Souls on Ice: Incorporating Emotion in Web-Based Education

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SUMMARY. Emotions have been neglected in education and online education, in favor of a heavy emphasis on cognition and rationality. This article explores the significance of emotion in learning and how recent research is identifying some pathways and dynamics in the way emotions impact on learning and on web-based learning. Online learners have not been considered as "emotional beings" and web-based education has not addressed this dimension in any significant way. A constructivist, emotionally-oriented (CEO) model of web-based education is introduced which emphasizes safety, challenge, and new thinking, and offers several strategies to enhance the emotional experience of learners. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <http://www.HaworthPress.com>*

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Education has existed in some form since the beginnings of human history. In relative terms, web-based education (WBE) has just appeared and blends learning with technology in unique ways. Much research and writing in this area emphasizes the similarities between WBE and traditional methods. Accreditation frameworks declare that the experience of students in online education must be equivalent to face-to-face instruction (FTF). Yet we know that WBE is a significantly different approach to learning that is mediated by technology and that the experiences will differ. One difference is in the way emotions are conceived and communicated in a web-based environment. Currin (2003) quotes Thissen as remarking that ". . . nearly all of the [e-learning] environments I know metacommunicate dreariness and boredom, and they only address the cognitive part of learning." Computer-mediated communication has been depicted as less friendly, impersonal, less emotional and more serious, businesslike with a task orientation (Rice & Love, 1987). Campbell-Gibson (2000) depicts teaching and learning online as the "ultimate disorienting dilemma" where the markers of everyday life (e.g., color of skin, gender, accents) no longer exist in familiar forms. Yet online communication is not without an emotional dimension (e.g., hyper-emotional "flaming" or criticizing harshly online) and may be an "emotionally different" medium which needs to be understood and considered in constructing web-based courses.

This chapter explores emotions and learning in general, then considers emotions in online education. A constructivist, emotionally oriented (CEO) model of web-based education is presented, followed by a discussion of the emotional landscape of online courses, ideas about enriching online communication and a summary.

EMOTIONS AND LEARNING

Emotion is an exceedingly complex phenomenon and Plutchik (2001) reports that there have been more than 90 definitions of "emotion" proposed in the 20th century. O'Regan (2003) notes that emotions can be viewed as some combination of physiological, psychological and psychomotor components. Some theorists (e.g., Damasio, 1994) have proposed "primary emotions" (e.g., happiness, sadness, anger, fear and

disgust) and "secondary emotions" such as euphoria, ecstacy, melancholy, wistfulness and these are considered derivations of primary ones. Some more recent brain research (e.g., Damasio, 1994) has distinguished between feelings as being a mental image of the state of the person's body and emotion as being the reaction to a stimulus and the associated behavior such as facial changes. For the purpose of this discussion, the terms emotions and feelings will be used interchangeably.

The primary role of emotion in learning has largely been ignored in favour of an emphasis on cognition and rationality (Astleitner & Leutner, 2000). Indeed, emotion has been viewed as the polar opposite to cognition (O'Regan, 2003) and the direct expression of emotion has historically not been seen as appropriate in education (Coles, 1999; Sylwester, 1994). The history of emotions in instructional design (Astleitner, 2000) reveals a progression from emotions first being seen as intangible factors which are disruptive of cognitive objectives. Emotions were then viewed as being consequences of the learning process. Later, emotions were seen as attitudes towards or against something. More recently emotions have been associated with a type of intelligence or emotional intelligence (EQ) (Goleman, 1997). Mayer (1999) refers to this as the ability to reason with emotion in four areas: to perceive emotion, to integrate it in thought, to understand it and to manage it. Cherniss (2000, Conclusion section, para. 2) notes that ". . . there now is a considerable body of research suggesting that a person's ability to perceive, identify, and manage emotion provides the basis for the kinds of social and emotional competencies that are important for success in almost any job." With the EQ emphasis, emotions have become the content of instruction itself–teaching about emotions. Another current approach has been characterized as "emotionally sound instruction" and highlights the importance of incorporating emotions in learning and the need to increase positive and decrease negative emotions during instruction (Taylor, 1994; O'Regan, 2003).

Increasingly, emotions are being viewed as mediating all learning. Brain studies have revealed that learning involves not only the left-brain, or fact oriented side, but the whole brain, including the amygdale, the limbic system and the cortex. Emotions cannot be separated from logical, rote learning. For example, everyone is familiar with the way emotions influence memory of events such as the experiment that stages an emotional event in the classroom and then asks details of the event.

Jensen (1998) points out that emotions drive attention, meaning and memory and are critical to patterning in the brain. Stock (1996, p. 6) notes that ". . . every sensory input we receive is processed through our

emotional center first . . . before it is sent on and processed in our rational mind. . . .” Others describe the centrality of emotion as “. . . mak[ing] possible all creative thought” (Greenspan, 1997), “. . . a sort of biological thermostat [which] activates attention . . . which then activates a rich set of problem-solving and response systems and . . . In fact, of driv[ing] everything” (Brandt, 2000). Sylwester (1994) states that emotion “. . . drives attention, which in turn drives memory” and Vail (2002) terms emotions, the “On/Off Switch for Learning.”

University students’ emotions measured early in the semester predicted cumulative grades and final course exam scores at the end of semester (Pekrun, Molfenter, Titz, & Perry, 2000). Academic self-efficacy, academic control of achievement and subjective values of learning and achievement related significantly to students’ academic emotions (Pekrun Goetz & Titz, 2002).

Norman (2002) notes that understanding emotion is important for the science of design and that emotions directly impact on cognition. Positive affect enhances creative, breadth-first thinking whereas negative affect encourages depth-first processing and minimizes distractions. Norman observes that “. . . neurochemicals change the parameters of thought, adjusting such things as whether reason is primarily depth first (focused, not easily distracted) or breadth first (creative, out of the box thinking but easily distractible).” Positive affect broadens the thought process and leads to creative thinking with a side effect of easy distractibility. As an example, discovering new information easily on the Web can be exciting for some and this excitement might lead some learners away from the main topic through exploring interesting tangents. Negative affect, such as anxiety, focuses the mind to a point leading to better concentration. As Norman notes, “Anxiety and fear squirt neural transmitters into the brain that narrow the thought process. In general this is good to focus upon a specific threat or problem.” Positive emotions can assist us in difficult tasks whereas negative emotions can make it harder to do even simple tasks. As an example, a person may be able to walk across a plank placed on the ground without much thought, but suspend the plank fifty feet in the air and the anxiety generated may seriously affect the person’s ability to think and perform this otherwise simple task. A person may be able to successfully complete a quiz online, but add a visible countdown timer that leads to increased anxiety and the person’s memory and other thinking processes can become impaired. Emotions then can alter our performance on cognitive tasks.

EMOTIONS IN ONLINE EDUCATION

Like mainstream education, emotions are rarely considered in developing online education. Great emphasis is given to the logic and structure of the content, the pedagogical philosophy, the range and extent of the information available to the learner and other logical, rational parameters. While factors which can relate to emotions, such as the visual appeal of the site, the ease of navigation and the degree of interactivity, are usually addressed, they are not often considered in terms of the emotional impact on the learner.

Yet the literature strongly suggests that web-based education can generate considerable negative emotions such as anger, frustration, confusion, boredom and isolation to name only a few. Thissen (2000) notes that too often web-based environments lose people in hyperspace, promote problems in locating information, contain long navigation paths, confuse users with too many choices, violate basic ergonomic rules related to screen color, text layouts, and unintuitive user interfaces. He urges attention to learners as emotional beings which means being stimulated and motivated, having their curiosity excited and encouraged, good feedback and confirmation, a sense of achievement at intervals. Learners should have an opportunity to express emotions, to communicate them clearly to others and to themselves.

Redden (2003) indicates that negative emotions can be generated by dead links, tangled navigation, dropped connections, full pages of narratives, nonstop animation and large downloads, as examples. She believes that instructors and developers need to pay attention to emotions in the cyber classroom and make the experience interesting. Instructors need to respond to learners positively and with humor when appropriate, personalizing communications, using emotions, and providing encouragement to explore their own meanings with the materials. Instructors are encouraged to purposely express their own emotions, and to name them in different ways including describing body language ("my eyes grew wide"). She notes that when educators talk about content being authentic and meaningful they are really referring to this as an emotionally-mediated process. Chat groups have developed a completely new online language of emotions with terms such as LOL (laughing out loud) and HHOJ (ha, ha, only joking). There are many web sites that feature this topic and that provide lists of emotionally-related acronyms and emoticons (e.g., http://www.angelfire.com/wa/jerbo/chat.html#acro, http://www.ker95.com/chat101/html/abbreviations.html, http://help.expedient.com/mailnews/emoticons.shtml).

Assessing emotions in online learning can be difficult without the usual range of emotional cues generated in face-to-face communications. MacFadden, Maiter, and Dumbrill (2002) describe the problem experienced by facilitators who were unable to gauge the level of emotional engagement of the class on an issue within an online context. Rather than continue to challenge the learners, the facilitators decided not to risk student alienation so they discontinued the discussion. They noted that if this had been a FTF class, they likely would have continued to "push" the issue.

Redden (2003) points out that many of the most well-accepted recommendations to facilitators in web-based education are directed at addressing emotional issues. Facilitators are encouraged to respond quickly to learners' problems because these problems usually involve emotions such as: confusion, frustration, anger and disappointment. An early response leads to the learner feeling validated, appreciated and grateful and reduces the levels of negative emotions. Facilitators should regularly inform students of their progress because students worry about their abilities, may feel insecure and may not participate or "lurk" within the online classroom. Feedback about performance given in a helpful manner can motivate, engage and lead to higher levels of participation in the course.

Facilitators are encouraged to be active and to personalize their communications with learners. Web-based courses where the facilitators are largely absent can lead to loss of momentum in the learning, a lack of engagement in the process and result in learners feeling unimportant and angry over lost learning opportunities. Class situations where the learner and his or her contributions are not acknowledged can lead to learner feelings of disengagement, meaninglessness and frustration. Using the learner's name regularly, along with acknowledging the specific contributions made, can increase the learner's sense of engagement and reinforce good work.

While these negative feelings can occur within a FTF classroom situation, web-based education has more limited information available, a lack of usual reference points, and delayed communication that can considerably amplify the effect of these experiences.

THE CEO MODEL: A CONSTRUCTIVISTIC, EMOTIONALLY-ORIENTED MODEL OF WEB-BASED INSTRUCTION

A new model that incorporates a focus on emotions was developed by the author and his colleagues and has been described elsewhere

(MacFadden, Herie, Maiter & Dumbrill, in press). This CEO model was developed for the type of web-based education that involves social interaction through various means including discussion groups, shared assignments and joint activities. The model is grounded in a constructivistic approach and also emphasizes the emotional dimensions in online learning. Learners are encouraged to formulate and reformulate their ideas, to order, reorder, test and justify their ideas, all within an emotional context of safety and trust (Gold, 2001).

Constructivism is based on the idea that people construct their own meanings and that learning is both an active process and a social activity. Caine and Caine (1991) identify several principles associated with learning, constructivism and brain research. Four of these principles are:

- The brain is a parallel processor and processes thoughts, emotions and cultural knowledge simultaneously and teaching should incorporate a range of learning strategies;
- Learning involves the entire physiology and instructors shouldn't just involve the intellect;
- Searching for meaning happens through patterning and emotions are critical to patterning;
- Challenge improves learning while threats inhibit it. A challenge can become a threat when the learner believes that the challenge threatens some important factor such as self-image or grades and the learner believes he or she may not be successful in meeting this challenge.

These authors note that,

> . . . content that is emotionally sterile is made more difficult to understand. . . . To teach someone any subject adequately, the subject must be embedded in all the elements that give it meaning. People must have a way to relate to the subject in terms of what is personally important, and this means acknowledging both the emotional impact and their deeply held needs and drives. Our emotions are integral to learning. When we ignore the emotional components of any subject we teach, we actually deprive students of meaningfulness. (Caine and Caine, 1991, p. 58)

Rather than simply encouraging positive emotions and discouraging negative emotions, this model recognizes that sometimes learning involves negative emotions. Piaget (Bybee & Sund, 1982) believes that

learners change their perspectives when they are brought to a place of some discomfort, when their existing ideas no longer explain new information. The disequilibrium that is engendered can result in new understandings and new paradigms in thinking for learners.

The CEO model has been updated from the earlier version (MacFadden, R. J., Herie, M., Maiter, S., Dumbrill, G. C., in press) and incorporates four learning stages which reflect the constructivist paradigm, enhanced by a focus on emotions (see Table 1).

STAGE 1: SAFETY

The first stage of the CEO model involves creating a safe learning environment is critical for learners to be able to think freely, to express opinions, and to challenge themselves and others. All learners and facilitators are asked to deliberately make the course a place where everyone feels safe to risk themselves through expressing ideas. Rules of netiquette (i.e., socially proper behavior on the Net) are posted, discussed and monitored, and group discussions are reviewed by facilitators to ensure a safe and supportive environment. Group members are encouraged to

TABLE 1. A Model for Online Education Focusing on Emotions and Paradigmatic Change

Stage	Purpose	Activity	Potential Feelings of Learners
1. Safety	To create a safe learning environment that facilitates risk taking and examining one's ways of thinking	Construct rules to foster free communication and ensure safety. Monitoring of communication to ensure compliance and safety	Safety, support & acceptance
2. Challenge	To provide the opportunity for participants to critically examine their knowledge and world views	Introduce exercises and processes that allow participants to step outside their existing ways of thinking	Disequilibrium, confusion, anxiety, frustration in a context of safety support & acceptance
3. New Thinking	To create opportunities for engaging with new knowledge and gaining new ways of viewing the world	Introduce alternative knowledge and ways of viewing the world	"Ah ha!" moments leading to a new way of thinking, excitement
4. Consolidation	To create opportunities for the new ideas to be integrated and understood	Provide learning situations that involve the use of this new knowledge to encourage further understanding	New equilibrium brings feeling of deepened understanding and satisfaction until ideas challenged again and disequilibrium re-occurs

use any of the various channels to contact facilitators (i.e., course e-mail, private e-mail, phone) early if they have any concerns in this area. Safety is always a fundamental and primary concern and this is communicated throughout the course.

STAGE 2: CHALLENGE

The second stage of the CEO model involves challenge. A constructivist approach offers a deepening of the educational experience through challenging participants' thinking (Gold, 2001). In a web-based course on enhancing cultural competency that used the CEO model, participants were asked to describe their own cultures by finding and sharing a website that reflected their own culture with other learners. This assignment usually provoked considerable annoyance and frustration because many found this to be impossible since culture and individual identity are so complex and personal that it is unlikely a single website could capture this. Learners were asked to explore their feelings and experience about this and to reflect on how clients might feel about professionals who attempt to understand their cultures based on a single source. With these emotions "switched-on" (i.e., active), learners were asked to think about what this means for professionals who depend on a cultural literacy approach which relies largely on written content about cultures (e.g., reading books on a particular culture, listening to music from that culture and other similar methods). Many learners who depended solely on the cultural literacy approach experienced some dissonance and understood both cognitively and experientially the limitations of catalogued definitions of culture. Additionally, strengths of existing models of understanding culture are reviewed to acknowledge parts that might still inform the learners' practice. In the example above, some learners did not experience dissonance since their experience confirmed what they already knew.

STAGE 3: NEW THINKING

This third stage involves the development of new ideas and thinking. Some dissonance and disequilibrium are helpful in learning since it motivates and encourages new ways of thinking. When information is introduced that promotes this dissonance new models are explored to provide alternatives. As an example, a social worker with experience in

working with people from China may firmly believe that there is a strong cultural mandate to respect and look after the elderly. When confronted with a particular case that shows a Chinese family's clear lack of concern about the grandparents, this information makes her uncomfortable because it creates a dissonance with her existing knowledge. This dissonance or disequilibrium may challenge the social worker to explore various reasons for the inadequacy of her knowledge and eventually refine her understanding to incorporate this new reality. Her original thinking may not have included regional differences, socioeconomic status and generational differences within Chinese families. The social worker may generate new knowledge based on the challenges to her existing perceptions from this one case. She may decide that her ideas about the "Chinese family" are too narrow and stereotypical. She may conclude that she needs to consider each situation uniquely, as an opportunity to understand how each family views the relationship between itself and its elders.

STAGE 4: CONSOLIDATION

This is the fourth stage that refers to the time after the learner has constructed new knowledge. Opportunities are provided for the learner to integrate and reinforce this new understanding. The learner is encouraged to "try out" this new knowledge through problem-based practice activities so that it can be better understood and integrated into the learner's understanding. The learner may reap the rewards of these new insights in seeing things in new ways and in generating feelings of competency. Through this experience, the learner's feelings may involve satisfaction, comfort and excitement at seeing things in new ways. However, it may not be long before this new knowledge becomes challenged and requires critical examination, which would lead to a cycling back to stage two within the CEO model. This constructivist model reflects the belief that each learner does not passively "receive" knowledge, but rather the learner constructs it. This process of knowledge construction continues constantly as ideas are created, evaluated, refined, discarded and utilized. The CEO model creates a situation for this learning to occur within a web-based environment and uses an understanding of emotion to enhance this learning.

In the CEO model which is focused on the discussion and social interaction approaches to web-based education, there is recognition that

the early stages (e.g., first two weeks) of a course should be devoted to assisting the learner to become comfortable and engaged with the online environment. While this may be commonplace in many models, it is particularly emphasized with the CEO approach. This includes meeting other learners, and test driving the website, understanding the structure and knowing where things are. Social engagement is critical since so much of learning is socially oriented, and co-learners can be an important source of support and confirmation. Some web-based courses give bonus grades to fellow students who assist others with problems (Wong & Schoech, 2005). Friendly biography sections where learners can travel to and remind themselves about the background of co-learners and facilitators can be helpful to build connections and ongoing support.

In this early stage, the CEO model focuses the learning objectives on understanding and using the technology to develop a sense of competency. This is accomplished by having the learners sign-on, navigate through the course area, read various formats of posted files such as PowerPoint, Adobe (pdf) and sound files (e.g., wav). Success at this time is crucial and fosters an early sense of competency. There is increased monitoring by facilitators during these early stages to detect and respond to difficulties. Assignments are aimed at building technical expertise and experiencing early success, posting the bio information to foster connections and overviewing the content of the course. Course assignments become progressively more challenging as the learner feels increasingly comfortable with the technology, the content and the co-learners. While some of this is common to many web-based courses, the CEO model recognizes the crucial role of the emotional experience of learners and develops structure and processes that enhance the learning experience.

AN EMOTIONAL LANDSCAPE

Is it possible to think about the emotional landscape of an online course, the emotional contours, and common affective experiences in order to encourage the best possible experience for a learner? As an example, a common emotional experience might be heightened excitement and anxiety at the beginning of the e-course when learners are challenged with understanding the course and its expectations, and with also being able to use the technology competently so the course can be completed successfully. Mastering the demands of the technology within

a limited time period can be particularly stimulating and anxiety-provoking, and clearly different from a usual FTF course experience.

During the e-course there would likely be emotional hills and valleys particularly associated with ongoing assignments, presentations and engagement with co-learners and facilitators. The ending phase of the course might be associated with raised excitement, high activity, some anxiety, frustration, some sense of accomplishment, relief, and possibly some sadness at ending relationships. While many events within a course could substantially alter these patterns, the emotional contours of a course experience are important to consider. As an example, a facilitator who is largely inactive within the first part of a course, may cause students to become confused, angry, distrustful and disengaged from the course and the instructor may have to find ways to help learners become more connected, active, trustful and learning if the course is going to be a successful experience.

Although the emphasis may be on encouraging positive emotions, there might be more conscious use of emotions such as anxiety to heighten and sustain motivation. For instance, having three assignments rather than one might promote more ongoing attention and focus on the work and provide more feedback to learners. Again, balance is critical since too many assignments might elevate anxiety to a point where the learner disengages or is not able to think analytically or creatively.

The dynamics of a game, for instance, where one is striving so vigorously and so completely to accomplish something that has reward value, may be instructive. A game may invoke empathy, challenge problem-solving skills, create a sense of risk and offer a chance to be successful and become a "winner" or risk becoming a "loser." There is a strong emotional component in games that serves to heighten motivation, increase performance and foster tenacity and persistence. Could specific components of a game be incorporated more into e-learning to utilize the power of emotions?

Online learning has been criticized by some because of a high drop-out rate (Currin, 2003). Would paying more attention to the emotional experience of the learners reduce early drop-out and increase the quality of the experience overall? Facilitators need to be vigilant to how learners are adapting to this learning environment. With fewer cues from the learners, online facilitators may not be understanding the nature of learners' experience and misinterpreting actions. One qualitative study (Hara & Kling, 2001) found that much early learner communication within a web-based course was negative and reflected considerable learner discontent. When this discontent lessened, the facilitator assumed the early problems had

been rectified. Further analysis indicated that many learners had given up expressing concerns and essentially decided to put up with the problems until the course was over. Even after the course was completed, the facilitator was not aware of the level of discontent within the course. Would this have been any different within a FTF course?

There may be other points within an online course where certain kinds of emotions predominate that might benefit from some differential response. The final assignment period, for instance, typically engenders considerable anxiety among learners in an FTF context. How does this get expressed within an online course? Again, while some anxiety may be functional to motivate and encourage thinking and production, how much is too much and to what extent do specific online environments promote more, less or the same amount of anxiety? Should online facilitators respond differently than FTF instructors?

One of the paradoxes in online research is that it is not unusual for learners to report more contacts and satisfaction with an instructor than in comparable FTF classes and instructors. Facilitators are frequently more available during more of the course and responses can be fairly quick. Assignments can be completed late in the schedule and transmitted immediately–no running into the university to be there by five in the afternoon. Clearly there are other factors within an online course that may increase the anxiety around assignment time.

Norman (2002) recommends blending cognitive and emotional elements together in order for e-learning to foster:

- strong motivation, because the problem is one that a learner cares about;
- positive encouragement where efforts to explore are rewarded;
- social commitment which is achieved through working in groups and a positive learner-instructor relationship;
- and some level of stress, through assignments, to increase learner focus and activity.

ENRICHING COMMUNICATION

While communication via computer may be more limited than FTF interaction, online communication can be enriched. Many of the examples in Table 2 below are already in use and/or are being currently developed within different contexts. Several of these tools can be integrated within WBE and combined to form a new style of communication called "emotionally enhanced communication" or EEC. These ways of communicat-

TABLE 2. EEC Strategies to Incorporate Emotions

Punctuation	Exclamation Marks	No way!!! *Conviction, amazement, disbelief*
	Question Marks	You said what??? *Puzzlement, disbelief*
	Capitalization	We CAN'T do that. NO WAY. *Anger, shouting*
	Ellipses	Can't say…. Not sure … *Uncertainty, thinking*
	Spacing	He just appeared. Out of nowhere. *Pausing, incredulity*
	Underlining	This has to be done today. *Urgency, emphasis*
	Special Characters	<<<Remember>>> *Urgency, attention*
	Bracketing	I need you to do this [feeling guilty just asking]
Font	Style	**You're so funny! (comic sans)** *Humor*
	Color	This is making me burn. *Anger, upset*
	Size	**Believe it.** It must be so. *Importance, attention*
Acronyms		BC *Be cool* EG *Evil grin* FCOL *for crying out loud*
Emoticons	Text-Based	:) *smiling* ;) *winking* :(*sad*
	Graphical	☺ *smiling* ☹ *sad*
Grammar	Metaphor	"I just finished reading your last therap-e-mail, Angie, and my smile is a mile wide" (Collie, Mitchell & Murphy, 2000, p. 226). Descriptive immediacy & metaphor

Note: The comments in italics after each example reflect only some of the possible meanings. Similar to face-to-face non-verbal communication, there is some ambiguity inherent what each expression means.

ing have been derived from several sources, including Glazer (2002) and Murphy and Mitchell (1998), and Collie, Mitchell, and Murphy (2000).

The last two examples come from the development of a form of online therapy or e-therapy called "therap-e-mail" (Murphy & Mitchell, 1998). In developing a helping relationship it is critical to communicate feelings such as respect and concern. The authors use many of the above tools to communicate and create these feelings which provides a foundation for the help that flows through their e-mail relationships.

Reflecting on these EEC strategies, one student informed the author that she would only use some of these strategies and actively avoid others (e.g., emoticons). As in FTF communications, the way we actually express emotion online may reflect our own personalities and other factors such as gender. As an example, some people may find using capitalization a RUDE way to communicate. A study by Witmer and Katzman (1997) found that women tended to use graphic accents (e.g., emoticons) more than men in communicating over computers.

In exploring what makes learning effective, Hiltz and Turoff (2002) identify the need for facilitators to establish *swift trust* with learners within the first week or two of a web-based course. Swift trust, a concept developed by Myerson Weick, and Kramer (1996), relates to groups who work around a clear purpose, and have a common task within a finite time period. Swift trust involves a willingness to suspend doubt about others to work on the group's task and a positive expectation that the activity will be beneficial. To build swift trust, Hiltz and Turoff recommend that facilitators provide: early encouragement of learners through explicit statements of commitment, excitement, and optimism; clear contributions that each learner can make; help with any technical or task uncertainties; modeling and encouraging responses to each others' contributions. They also recommend developing collaborative learning opportunities and generating active participation with appropriate types of software. Zheng Veinofft, Bos, Olson, and Olson (2002), also found that in online textual environments, participants who engage in a range of getting-acquainted exercises have higher levels of trust than those who do nothing. Examples of this might be having learners post bios, share personal stories and share personal web sites.

In an article in this issue, Paul Jerry describes a new online program in Applied Psychology that has adopted a "working alliance" approach to web-based education. A working alliance involves three components: agreement on goals, tasks and the development of trust. Goleman (1997) views *trust* as one of the love family of emotions. A major philosophy of this program in Applied Psychology is that the core features of the working alliance are applicable to any successful relationship whether it is programmatic, clinical or educational (Jerry & Collins, 2005). From this perspective, the feeling of trust generated within the context of web-based learning is essential in building a successful learning experience.

CONCLUSION

This article has explored emotions and learning within an online context. The content highlights the importance of ensuring that developers and facilitators have an awareness of the emotional dimension and emotional landscape of an online course and that they build this knowledge into how the course is structured, facilitated and experienced by the learners. Some instructors have the emotional intelli-

gence and awareness to do this without conceiving of it from an emotionally sound perspective. From the ideas raised within this article, the following suggestions are offered:

1. Address both the cognitive and affective dimensions of the learner. Deliberately structure assignments so that they engage the affect of the learner-instead of talking about the concept of social work values, definitions, dilemmas, create a scenario where learners find themselves in the middle of an important ethical quandary within a case situation and they have to work it out. Instead of discussing the components of a social assistance system, engage them in a "game" which finds them on the street and looking for food and a job.
2. Design the online course so that the structure and content are clear, navigation is easy, links are active and downloads can be completed quickly. Avoid complicated file types that may require specialized software or hardware on the learner's end. Being unable to readily participate in the course requirements can marginalize a learner and lead to frustration and disengagement. Pilot test the course with volunteers to ensure that the technology is functional and easy to follow so that it becomes secondary to the learning experience within the course.
3. Develop assignments in a strategic order, starting out with less demanding ones while students are working through the technology, course structure, and getting to know other learners and then increase the challenge, complexity and engaging nature of the assignments. Where possible, involve learners with others in critiquing ideas and constructing new knowledge.
4. Facilitators should maintain a detailed awareness of what is happening with individuals and the class regarding the emotional experience and emotional landscape of the course. Explore the reasons for drop-out and monitor the class communications for changes in volume and affective content. Respond to problems early. As an example, students who appear frustrated, confused or disconnected, should receive a phone call early to try and shortcut difficulties and to increase the positive experience of the learning. Use an excellent technology help system (24/7) so learners can get technical problems solved quickly anytime and not have to "fume" over the problems for a week and then find themselves frustratingly behind the class.

5. Facilitators should try to optimize motivation and maintain reasonable levels of anxiety in students. Instructors need to ensure some level of safety within the class so that learners are willing to risk with new ideas and challenge others in a way that is supportive.
6. Build "swift trust" and acknowledge learners and their contributions by name. For example, feedback such as, "I really appreciated Bob's last comment about this issue–I had never looked at the problem in this way and it makes me think differently about it now." When learners share an opinion or idea there should be some response or acknowledgement of the contribution, however big or small. It can be disheartening for a learner who posts a message to be completely ignored by the participants and facilitator. This can happen easily within an asynchronous environment where the timing and order of communication may not be clear.
7. Incorporate some emotional emphasis directly within the communication. As an example, facilitators can use forms of emotionally enhanced communication (EEC) that they are comfortable with, modeling this for learners.
8. Enhance the positive affect and experience of the learners. For example, use humor whenever possible, being careful to avoid misunderstandings that can occur within this online medium. Provide ongoing feedback about performance through assignments and facilitators' comments. Encourage reactions and comments from others that are appropriate from a Netiquette perspective. Celebrate achievements, individually and collectively.

Emotions are a critical part of learning and need to be considered and addressed in all forms of education. Web-based education specifically presents some unique challenges related to the more limited and different communication opportunities and its reliance on technology-mediated processes. These limitations will always be changing as new technologies enable innovative ways to communicate and instruct. Neurobiologist Joseph LeDoux remarked that cognitive science only focuses on thinking, reasoning, and intellect. He indicates, "It leaves emotions out. And minds without emotions are not really minds at all. They are souls on ice–cold, lifeless creatures devoid of any desires, fear, sorrow, pains and pleasure" (LeDoux, 1996, p. 25). While brain research is unlocking some fascinating and fundamental relationships between emotions and learning, more investigation is needed to identify ways that a focus on emotions can inform and strengthen the web-based

learning experience. There is a need to recover the humanity that lies at the basis of this important new learning process. Many of the recommendations for accomplishing this, that are identified within this article, are based on experience and will need to be addressed as hypotheses in future research.

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