focusing on what they were *supposed* to say. Their early reflections were characterized by references to an unidentified "they" rather than "I." The taking on of an "I" voice was one of the achievements of the reflection process" (p. 19). In this study most of the learners had some comfort level using "I," however, one participant consistently left off references to himself with such statements as "(I) do not know if this will help or not but (I) was checking out the net and found a web site. . . .so (I) thought it would be good to pass it on." This way of responding may simply be a function of the web where more cryptic responses can take place among people who know each other well.

The WebCT bulletin board gave everyone many more opportunities to “practice” using their voice than they might have had in a regular classroom discussion. As I analyzed the posts I found equal numbers of posts by men and women. This was an environment/architecture different than the “chilly classroom climate” reported by Sandler, Silverberg, and Hall (1996), Constantinople et al. (1988), and Sadker and Sadker (1990). Women contributed equally to the dialogue and, in fact, seemed to lead to deeper connections. Eighty percent of the “hot spots” were generated by women (in a forum of 5 men and 5 women). Everyone had an equal opportunity to express his or her beliefs and values and could benefit from the modeling of those who had developed more skill in articulating their beliefs. In traditional educational settings, students often suppress their ideas and only say what they think is expected of them.

Summary

In summary, a bulletin board permits adult learners to function in harmony with adult learning theory - connecting with prior experiences, allowing time for reflection and opportunities to construct their own knowledge through interactions with others. However, the very public environment of an online bulletin board may compound barriers to reflection.

Boud and Walker (1993) suggest several barriers to reflection in face to face settings: threats to the self, one’s world view, or to ways of behaving; lack of skills; established patterns of thought and behavior; obstructive feelings like lack of confidence or self-esteem, fear of failure etc; external pressures and demands; lack of self-awareness of one’s place in the world; inadequate preparation and hostile or impoverished environments. These are only a few of the barriers that may be compounded by a public forum like WebCT. So while the bulletin boards of WebCT appear to provide a space for reflective dialogue, there are many other factors that may in fact hinder active learning.

As our understanding of reflective dialogue in online environments emerges, I expect that further examination of interactions will continue to reveal communication styles that are conducive to knowledge construction. Professors will become clearer about how the bulletin board space could be used – giving students suggestions to develop metaphors and make connections with prior experiences. Professors will articulate how interactions will be “graded” or “not graded” and why. And educators will begin to envision different forms of assessment, such as the development of metaphors, as reasonable evidence of knowledge gained.

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