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Taylor, E. W. (2001), Transformative learning theory: A neurobiological perspective of the role of emotions and unconscious ways of knowing. *International Journal of Lifelong Education*, 20(3), 218–236.

Article Critique of “Transformative learning theory: A neurobiological perspective of the role of emotions and unconscious ways of knowing”

Summary

The author mentioned that three areas of research have received much attention from the field of neuroscience: the study of emotion and memory and their relationship to the cognitive processes of the human brain. Recent research has revealed that emotions are indispensable for rationality, in other words, one cannot reason without emotions or feelings (Damasio 1994, LeDoux 1989, 1998). Implicit memory deals with nonconscious cognitive processing of past experience. Research on implicit memory reveals that a great deal of learning takes place outside our working memory and has a tremendous influence on how we look and act in the world (Greenwald and Banji 1995, Schacter 1996).

Based on psychological and neurobiological researches, the purpose of this paper is: (1) to describe the interdependent relationship that exists between emotion and reason and how it informs transformative learning theory and critical reflection; (2) to describe the nature of implicit memory and how it contributes to a greater understanding of nonconscious cognitive processes; and (3) to explore the implications of emotions and implicit memory for the fostering of transformative learning.

According to the author, critical reflection is seen as essential to transformative

learning, and is the conscious and explicit reassessment of the consequence and source of our meaning structures, for example, our orientation to perceiving, knowing, believing, feeling and acting. Some of the empirical studies explored that transformative learning and critical reflection concur with Mezirow's viewpoint on one level. However, on another level Taylor (1997a, 1998) found that critical reflection process granted too much rationally driven, that overlooks the role of feelings and emotions. Exploring the role of affective learning in a transformation, Sveinunggaard (1993) found that participants could not act on cognitive learning until they had engaged in "learning how to identify, explore, validate, and express affect" (p. 278). The author indicated that these studies emphasized on rationality is disproportionate, and much more attention needs to be given to the emotional nature of transformative learning.

Implications for Impact on Adult Education

Transforming learning of adults needs to emphasize not only critical reflection but emotional essence, especially the influence of implicit memory. Recent research in the field of neurobiology and psychology brings an explanation of the interdependent relationship that exists between reason and emotions and how decision making can occur outside one's conscious awareness. Parrot and Schulkin (1993) argued that emotions should be recognized as inherently cognitive, because research shows that "emotions anticipate future needs, prepare for actions, and even prepare for thinking certain types of thoughts" (p. 56). Emotions establish the agenda for desires and beliefs and they are metaphorically the equivalent of judgments, determining the criteria of how we view the world (Taylor, 2001). Similar to De Sousa (1991), emotions can be understood as "guiding the process of reasoning—or distorting them, depending on the describer's

assessment of the appropriateness” (p. 197). Without emotion, individuals are unable to co-ordinate their behaviors, respond to emergencies, prioritize goals, prepare for proper action and make progress towards goals—incapable of filling the gaps often found in the slow and error-prone process of objective rationality (Johnson-Laird & Oatley, 1992).

Personal Opinion

Neurobiology and psychology continuously bring to light on the role of emotions in adult learning. Based on various thoughts and assumptions, people determine what will and won't be reflected upon. However, emotions guide or distort the process of reasoning. Implicit memory is on an unconscious awareness level, that emerges from habits, attitudes, emotions and preferences that all shaped by former experiences. Therefore, emotional exploration and support associated with critical reflection lead to greater inner strength and feelings of trust for adult's effective learning.

References

Taylor, K. (2006). Brain function and adult learning: Implications for practice. *New directions for adult and continuing education: The neuroscience of adult learning*, (110), 71-85.