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Emotion in the Classroom

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Students come to our classes knowing things. Cognitive psychology has long maintained that what we know plays a vital role in the learning of new information (Bartlett, 1958). Therefore, as teachers, or as learning coaches, many of us tailor our curriculum goals to what students already know.

In this essay, however, I suggest that a vital aspect of the learning process - the power of emotion -- is either ignored or relegated to a minor, or worse, a pandering status. Psychology has provided a wealth of insight into how students learn. Yet almost no attention is given to why students learn. I believe that the "why" of learning is profoundly influenced by emotion.

Human Motivation Why are you reading this essay? Is it perhaps because you might gain insight into better ways to teach? But, why should you be interested in that? Perhaps because students are likely to learn more. Why is that important? We might say it is important to create a better society or that knowledge leads to success. But why is that important? Why is it more important to know than not know? Why is it important to be successful or peaceful or loving or empathetic or any of the values that we might hold?

I am suggesting that ultimately there is no rational basis for any preference and that the fundamental basis for behavior is emotion.

Why we choose the goals we do is a different question than how we go about accomplishing those goals. Clearly we are "meaning-

seeking missiles" and "informavores" (Dennett, 1991). We are processors of information, but without his "emotion chip", the character Data on *Star Trek: The Next Generation* would have no reason to do anything. Rationality is clearly involved in making choices, but there must be motivation to choose.

Emotion and Learning The exact relationship between emotion and cognition has been the subject of intense debate. There is general agreement, however, that emotions do have measurable effects on learning, memory, problem solving, and creative thinking (Isen, 1999). Let's consider how emotions affect these activities.

*Emotion as Core:*The classroom is a complicated, rich combination of information processing and emotional responding. In the classroom emotion can act as a cuing source for later retrieval, as an evoker of emotional-laden information, and as a portal to higher cognitive functions. Recent research suggests that dreaming (typically associated with REM sleep) helps to consolidate the learning of new information (Braun, et al., 1998). Emotional filtering, or labeling, of information and integrated learning seems to be very basic in human cognitive processing.

Emotion and Memory: How information is encoded has a strong effect on its later retrieval (Tulving & Thomson, 1973). Attempts to recall information can actually be enhanced when one's emotional state matches the emotional state experienced when the information was originally learned (Baddeley, 1989; Bower, 1983). Thus, with mood-dependent memory, memory is enhanced when the mood state is similar at learning and test.

Mood has also been shown to influence the retrieval of mood-laden stimuli (Teasdale & Russell, 1983). With mood-congruence, the person's mood can bias memory. Information with the same mood connotation as that currently experienced by the learner is more readily accessed than when the mood connotation of the information does not happen to match the person's mood at retrieval. As an extreme example, depression involves an emotion-cognition cycle. Being in a depressed state tends to produce thoughts that are negative, which in turn increases negative affect, thus producing more negative thoughts.

Emotion and Thinking Alice Isen and colleagues (Isen, 1990; Isen, D. Daubman & Nowicki, 1987) have shown convincingly that positive affect enhances a variety of problem-solving related cognitive activities and that negative affect can actually inhibit those processes. Positive affect appears to increase learning by engaging higher brain mechanisms that enrich and activate mental schemas, consolidate long-term memories, and enhance one's ability to make diverse associations (a cognitive activity critical in creative problem solving).

In contrast, negative emotions associated with, for instance, fear, sadness, anxiety, and depression all appear to inhibit higher cognitive functions (Isen, 1985). The perception of threat is especially deleterious. Perceived threat induces a "fight or flight" response such that higher brain functions are suppressed and escape mechanisms invoked. Thus, in a negative classroom setting, students may distance themselves from the learning task and focus on avoidance behaviors associated with fear of failure, shame, and task uncertainty. Stated simply, students who feel good about being in class will perform better.

Emotion as Motivator Why should students go about the business of learning? I believe that the most potent answer to that question lies in our own emotional display. As learning coaches, we are in the position of conveying the why of learning by modeling enthusiasm for the material. Fostering a positive classroom climate is clearly fundamental (Bennett, 2000); students should feel safe and accepted. Beyond that, however, our own emotional displays act as direct indicators that the material is worth knowing. When I display positive affect, convey personal interest, show that I care about what I am teaching and care about students' learning, students are much more likely to entrain those same attitudes. I caution that enthusiasm per se is not what is being recommended. In fact, the literature on faculty effectiveness shows that general enthusiasm is not related to student learning; enthusiasm for the material being taught and positive regard toward students does increase student learning (Cohen, 1981; McKeachie, 1986).

Hatfield, Cacioppo, and Rapson (1993). have shown that people are very sensitive to the emotional states of others and, more importantly,

that emotions are "contagious". It is important to note that people often do not realize that they are projecting and/or responding to subtle emotional cues. As learning coaches, it is thus imperative that we be explicitly aware of the emotional messages we are conveying. In doing so we are in a better position to modify unintentionally negative emotional displays and project those displays that will motivate our students.

Monitoring our own emotional state is not enough. We must monitor the emotional state of our students as well. Facial, vocal, postural, and movement kinematics give us clues into the emotional state of our students. Because we tend to "catch" the emotional states of others around us, we can help our students to reappraise their negative emotional states by using our own facial, vocal, and postural state to convey positive affect (Fredrickson, 1998; 2000). The only way to intervene, however, is to pay attention to emotional clues in ourselves and in our students.

Conclusion My central message in this essay is really very simple. Emotion is the prime mover in human behavior and thus should be dealt with explicitly in our classroom. The data clearly show that emotion is involved in learning, and that positive affect enhances learning and memory. Other data show that emotional states are contagious. Although there are individual differences in capacity to deal with emotions, both in ourselves and in others, attention to the emotional aspects of teaching and learning can reap great benefits, not the least of which is helping to foster a life-long love of learning.

Therefore, I suggest that we should use everything at our disposal to enhance student learning. The simplest and most direct way to address the fundamental question of motivation is to model positive affect and in that way "infect" our students. To do so not only conveys that the information is worth knowing, but that learning per se is a positive activity.

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