

EMOTIONS AND ADULT LEARNING

by

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ABSTRACT

This study focuses on the significant role that emotions play during adult learning. It is argued that emotions do play an important role during the teaching and learning process and as such should be given recognition.

Until fairly recently emotions were not acknowledged during teaching and learning, but as a result of growing literature and research being conducted in the field of brain-based learning a new awareness has been created regarding the crucial role that emotions play.

This investigation moves from the contention that traditional behavioural practices are outdated and don't take into account the functioning of the brain. What this implies is that educators start teaching in ways that accommodate the brain's natural way of processing information. It is accepted that the brain is made up of three separate sections or brains, namely the R-complex (a primitive brain), the limbic system (emotional brain), and the neocortex (cognitive brain). It is shown that for optimal learning to take place the brain needs to experience positive emotions at the limbic system so that high-order thinking can take place at the neocortex. Consequently adult educators should teach in ways that alleviate negative stress so that the brain does not have to suspend higher-order thinking skills in favour of more primitive behaviours needed for survival at the R-complex. The argument is put forth that by creating teaching experiences that have positive overtones, learning in adults can be enhanced because the brain is better equipped to make the mental connections that are needed for optimal learning.

The need for the creation of positive learning environments linked to the importance of the psycho-socio environment are further outlined as integral aspects that should be given preference during teaching. Therefore through the creation of positive learning and healthy psycho-socio environments the tone is set for enhanced learning.

The essay concludes with specific strategies that promote and encourage the incorporation of positive emotions during teaching. The strategies under discussion include: motivation, thematic-based learning, reflection and dialogue. These strategies are further broken up into techniques that educators can use to engage the affect and ultimately enhance learning in adults.

"Thought is deeper than all speech; feeling deeper than all thought".
Christopher Cranch

1. INTRODUCTION

In this essay I advocate that emotions should play a more significant role during the teaching of adult learners in general, whether it be in a formal or non-formal situation or context. I will show that at the base of all cognition lies emotion and without the incorporation of thereof, learning has no meaning, therefore teaching has to take more account of the role that emotions play during learning.

In the first part of this report I explore emotions and adult learning and affirm the important role that emotions play during teaching. I briefly discuss how teaching practices can be reviewed so that emotions play a more significant role in the classroom.

Secondly I give a brief account of dominant behavioural teaching practices in the past, whereupon I discuss why these teaching practices are out-dated and not conducive to the way the brain was designed to learn. I then refer to recent research conducted on the brain and how the brain learns best, by taking into account the significant role that emotions play during learning.

I further discuss the need to create positive learning environments and explore practical ways of creating positive learning environments. Lastly, I examine selected strategies that take account of the important role of emotions in learning. Strategies that I have selected to discuss include the following: motivation, thematic-based teaching, reflection and dialogue.

2. STATEMENT OF PROBLEM AND PURPOSE

Before the 1980's very little research had been conducted on the brain mechanisms of emotion, with the focus falling on the extension of the cognitive revolution (LeDoux, 1998: 73). By and large neuroscience and cognitive science neglected emotions, as it was viewed as a field that was too fickle and untrustworthy in both the real world and in laboratories. Traditional teaching methods also focussed more on the role of the rational in teaching and learning, ignoring the "affective" or emotional side of the learner. This view was held until quite recently, when new illuminating literature and research in the areas of neuroscience and in particular brain research, exposed the decisive role that emotions play during learning (Damasio, 1997:1). Cove and Love (1995:1) also point to the "growing body of research linking, intellectual, social and emotional processes". They argue that a continuing paradigm shift in the social sciences and education is needed that will incorporate the impact of processes and issues of affect. Fortunately, as a result of inter alia brain research we are now able to claim the legitimate role that emotions play during learning. Against the preceding background the purpose of this study is to discuss the decisive role of emotions in learning and to explore strategies that adult educators can use to enhance and incorporate emotions during adult learning.

3. RESEARCH STRATEGY

This is a literature-based investigation, which draws from literature in the fields of adult education, affective learning, cognitive psychology and the neurosciences. A large part of my investigation draws on literature regarding brain-based learning. Authors I consulted are considered to be forerunners in the fields of brain research, emotions and adult learning and have in recent years been making invaluable progress in their prospective fields of specialization.

4. EMOTIONS AND ADULT LEARNING

“Feelings are woven through every human experience. But for all the anguished attention emotions have drawn from poets and lovers, science has done little to decipher their mysteries. For years, passions were considered base leftovers of our animal selves, imprisoned in the primitive portions of our brains, enemies to “pure” reason. Or they were seen as the ineffable ingredients of the human spirit, too elusive for capture. Now, all these ideas are falling away”.

Julie Marquis (*Los Angeles Times*, October 14, 1996)

4.1 Introduction

In this research essay I argue that optimal teaching can never be contemplated without the incorporation of emotions. I argue that emotions play an important role during the teaching process, and in particular the teaching of adult learners. I postulate that traditional teaching strategies need to be revised so that teaching becomes more accommodating of emotions. According to LeDoux (1998:24) “humans have found it compelling to separate reason from passion, thinking from feeling, cognition from emotion ... with Plato setting the precedence by saying that passions, desires and fears make it impossible for us to think. Even the church labeled emotions as sinful, temptations to resist by reason and willpower”. It is therefore not difficult to understand why emotions have been largely ignored in teaching for such a long time. Emotions were an area in science that was simply too unstable to actually take serious. But as a result of findings in the area of innovative brain research, emotions can now more than ever legitimately proclaim the important role they play in teaching.

I further argue that teaching approaches need to embrace the fact that the brain does not separate emotions from cognition if learning is to become more meaningful for the adult learner. This notion is emphasised by Caine and Caine (1991:58) when they state that emotions are an important part of teaching and by ignoring the emotional components of any subject we teach we actually deprive students of meaningfulness.

Dewey as cited in Shor (1992:23) also points to the significance of emotions in learning, declaring that “learning cannot be reduced to a purely intellectual activity. It is more than a mental operation and more than the facts and ideas transmitted by books or lectures. Education is a complex experience of one kind or another. As an experience of human beings in a specific community at a certain moment in history and in their lives, it is a social interaction involving both thought and feeling”. LeDoux (1998:39) also affirms the interconnectedness of emotions and cognition stating that “it is time to put cognition back into its mental context – to reunite cognition and emotion in the mind. Minds have thoughts as well as emotions and the study of either without the other will never be fully satisfying”.

From the above it is evident that teaching practices need to be revised so that emotions play a more significant role. Educators need to expand their notion of teaching by gaining an understanding of learning that is based on the structure and functioning of the brain. This implies that adult educators should start teaching in a way the brain was designed to process information and learn naturally – which ultimately implies that human behaviour, perceptions and especially emotions must be affirmed.

To advance my argument the next section provides a brief overview of dominant behavioural teaching practices in the past and then I advocate that behavioural modes of instruction be updated to make way for teaching that is more brain-based as well as supportive of the significant role that emotions play.

Next I penultimately focus on insights gained from recent research related to learning and emotions. The conclusion provides strategies that educators can use to promote positive emotions during teaching.

4.2 From behavioural teaching practices to teaching that takes account of brain functioning

The reason I have decided to discuss behavioural teaching is because of its widespread endorsement in teaching circles. If one examines some of the teaching practices based on behaviourism, it is quite apparent that “brain-antagonistic” teaching has flourished, not really acknowledging the significant role that emotions play during teaching. These teaching practices often inhibit learning by discouraging, ignoring, or punishing the brain’s natural learning processes - processes heavily laden with emotions.

B.F. Skinner who is viewed as the father of behaviourism used the term “behaviour modification” which according to Ringness (1975:72) is aimed at eliminating undesired behaviours and reinforcing desired ones. Skinner as quoted by Ringness (1975:60) maintains that “the struggle for freedom is really a struggle to escape punishment or coercion, but by taking away the aversive stimuli (that is, punishment or threat) it does little to ensure that learning will take place”. Skinner believed that freedom is an illusion and behaviour is always under control of its consequences, therefore when teachers refuse to control pupils, other environmental factors assume control instead. Behavioural teaching practices are primarily based on control and threat, with very little prospect for the incorporation of positive emotions. To this day behaviourism is unwittingly used in many classrooms often leading to the results that are described by Dewey as cited by Shor (1992:18) in the following way: students are miseducated into becoming passive cynical individuals with inhibitive civic and emotional developments. Shor (1992:19) further adds that these very students refrain from participating in governance, or in any way contributing to society at large as they don’t possess the skills to make policy or voice an opinion on public affairs.

Many traditional teaching practices have proved to be flawed because learning is often inhibited rather than promoted. But by taking into account what research says on the functioning of the brain teaching can be improved. The next section focuses on this very issue. Thus with specific reference to what research tells us about emotions, the role of emotions during learning will become more evident.

4.3 Learning and emotions: Insights from recent research

Robert Sylwester (1995:5) a prominent researcher in the field of brain research, states that “only through our knowledge of brain research and the education profession’s own experimental fumbblings will we begin to discover useful applications of brain theory and research”. This is further highlighted by Leslie Hart (1983:xiii), a pioneer in brain-based learning, who believes that “teaching is not ineffective because educators do not know what happens at synapses or the chemistry of neurotransmitters, but rather because they have yet to address the brain as the organ for learning, and fit instruction and the environment around the shape of the brain”.

This does not however imply that educators need to become experts on brain anatomy before they can teach for the inclusion of emotions. In other words teachers need to adapt teaching to suit the way the brain was designed to learn. Fortunately as a result of brain research educators will be able to lock into the mechanics of the brain and be better equipped to understand the complex origin and dynamics of emotions, all in a quest for finding practical ways of including emotions into their teaching practices.

In the past brain research was mainly conducted on pathological patients, the brain damaged and rats, but as a result of recent technological developments cognitive neuroscientists have been able to study the brain’s highly integrated functioning and inter-connected cells that can be related to normal human learning. These studies have shed more light on how mental activities are carried out by the brain (Kosslyn and Koenig, as quoted by Rose, 1998/99:4). One problem that has however surfaced is that most of the brain research done has been conducted on children. Consequently, I agree with Rose (1998/99:5), who points out that more research needs to be conducted on the adult learner so that adult education as a discipline can see the importance of brain research ... “otherwise we will be embracing the results of this research without further delving into the particular circumstances of the adult learner”.

Fortunately for education it is now possible to study the brain and its functioning during learning to such an extent that it has shed new light on the significant role that emotions

play during the teaching process. It is from this research that I discuss insights with regard to teaching based on brain research.

Recent brain research has unequivocally validated that emotions are linked to learning. These emotions for example assist us in recalling certain memories and experiences that are stored in our central nervous system. The brain is made up of separate parts with emotions finding their origin in the midbrain, also known as the limbic system or neo-mammalian brain. Maclean as cited by Hart (1983:102) proposed that we think of the brain as consisting of “three major layers or ‘brains’, which were established successively in response to evolutionary need”. With this Maclean coined the *Triune Brain* concept, a brain consisting of three parts, an old brain, which he called the *reptilian (R-complex)*, a second brain called the old *mammalian (limbic system)* and a third and new brain called the *neomammalian (neocortex)* (Caine and Caine, 1991:52).

To fully understand how emotions affect adult learning it is necessary to briefly discuss the composition and characteristics of these three brains. According to Hart (1983:102) the “*Triune Brain* concept” explains the evolution of the brain as we know it today. On the other hand, Cytowic as cited in Sylwester (1995:39) argues that although Maclean’s triune brain model is easy to understand, recent research suggests that it is probably more useful as a functional metaphor of our brain’s organisation than an exact model. LeDoux (1998:98-102) further notes that even though Maclean’s triad brain structure was revolutionary for its day, the idea that the limbic system constitutes the emotional brain is no longer acceptable as updated research shows that emotions are housed throughout the neural system of the brain and not just in the limbic system. None the less, I will use Maclean’s triune brain model to discuss how emotions influence learning in adults, as I contend that it is applicable for this argument.

The first brain is the *reptilian brain*, a kind of survival brain (territory, reproduction and social dominance) that controls basic sensory motor functions (digestion, circulation, breathing and “fight or flight” responses) and is characteristic of automatic and ritualistic behaviour. This brain is also highly resistant to change. The second brain, the *old mammalian*, is a more sophisticated brain and houses the primary centres of emotion. It consists of the *amygdala*, (associates events with emotions) and finally the

hippocampus (deals with locale memory). This *limbic system* is very much associated with primal activities like bonding, attachment and protection. Maclean cited in Jensen (1995:40) states that “the limbic system, is a primitive brain that can neither read nor write, yet it provides us with a feeling of what is real, true and unimportant ... it is here where the learner feels that something is true before it is believed”. I thus infer that the limbic system instinctively makes decisions for us directing attention where it feels it is most needed. The *neomammalian* or *neocortex* brain is the thinking brain, where all creativity and higher order thinking take place. This brain is responsible for language, speech, writing; formal operational thinking; logical thought and planning for the future. By and large it is the most sophisticated and superior brain (Caine and Caine, 1991:52-58).

All three these brains as discussed above are interconnected and cannot function without one another when it comes to interpreting experiences. Each brain has its own special function and together they work towards survival, with the neocortex always searching for something new, the limbic system's desire for pleasure and the R-complex keeping us safe from harm (Cloniger as cited in Jensen, 1995:38). As mentioned before teaching focused mainly on the intellect, but through research we are now more aware that we learn with our minds (meaning), heart (emotions) and body (survival). This implies that teaching needs to be more holistic in approach and acknowledge the significant role that emotions and health have on all learning.

As the focus of this investigation is on the role of emotions in the teaching of adult learners, I want to pay particular attention to Maclean's second brain, the emotional brain, which from hereon will be referred to as the “limbic system”. Sylwester (1995:44) explains that this area of the brain “is loaded with peptide receptors and is the brain's principal regulator of emotions. These peptides are responsible for influencing the selection and classification of experiences that our brain stores as long-term memories, and is powerful enough to override both rational thought and innate brainstem response patterns”. Thayer in Sylwester (1995:44) further explains that it is the limbic system that is responsible for processing both our emotions and memories. These emotions are the key factors in allowing us to remember and when these memories are connected to a specific emotional state these memories can best be recalled during similar emotional states. This implies that if learners don't have the capacity to remember, whether long-

term or short-term, learning can not be achieved. Consequently the emotional state of the learner must be such that it is conducive to memory retention, a vital part of successful learning.

The implications of the above is that adult educators need to engage in teaching practices that take into account the role of emotions so that memory retention is enhanced and learners are better equipped to sort out their numerous experiences and recall with greater clarity. As Sylwester (1995:72) so aptly puts it “emotions drive attention, attention drives learning, and our attentional system in turn determines what is important, we never remember anything if it’s not important”. Educators therefore need to become more familiar with setting up learning environments that foster emotional well-being so that memories stay intact. I discuss strategies to do this later in the essay, but for the moment research has shed some interesting light on how the brain deals with memory retention.

Research has pointed out that working alongside the limbic system are the amygdala, hippocampus, thalamus and hypothalamus. The amygdala is responsible for sorting out and selecting incoming memories (information) that are emotionally loaded so that the neocortex (higher order thinking brain) can carry out the appropriate responses. Also working for the limbic system are the thalamus and hypothalamus, which evaluate incoming information in terms of being threatening or non-threatening, resulting in what is more commonly known as the “fight or flight” response. The purpose of the thalamus and hypothalamus is to keep us both emotionally and physically safe. The hippocampus, the region of the brain most sensitive to stress, next takes responsibility for storing and cataloging these selected memories in appropriate neural networks so that they can be retrieved when needed. This is in essence how we retrieve stored information or prior learning (Sylwester, 1995:44-45). Edelman as quoted by Fishback (1998/99:18) states that “life experience plays a major role in the development of these neural networks ... with the brain acting like a jungle of neurons communicating with other neurons to create thick, dense networks”. What this means is that the brain continually makes connections from past experiences and then decides which information should be retrieved for future learning or which should be screened out.

Studies conducted to explore the impact of emotions on learning have unanimously found that stress and constant fear, at any age, play a significant role in helping the brain decide what should be screened out (information that has negative overtones) and what should be stored (information that has positive overtones). But while stress can play havoc with the brain's ability to make the appropriate neural connections needed for cognition, brain research has also found that the brain sometimes learns better when confronted with a balance between stress and comfort. The brain, it was found, thrives on challenges to generate stress in order to get emotions activated so that learning can take place. Stress it seems can be invaluable during learning as it plays a role in alerting our survival instinct in our brains and can act as an intrinsic motivator. The implications of this for educators is that with too much stress, anxiety sets in and prevents learning from taking place, while too little stress makes the learner too relaxed and comfortable to activate cognition.

Jensen (1994:228) discusses two types of stress, namely positive and negative stress. Positive stress releases adrenaline which heightens our perceptions and increases motivation during times when we seek to find solutions to problems or desire control over a situation. Educators therefore need to keep adult learners constantly stimulated and motivated through curiosity, positive bonding, relevant content and frequent feedback so that learning continues to be challenging. But when too much negative stress and threat are experienced it can circumvent the brain's normal circuits so drastically that communication between the limbic system and neocortex shuts down completely and the brain is unable to make the relevant connection. Sylwester (1995:98-99) mentions that we have deeply embedded, innate systems that help us distinguish between dangerous or helpful things in our environment, even though they are quite primal, we use them to determine what is important to learn and remember. In scientific terms the body releases the hormone cortisol which weakens the brain's locale memory and indexing system, resulting in a narrowing of the perceptual maps in the brain that creates connections for learning to take place (Jensen, 1994:228-229). In other words the brain becomes less flexible, and reverts back to old familiar primitive attitudes of survival characteristic of the reptilian brain. Hart (1983:108) calls it "*downshifting*". Downshifting is when a threat is detected and the neocortex stops functioning at optimal level while the simple reptilian brain takes over all functioning. The brain actually downshifts to a lower level of functioning which in turn blocks off all higher

order thinking processes preventing optimal learning as the brain is too busy protecting itself from possible danger for significant and meaningful cognition to take place. Jensen (1995:23) therefore advises that “negative stress, threat and induced helplessness have got to be removed from the learning environment to achieve maximum potency”.

What we can deduce from this is that emotions colour our experiences, making us either want more or less of an experience. Ultimately positive emotions boost the brain’s ability to make better neural maps, while negative emotions literally cause a malfunction to occur between neural connections. Caine and Caine (1991:126) therefore insist that the learner be in a “relaxed state of positive expectancy for optimal learning to occur”. What this means is that the environment must be safe, positive, respectful and engaging so that learners feel uninhibited to take risks and face up to challenges.

Caine and Caine (1990:29) emphasize the importance of challenge indicating that challenge and creative tension are different from threat. “When we appreciate the experience, we look forward to finding meaning – solving a puzzle, establishing new relationships, or achieving a goal. We are capable of innovation and improvisation”. Jensen (1994:85) adds that through chaos and confusion the brain seeks to restore order, but he cautions that it works best when “the learner is perplexed and confused, but not yet frustrated”. The implications of this for educators is that in their quest to provide positive and safe learning environments they should not neglect to cater for situations that challenge their learners to take decisions that might place them at risk. Wlodkowski as quoted by Stanberry (1995:10) maintains that “the goal of instructors is not to make learning painless but to make learning worthy of the discomfort it may require and to provide those motivational influences, emotional and otherwise, that support and nurture people through the difficulties inherent to excellence in achievement”.

Based on the above findings related to brain research educators are able to have a better understanding of the importance of evoking learners’ positive emotions so that learning can be optimized. Therefore as Sylwester (1995:77) suggests we need to teach in ways that “provide an emotional context” and “avoid emotional stress“. With the insights gained from brain research, emotions have undoubtedly come to the forefront

as an influencing factor during learning. Educators cannot continue to ignore the implications of these findings, they must promote positive emotions in the classroom so that these emotions become a significant part of their teaching programmes.

5. IMPLICATIONS OF BRAIN RESEARCH FOR THE INCORPORATION OF EMOTIONS IN TEACHING

5.1 Introduction

As argued before brain research has confirmed the critical links between emotions and the cognitive patterning needed for learning. Researchers Ornstein, Sobel, Lakoff and Rosenfield as cited in Jensen (1994:38) have all documented how emotions can influence learning. Whether it is in making a person want more or less of a certain experience or as a result of the experience of positive emotions that the brain is better equipped to make the necessary perceptual maps needed for learning. Clearly “when learners feel positive, they are more inclined to sort out their experiences and recall with greater clarity” (Jensen, 1994:38). From these findings we can conclude that emotions are critical to any teaching situation and therefore need to play a more significant role.

For this reason I propose that adult educators apply certain “emotion enhancing” stimulants to their teaching program so that learning becomes more meaningful and lasting. I will do this by firstly looking at the need to create positive learning environments for the adult. I then discuss practical ways in which educators can make use of their learning environments as stimulants for enhancing emotions in their learners. In the second part of this section I explore strategies that adult educators can use for engaging positive emotions in learning. Strategies under discussion include motivation, thematic-based teaching; dialogue and reflection.

5.2 Creating positive and enriched learning environments

Educators can ensure that learning becomes a positive experience by making use of teaching practices that take into account the role that emotions play. As a result it is important that educators establish a learning environment where adult learners are challenged, feel motivated, do not feel threatened, are safe, and are allowed to express and experience emotion without inhibition. Stanberry (1995:10) maintains that “by creating a non-threatening learning climate we are involving the whole person, their intellect and affect. It is through this systemic approach that we increase the chances for learning to occur and keep occurring”. Therefore educators need to create positive learning environments that will provide ample opportunities to engage their learners’ positive emotions. Caine and Caine (1991:107/108) suggest that teaching engages in “orchestrated immersion”, which means that learners should be immersed in appropriate experiences by providing “powerfully evocative, challenging, meaningful, and coherent environments for the brain in order to enhance learning”. Therefore learning environments need to be filled with rich experiences so that through complex, challenging experiences, hands-on activities and sensory stimulation, cognitive thought processes are enhanced. Educators can provide opportunities for learners to make connections with their own life experience by bringing together these challenging experiences “through practical skill and artistry”, so that they create learning environments that fully immerse students in a fruitful learning experience (Caine and Caine, 1991:110).

A fruitful learning experience can be created with relative ease by making use of teaching strategies that evoke the production of positive emotions and allow for the expression of these emotions so that learning becomes more meaningful and allows the brain to maximize its higher-order thinking skills. Research has shown that when learners are provided with caring learning environments, optimal learning increases, results go up, learning problems decrease, discipline improves, students start enjoying their learning and the entire learning process is enhanced. Only through the creation of joyful environments can learners optimize their learning, have better memory skills and start feeling good about themselves (Jensen, 1995:98).

Jensen (1995:98) states that the body releases endorphins as soon as it experiences positive joy and challenge within a classroom, these endorphins are peptide molecules which are responsible for making us feel good about ourselves. "When strong emotions are engaged, they flavour the human experience so that the learner is unable to bring anything else to conscious attention. Unlike a typical cognitive thought, once emotions are fully engaged, they cannot be hidden or made non-consciously without a great deal of effort, therefore emotions require a context for expression or they will disable learning within minutes" (Jensen 1995:272/273). This implies not only that educators make use of emotions during teaching, but also that they create the correct environment so that positive emotions are induced. This further reiterates the importance of creating the appropriate context in the form of a positive environment so that emotions can find expression for enhanced learning in adults.

Adult educators have for a long time been advocating the creation of these very same positive learning environments, even though they may not always have been aware of the important link that exists between brain research, emotions and the creation of positive environments. Malcolm Knowles (1970) who coined the term "learning climate" was one of the first adult educationists to discuss the impact of the environment on the adult learner (Imel, 1998:1). Now more than ever educators are aware that adults like children, need stimulating environments in which to learn and develop. Hiemstra (1991:8), another noted adult educationist has further contributed to making educators aware of the importance of environment on the adult learner and maintains that physical, psychological and emotional conditions are all imperative during the learning experience of the adult learner.

From the above we can clearly see that the learning environment plays a significant role during learning no matter what the age of the learner. According to Kotulak as quoted by D'Arcangelo (1998:5) "an enriched environment can contribute up to a 25% increase in the number of brain connections both early and later in life". Through the creation of enriched environments it affirms the notion that the brain has the ability to grow and adapt in response to its environment and the more it is used, the more connections it makes. Therefore as the brain is continually processing and interpreting information it undergoes physical changes throughout its lifetime. Resultantly the more experiences

learners are exposed to and the more they learn, the more the physical structure of the brain changes. As learners use their brains they strengthen certain patterns of connection so that it is easier for them to make the appropriate connections the next time. This definitely is good news for adult learners, backing up the old cliché of “you are never too old to learn”.

The implications are clear, adult educators need to be more purposeful in setting up learning environments. They need to create enriched learning environments that are challenging and engage in relevant activities that constantly stimulate the adult learner and evoke positive attitudes and emotions. Imel (1998:1) adds “rather than learners trying to change who they are to fit in, adult educators must create learning environments in which all learners can thrive”. By using brain-based learning principles as a model, this ideal can be put within reach of all adult educators. Practical ways in which educators can help create positive learning environments will now be discussed.

Very often the learning environment is neglected and ignored by educators who fail to see the importance of creating a healthy learning environment. Ideally the classroom should be a place that is clean, colourful and filled with classical music, in other words a place that invites positive emotions (Sorrells, 1998:3). Although this might sound too idealistic to be practical, it does make sense that learning is affected by multi-dimensional stimuli in the environment. These peripheral surroundings are vital in creating positive environments. In a study conducted by researchers Lozanov, Nadel and Rosenfield as cited in Jensen (1994:304) they discovered that colours, decoration, sounds, smells and other stimuli are processed by the brain at a more subtle, non conscious level, yet they still influence our learning.

According to Caine and Caine (1991:83) “learning involves both the focused attention and peripheral perception”. The brain absorbs information that it is consciously aware of, but also absorbs information that it is not consciously aware of. This is information that lies beyond the immediate focus of the brain’s attention. These peripheral signals respond to the larger sensory context in which teaching and communication occur and are extremely potent in influencing learning. Subconsciously the brain takes in information that we are not even aware of in the form of peripheral information which is instrumental in allowing us to recall memory. Educators have a tendency to ignore these

unconscious signals, whereas they should be paying more attention to all the components that make up the learning environment. Therefore, educators should take heed of this and start using peripheral sensory stimulation in setting up a positive learning environment. Although there are numerous practical things educators can do to create positive learning environments, for the purpose of this paper I have chosen to concentrate on the use of colour, music smell and seating arrangements as practical examples educators can use to create positive learning environments.

I begin with the use of colour as a peripheral sensory stimulant. The use of colour to complement a learning environment can quite literally be responsible for brighter, happier faces. In a study conducted by Backman and Allen in Jensen (1994:309), both verbal cues in the form of verbs and visual cues in the form of colours were given to learners to respond to. The results proved that participants remembered colour far better than the verbs they were given, thus demonstrating the powerful impact of colour on memory retention. Another advocate of colour during learning is that of Tony Buzan (1993), the mastermind behind mind-mapping and colour-coding. Buzan has unquestionably shown how colour can successfully be used during learning for recalling information.

Adult educators should not view the use of colour in the classroom as inconsequential, examples such as posters, bright pictures; coloured handouts and transparencies; coloured mind mapping techniques; coloured coding systems, educators can create positive learning environments with relative ease (Reardon, 1998/99:14-16). Not only will memory and results improve, but through the use of colour, educators can create positive feelings and moods in their learners. According to Maguire in Jensen (1995:57) the use of colour is also instrumental in creating various different moods enhancing learning. Light blue and green calms the learner while brighter colours like red, orange and yellow spark energy and creativity. Darker colours on the other hand help in lowering stress and increasing feelings of peacefulness. Maguire suggests that we use yellow, beige or off-white if we want to increase optimal learning, because these colours are especially useful in the stimulation of positive feelings. Adult educators should therefore have no excuse for dull, boring classrooms. Apart from using colour, music is another valuable stimulant that can be used to enhance learning.

The use of music is another peripheral stimulant that can influence attention, memory and learning in a positive manner. Sylwester (1995:109) talks about music as being a powerful emotional stimulant, explaining that “music doesn’t even need words to communicate emotions”. Studies conducted using Baroque music in the background, shows that music can enhance a relaxed mood, making students feel positive about their learning (Jensen 1994:211). Music should be used purposefully in eliciting positive emotional states that will directly impact on the learners emotional state by sending positive messages to the brain. Jensen (1995:222) recommends that we get music which gives positive upbeat messages that are in a major key. Grand movie themes, create anticipation and excitement, while classical and romantic music engage fantasy and emotion. The positive role that music can play while teaching has definitely been underestimated, thus educators should try experimenting more with music in their quest to create environments that elicit positive emotions.

Another way of creating positive learning environments is via the use of smells and odours. According to Sylwester (1995:65-66) smell puts us in direct contact with the outside world. Certain smells and odours are associated with specific experiences which helps learners to remember the experience with more clarity. According to research the brain is so sophisticated that it can distinguish different odours of even the smallest variation (Jensen, 1995:65). For this reason odours should be used for evoking emotions and setting up positive learning environments. Jensen (1995:65) adds to this by saying that because “smell drives the human basics such as anxiety, fear, hunger, depression and sexuality it can also be used in the teaching situation”. Walter as cited in Sylwester (1995:66) who has been researching the psychobiology of aromas, further states that smell and taste receptors send messages to the brain that can influence learning, memory and emotional states. Therefore from the above evidence educators can clearly see that smell and odour do affect emotions and learning.

Studies conducted on smells and odours reveal that because the olfactory regions are such rich receptors for endorphins they signal the body’s response to feelings of pleasure and well-being. When scented aromas were used in a classroom the learners’ ability to solve problems went up by 30% (Jensen, 1995:65). These findings have important implications for educators. Educators could start experimenting with scents and smells to see which odours induce positive emotional states in the learning

environment. Smells that can be experimented with include: the smell of freshly baked bread, roses, mint, eucalyptus, cinnamon, vanilla, citrus and musk. Scented candles and incense sticks are also good alternatives. Simple smells like the fresh smell in the air after a rainstorm is a sure way to evoke positive emotions. Although not always practical to implement, educators should not be afraid to become more adventurous and creative with smell and odours.

The physical setting of the classroom is another factor that can influence learning either positively or negatively. Emotions can be effected depending on seating arrangements, the use of raised platforms for the teacher, over-crowding or even the comfort of chairs. Hart (1983:139,142) calls the classroom "education's curse" not only because it inhibits the brain's natural way of learning through traditional teaching methods and authoritarian aggression, but because some classrooms grade learners according to performance by separating the achievers from the non-achievers or slower learners. Instead of getting learners more involved in their learning it makes them regress into passive learners who rely too much on the teacher. Therefore especially when dealing with adult learners it is important to make sure that learners are given the choice about where they would like to sit. Wlodkowski as cited in Jensen (1995:315) states that circles, U shapes and V shapes are good arrangements to use for seating. A problem that must be highlighted however is the classroom or lecture hall that has fixed seating arrangements. Even though research shows that open, unstructured seating arrangements that are informal and easy to change, are the best for engaging in positive emotions, we cannot lose sight of the fact that in most adult learning situations desks and chairs are permanent fixtures. The important point to consider here is that adult educators integrate all their learners through seating arrangements that allow for dialogue and lots of meaningful group work, which can still be achieved even with fixed desks. This can be done by breaking up a large group into smaller groups or by making sure that learners are not spread out across the venue but rather form a close-knit learning group by sitting closer together. The most important point to ensure is that the adult learner experiences a classroom environment that is openly inviting to all learners and that does not discriminate or prejudice them in any way.

Promoting relaxation, physical exercise, feedback, creativity and passive listening are further techniques that educators can use to make the environment more positive for the

adult learner. Physical movement, stretch breaks; temperature; protein snacks; and even plants, can also be used by adult educators to invoke positive emotions in their learners' - the list goes on. Although some of these strategies are not always practical, educators need only use their common sense and be aware of the powerful impact that the physical environment has on the learner. Thus, educators need to be innovative and enthusiastic about creating environments that constantly reinforce positive emotions.

The focus has fallen up to now on the physical environment. Perhaps even more important than the physical environment is the psycho-socio environment. Here Rogers (1961:33) provides educators with some valuable advice on how to create more positive and caring environments.

Firstly Rogers (1961:33) suggests that teachers should become more personally involved in students' learning by displaying a sincere attitude of care and concern for the student's progress on both an emotional and rational level. Sometimes a warm smile is all that is needed to make learners feel welcome and at ease, especially at the onset of a course when learners feel unsure of themselves. A further way of showing care and concern is by creating a safe environment. In other words a state of relaxed-alertness where the environment allows for safe risk taking by eliminating pervasive and continuous threat and where learners feel challenged so that they are intrinsically motivated to learn. Vella (1995:188) adds to this notion by stating that "when the learning environment does not appear to be safe to adult learners, they will disappear, or resist the program dramatically to protect themselves". Learners need to feel that they are emotionally safe to make mistakes and ask questions so that they experience involvement in the class and a sense of self-worth. Stanberry (1995:8-10) provides educators with some valuable ways of setting the appropriate climate for that initial all important first meeting. Always arrive early, get set up and greet each learner as they join the group. Educators who share personal experiences with learners enable learners to better identify with them and help create a sense of openness and support. The same can hold true for the learners, thus allow learners to share something about themselves with the group as well. This allows learners to feel that that they are bringing something unique to the group. "Each member knows that they are different but also equal, and as participants' confidence about the group experience increases, they start working together in a non-competitive, supportive environment" (Stanberry, 1995:8). Being able

to freely communicate with learners in a sensitive, open and honest manner is of vital importance. Teachers might feel threatened by letting their guard down, but then so are the learners. Fundamentally, it is a question of trust, and as soon as this trust and genuineness is established there is no limit as to where a relationship of this nature can take teachers and learners.

Rogers (1961:33) secondly advises teachers to display, what he refers to as “positive regard and unconditional self-worth”. This implies that teachers accept and respect others for their beliefs and experiences even though these may not necessarily be the same as their own. This non-judgmental recognition will enable the learner to feel and experience a sense of self worth and acceptance, and obviously foster emotional well-being. Finally, the teacher should develop the skill of empathetic understanding. In other words the ability to understand the learner’s perspective, view of life and how they make sense of their world. In short, it literally means that teachers put themselves into the shoes of their learners and see the world through their eyes.

Humour is another useful tool to use for establishing a positive environment. According to Vella (1995:174) “as adult learners struggle with new concepts, skills, and attitudes, they need to laugh at themselves in their ‘new clothes’, or at the large number of emperors walking around in the buff. Humour helps them open up the vistas of their value systems, cognitive frames and affective potential to an unknown”. Researchers Fry and Berk as quoted by Jensen (1994:35) found that “the body reacted biochemically to laughing, with white blood cell activity increasing, resulting in a change of the chemical balancing in the blood which boosted the body’s production of the neurotransmitters needed for alertness and memory”. Consequently, educators should use more humour and laughter in their classrooms. Humour can be created through the use of applicable jokes and personal anecdotes to break tension or stress. Educators can also make light of erroneous incidents in their own life experience to show that they are human after all. Vella (1995:175) further points out that if educators want to work successfully with adults they need to be able to laugh at themselves. Therefore getting learners to share humorous experiences with fellow learners is important in creating a sense of comfort and ease where learners can relax in each other’s company. Creating incidents for laughter is one of the most natural ways to get learners to feel good about themselves and their learning. The cliché “laughter is the best medicine” is in this

instance just what the doctor ordered in curing a learning environment devoid of positive emotions.

Hand in hand with establishing humour in the classroom is the application of trust between the learner and the educator. Trust in itself is heavily charged with emotional overtones. Freire (1970:80) contends that “false love, humility, and feeble faith cannot create trust, as trust is contingent on the evidence which one party provides the others of his true, concrete intentions; it cannot exist if that party’s words do not coincide with his actions”. Teachers should therefore not put on a façade, but rather express and expose their real selves to the learners in order to gain their trust. Lozanov as cited in Caine and Caine (1991:84) coined the term “double-planess” which refers to teachers acting as role models for their learners who will in turn sense their enthusiasm and try to model their behaviour on that of the teacher. Although this might not be a conscious decision on the part of the learner it will without a doubt add to the value of what is being taught within the classroom. Research on the brain and our senses has shown that we are conscious of incoming information all the time, therefore learners become aware of both the teacher’s verbal and nonverbal communication, even though the teacher might not even be aware of it. This suggests that educators need to “practise what they preach”.

In summary of the above argument promoting a healthy psycho-socio environment Rogers (1961:33) emphasizes the three core attitudes or conditions that are necessary for emotional development within the context of the classroom. Namely, “realness and genuineness”, followed by “prizing, acceptance and trust; and empathetic understanding”. Educators need to take these components into consideration when initiating positive learning environments so that they can foster relationships with their learners that have the capacity for growth and emotional development. It is therefore clear that it is not enough to teach for better cognition alone, educators must start using more practical stimulants to increase their learners’ positive emotions so that affect becomes more involved. I now go on to discuss strategies that can be used to engage positive emotions in adult learning.

5.3 Strategies for engaging positive emotions in adult learning

5.3.1 Using motivation as a strategy to elicit positive emotions

The aim of every teacher is to have positive learners who are motivated and possess a balance between their emotional and rational thinking so that learning is optimized. The important question is: “how do teachers go about motivating their learners and how can they use motivation as a strategy for eliciting positive emotions”. According to Wlodkowski (1991:102) “the major motivational factor of affect pertains to the emotional experience – the feelings, concerns, and passions – of the individual learner or group while learning. Because learners feel something while learning, these emotions motivate their behaviour...and when these emotions are positive while learning, they sustain involvement and deepen interest in the subject matter or activity”. Looking at the above it is clear that motivation and emotions are interlinked, which enables the brain to decide what is important for learning and what should be left out. It therefore goes without saying that once learners are motivated, positive emotions are elicited.

Jensen (1995:266) argues that there is no such thing as unmotivated learners, only demotivated learners’ who experience negative feelings as a result of the unresponsive learning environments they find themselves in. Learners as such don’t need someone to stand over them and motivate them; by engaging in a brain-based learning environment, learners are already motivated. Jensen (1995:267) further argues that because “the school environment is quite antagonistic towards the brain, educators would literally be astonished by the level of motivated learning accomplished in a brain-compatible environment”.

Through the use of appropriate motivational skills and techniques, educators will be better equipped to engage the positive emotions that are so vital for optimal learning. I will now discuss various techniques that educators can use to promote and enhance motivation in learners.

The first step towards engaging learners towards becoming more self-motivated is to find out what goals and aspirations best serve each learner's personal agenda, in other words a type of needs assessment to determine what learners hope to achieve through further educating and developing themselves. Jensen (1995:273) emphasizes this notion "Once you have tapped into the learners' own excitement and participation levels you will be able to get learners to become more aware of their own personal, academic, health, social, athletic and career goals". The key here is to meet perceived needs and goals of the learner and to arrive at what has deep meaning for the learner. Caine and Caine (1991:97) agree that by eliciting a person's passions and personal drives, these very passions and drives become instrumental in motivating the person to perform the task. Therefore educators should make it one of their priorities to uncover their learners' needs and drives so that they may use them as intrinsic motivators. Wlodkowski (1991:112/113) adds that these needs may not always be specific to all adult learners, but these needs play an important role in helping learners arrive at what they want out of their learning experience.

Some techniques that can be used to ascertain adult learners' needs may include interviews, group discussions, or questionnaires. Educators should aim to cultivate a feeling of positive expectancy around learning and allow their learners to feel good about their own development. Possible questions educators could ask are: What do I want from this course? How will this course help me or change my life? By analysing the adult learners' needs the educator is put in a position to know exactly what motivates his/her learners and educators can always refer back to these needs to motivate their learners in the future. This technique is especially valuable in times when morale is low. Educators can remind their learners of why they are there and once again redirect them towards the needs and goals that motivated them to be there in the first place.

Another important consideration according to Jensen (1995:268) when assessing learner needs is to make sure that the need is age appropriate. For example a teenager will feel a greater need for peer acceptance, while a school-leaver will be more interested in autonomy and independence. Bearing in mind that we are dealing with adults, possible needs and goals high on the adult's priority list could include career goals and promotion, family security, financial gain and independence, or perhaps respect from the community. Therefore educators should find out what needs drive their

learners to want to be in a learning situation and use these needs as motivation to progress.

Once educators have found out what the learners' needs are, a further motivation technique that elicits positive emotions could be to provide learners with some degree of control and choice over their learning. It goes without saying that if learners have a deep felt interest in something and freely decide to engage in that interest without being forced or coerced, they will establish personal attachment and ultimately want to do well because it has personal meaning for them. Adult learners are on the whole in a more fortunate position than children when it comes to deciding what they would like to learn, but when they are forced in certain instances, it often evokes negative emotions and feelings of resentment. Glasser as cited in Jensen (1995:102) states that through the use of control and lack of choice on the part of the educator, resentment steps in manifesting itself in the form of negative emotions, which ultimately affect learning. Educators should strive to avoid this pitfall at all costs as the long-term implications can be disastrous for the learner. Therefore learners must be given the choice wherever possible to engage in activities that they find interesting and that motivate them. Wlodkowski (1991:100) states that when adults learn something that is meaningful to them they feel good about their learning which in turn raises their self-esteem and motivation levels. Ultimately this means that positive emotions are brought to the forefront of the entire learning experience when learners are motivated through personal choice.

Resultantly, it can be deduced that denying learners control, fosters negative emotions and ultimately hinders motivation. But when learning becomes a personal decision on the part of the learner it evokes natural curiosity and interest which motivates and challenges the learner making them feel positive about their learning. Thus learners need to make choices that are personally relevant so that they can align themselves with their goals on an emotional level. Therefore educators need to give adult learners the chance to take control and furthermore teach in a manner where learners become responsible for their learning through their own volition and not because the educator demanded it from them. Sometimes it is difficult to offer learners a wide choice of options that are of personal value due to class size, time constraints and a set curriculum. There are however ways that educators can overcome these obstacles. One

way is by offering learners a selected list of topics or titles that fall within the curriculum and ask them beforehand to list in order of preference which topics they would like covered for that particular semester or module. In this way learners choose topics that have personal bearing on their lives. Learners with similar interests can then further be split up into groups to work together. Another way of giving learners a choice is by asking them how they would like to be assessed. Some might prefer a written assessment, while others might opt for an oral or assignment to assess their competence. Either way it provides the learner with a choice that he/she feels comfortable with.

Another technique that can be employed by educators is by making use of a learning contract that is negotiated by both the teacher and the learner. Wlodkowski (1986:98/99) further supports the concept of a learning contract in that "it emphasises the importance of clearly stated aims and evaluation criteria in the promotion of intrinsic motivation and self-directed learning". Adopting this approach will give learners a chance to develop an independent attitude where they choose to become responsible for their own progress in a supportive environment that motivates them into wanting to succeed. Through this a learner is able to attach a sense of personal value and enjoyment to learning which ultimately leads to a more motivated and enthusiastic learner.

Consequently by creating enthusiasm and hope, educators are provided with further techniques that can be used to help learners develop self-confidence and a positive belief system towards their learning. Learners need to be motivated into believing that they can and will succeed. To do this educators must become enthusiastic co-learners where they become positive role models for their learners. According to Wlodkowski (1991:117) "research conducted shows that enthusiasm enjoys a long history of being strongly and positively related to learner motivation...because when we care about what we teach and this commitment is expressed in our instruction with appropriate degrees of emotion, animation and energy, this tells learners we are teaching from our hearts as well as from our minds".

Enthusiasm is further instrumental in motivating learners as it also provides learners with the hope of succeeding. Hope can work like a powerful drug when morale is low.

One way of motivating learners towards becoming positive and hopeful is by making use of success stories. Jensen (1995:269) states that by referring to past students' achievements, problems they encountered or contributions that they made, educators become instrumental in creating a mythology of success. Just by walking on to the campus of a famous university like Oxford, Harvard or Stanford, says Jensen, can elicit feelings of motivation. Educators can further motivate learners to succeed in the form of acknowledgements and through appropriate praise. Certificates, compliments and acknowledgements are all powerful techniques that can be used to make learners feel good about themselves and in turn motivate them. Jensen (1995:269) maintains that "appropriate acknowledgements give the brain positive associations which continue to fuel further actions" making positive acknowledgements a very worthwhile motivational technique in any learning situation.

Feedback is another worthwhile technique to use in getting learners motivated. Wlodkowski and Ginsberg (1995:242) propose that "feedback appears to enhance learners' motivation because they are able to evaluate their progress, locate their performance within a framework of understanding, maintain their efforts toward realistic goals, correct their errors efficiently, and receive encouragement from their teachers and other learners". However the secret when using feedback as a motivational technique is that it has to be given timeously without delay, otherwise it loses its impact and fails to inspire the learner. So often we hear of educators failing to give their learners feedback timeously with disastrous consequences. To be effective, feedback should be given every thirty minutes or less, otherwise it loses its overall effect and the brain struggles to make sense of it (Jensen, 1995:285). Educators therefore have to be completely committed when using feedback, otherwise instead of motivating learners to evaluate their progress and seek the approval of their educators they are left with nothing but speculation and feelings of disinterest, resulting in demotivated learners.

Wlodkowski and Ginsberg (1995:242-146) together with Jensen (1995:291) provide some very useful and practical suggestions on using feedback. They suggest using feedback that is positive and focuses on improvement rather than on mistakes and poor performance. Feedback given in this manner increases the learner's motivation levels, adds to their self-esteem and confidence and develops a positive relationship between the learner and the educator.(Wlodkowski and Ginsberg, 1995:245). Thus, teachers

should use selective language that encourages the learner and shows support for the progress already made. Jensen (1995:291) furthermore proposes three simple steps which can act as a framework to base feedback on. Firstly provide feedback based on the quality of their product, secondly look at the process of how the learner reached the final product, and thirdly ascertain whether or not progress or improvement was made. Therefore feedback becomes constructive and specific in the face of learning and helps motivate learners by providing them with supportive guidelines regarding the progress they have already made or still need to make. Feedback need not just come from the educator but can also take place in the form of group discussions, peer teaching, debates, student evaluation and mind mapping (Jensen, 1995:285). Therefore, I contend that if used correctly, feedback can become a powerful tool for eliciting intrinsic motivation within the learner.

From the evidence presented we can clearly see that "motivation is to a large degree governed by emotion" (Wlodkowski & Ginsberg 1995:22). As the focus of this study is to acknowledge the important role that emotions play in adult learning we are able to see the close relationship that exists between motivation and emotion. Therefore when used together, learning in adults is undoubtedly enhanced. The next teaching strategy under discussion to engage positive emotions is that of thematic-based teaching.

5.3.2 Thematic- Based Teaching

It is important that educators make use of experiences within the learners' own context and use this information as a basis for further learning. We can argue that because a person's environment and experiences are relevant it is more likely to be remembered, because the learner associates an emotional response with that experience. If there is no relevance to what is being taught, adult learners will find it difficult to make the necessary connection with previous learning. It is these connections from past experiences that the brain relies on for optimal learning to take place. Learners remember best when they can refer to a real-life activity or experience that has personal bearing on their lives. Knowles as quoted by Gravett (1994:13) affirms that "the

adult's experience should be seen as valuable and that it should not be left out of the teaching situation as an adult's identity cannot be separated from his or her life-experience. If adults' experience is negated or seen as inferior, they feel that they are being rejected as a person". Therefore, thematic-based teaching is one of the best ways to orchestrate learning that is drawn from prior learning or life experiences as these experiences will undoubtedly have emotional overtones attached to them.

To enable adult learners to make an emotional connection with their learning, educators need to recognise the importance that prior learning plays and how it can be used to further enhance learning. One way of making use of the prior learning of adult learners is through the use of themes and issues found in people's everyday lives. These everyday life experiences and themes are loaded with emotional connotations and when educators make use of them, learners are better able to identify with what they are learning as it stirs an emotional response within. Themes are instrumental in evoking emotions and personal challenge says Wood and Odell in Caine and Caine (1991:112) Therefore, by using thematic-based teaching, educators can use themes as a strategy to elicit positive emotions during teaching.

Shor (1992:55) has identified three types of themes that can be used in the classroom, namely: generative themes, topical themes and academic themes. As the focus of this essay is on how educators should go about ensuring that emotions play a more significant role during teaching, I will therefore only discuss the use of the generative theme because of its strong connection with the affect. According to Gravett and Henning (1998:66) "generative themes have strong emotional overtones because they provide a connection between a student's life experience, while topical and academic themes are profoundly more cognitive".

Shor as cited in Wlodkowski and Ginsberg (1995:85/86) states that generative themes evolve from within the learner's own culture, highlighting problematic issues of concern that learners can better relate to once they are constructed and considered within a learning environment. Seeing their own experiences and problems discussed and analysed makes the learner more committed to the learning event. Here the problem offers the educator a means of tapping into their learners life experiences and evoking the relevant emotions that are needed to make learning more meaningful. According to

Vella (1995: 172/173) generative themes offer learners an opportunity to discuss topical subjects and problems that are of importance to their lives. This offers adult learners the opportunity to immerse themselves into everyday life experiences that elicit emotional responses making them more committed to finding solutions to these problems. If solutions are not found they experience a state of disequilibrium which makes them feel uncomfortable and results in negative emotions. But by using generative themes, interest and energy are probogated as the affect is involved (Gravett and Henning, 1998:66). A further way of making sure that learning becomes a deeply felt, shared, and spoken about experience is by posing problems through a generative theme.

I now go on to provide educators with an example of how to use problem-posing in thematic teaching. The example that I am proposing is based on a scenario that Wlodkowski and Ginsberg (1995:186) have provided.

The first step is to ask learners to come up with a problem they think could arise out of the course or topic being studied which is of personal relevance to them, their families, friends or colleagues. Once this question has been posed the second step is to leave learners in silence to think (reflect) about the question, after which the learners are asked to free write their response in a narrative form for five to ten minutes. Thereafter learners are asked to break into small groups where they read and discuss their narratives with fellow learners (small group dialogue). Next they are given opportunity to review and revise their problem (evaluation) and submit it onto a four-by-six-card which is posted on the wall for the entire class to read. The class is then asked to identify three to four themes that they feel unite the various problems posed (whole group dialogue). Finally, small groups reassemble according to themes that are of personal significance to each individual learner and the problem is further explored by both the learners and the teacher (Wlodkowski and Ginsberg, 1995:186).

The above practical example of problem solving is a good way of delving into the adult learners prior experiences and eliciting their emotions. Educators can adapt problem posing to suit their particular learning situation, provided they arrive at themes that learners find personally relevant to their life experience and personally worthwhile to study.

5.3.3 Reflection as a strategy for engaging emotions during adult learning

Reflection within the learning context according to Boud, Keogh and Walker (1996:33) "is a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations". When one looks at the above definition, there is a definite connection between reflection and the affect (emotion). As a result adult educators must ensure that they use the right techniques so learners can engage in reflection that has personal bearing on their learning as well as encourage emotional attachment.

For the purpose of this essay I discuss reflection with regard to the role it plays as an affective (emotional) stimulator during teaching. The question then is how should educators use reflection as a strategy that will elicit positive emotions and eradicate negative emotions?

An aim of the adult educator when using reflection in the classroom should be to make learners aware of the obstacles in their way that are preventing them from reaching optimal learning. Boud, et al. (1996:41) advise that this type of reflection allows learners to attend to their feelings through the utilization of positive emotions and the removal of negative emotions which obstruct learning. When utilizing these positive feelings learners are able to distinguish between all the emotions they experienced during the course of a teaching experience. In doing this learners use reflection to determine why that learning experience was so positive and successful to begin with. Emotions are therefore brought into play because learners need to consciously remember the pleasant feelings experienced so that these positive emotional responses can be retained by the brain and enhanced for future use. In the learners quest to remove negative emotions associated with a teaching experience learners also need to recognise these barriers so that they can be dealt with effectively so as not to hinder future cognition and cause discomfort.

Sylwester (1995:97) further emphasises that when learners encounter a painful experience the brain releases opiate endorphins which affect higher-order thinking processes to such an extent that new learning becomes almost impossible.

Consequently learners will tend to avoid any situation that they may associate with a negative emotion or that may trigger a fearful emotion. This once again reiterates the powerful impact that emotions can have on learning. It is therefore not only essential that learning takes the affect into account, but also that educators avoid situations that result in negative emotions. Using reflection in the classroom will help both learner and educator become more sensitized about what elicits positive and negative emotions so they will know what learning experiences best to avoid and promote those learning experiences that bring about positive emotions.

Consequently by reflecting on experiences that are either positive or negative, the ultimate goal should be to identify which positive emotions are the most beneficial during teaching. There are several ways that educators can help their learners make use of reflection as a strategy for engaging the affect. I will now discuss some of these techniques that are of particular pertinence to reflection.

Heron (1982) as quoted by Boud, *et al.* (1996:45) recommends that by putting pen to paper the exercise enables learners to return to an experience in order to re-evaluate it more objectively. One way of doing this is by getting learners to engage in journal writing where they are asked to reflect on their emotions about a certain incident or event within their learning experience. Journal writing is a useful technique to use for reflection as it allows learners to put down personal ideas, perceptions and feelings. Keeping a journal is a simple way of keeping track of ones learning. It allows the learner to objectively see what he/she has already learned and what further learning needs to take place in order to succeed. As Jensen (1995:188) puts it “journals provide the reflective time needed to make the necessary connections for maximum learning”. Jensen further adds that learners should use journals that are specifically intended for learning where questions can be answered relating to how the learner felt about the particular learning experience, what emotions were experienced and how the learning can be of use to the learner. Jensen (1995:188) calls these learning specific journals, “learning logs”.

Another way of keeping a journal can be with a fellow learner. Cranton (1995:84,85) suggests that educators encourage learners to keep a shared journal with someone who can be trusted to share and exchange experiences with. This journal is then

exchanged between two learners who reflect on the points made by a peer. Possible questions educators could ask learners to write about include: How did you feel today? Explain the emotions you experienced during the teaching process. What was the most significant thing you learned today and how did it make you feel? What negative emotions or feelings, if any, did you experience? What positive experiences did you experience? Was there anything in the room that affected you adversely? Can you identify the reason behind that negative emotion? What will you do in your next class to engage in positive emotions during learning? These questions have obvious value for both learners and educators as they help pin-point the significant role that emotions play during teaching, allowing all parties to see the benefits of bringing emotions to the classroom.

Caine and Caine (1991:153) however caution that teachers need to ensure sensitivity and maturity when using journal writing because of the intimate nature of the writing. I tend to agree with Brookfield as cited in Cranton (1994:169) who also believes that a certain amount of sensitivity and skill is needed when engaging in reflection so as to prevent learners from feeling threatened or intimidated. This once again brings us back to the same point made in an earlier section of this study where the importance of trust was discussed. It is imperative that educators aim for developing relationships of trust with their learners so that mutual tolerance and understanding invoke positive emotions and learners feel safe when reflection is engaged.

Further ways of using reflection through the medium of writing is getting learners to write life stories and personal philosophies and autobiographies regarding their learning experiences. Wlodkowski and Ginsberg (1995:267) further add that another good alternative is that of the “five-minute writes or quick writes” where learners are asked basic questions regarding their learning that need to be answered quickly. “Post-writes” on the other hand are reflective pieces of writing that learners engage in and where they analyse a particular piece of work after they have completed the learning task related to it. For example “What problems did you experience while writing this essay? Do you think you had enough time? Did you enjoy what you were doing? What emotions did you experience while completing the assignment? Asking post questions is a good way of getting learners to engage in reflection and getting them to put their responses on

paper is even more valuable because it allows them to come to grips with their emotions.

Educators can use the following technique when they want to find a good way of bringing closure to the end of a course or learning experience. Here educators can make use of summarizing questions as a technique. These are questions that are presented to learners to encourage them to reflect on the whole course or learning experience over a suggested period of time (Wlodkowski & Ginsberg, 1995:271). Stanberry (1995:9) also agrees that closure questions are a valuable way of promoting reflection within learners at the end of a session. By using this technique educators are able to look at their learners' responses to the course which in turn helps them identify emotional responses related to their learners performance. It can prove to be a valuable way in which educators can re-assess their course or make improvements to it. Possible questions to ask include: "What did this course personally mean to you?" "What is the most important thing you learned about yourself during this course?" "How do you feel now that you have completed this course?" "What would you do differently the next time?"



Using reflection as a teaching strategy will undoubtedly be valuable in creating opportunities for meaningful learning. It will further enable learners to reflect on their shortcomings and weaknesses in a constructive manner and they will also be better equipped to identify the positive emotions that enhance their learning and the negative emotions that detract from their learning. The implications are therefore obvious: through the use of reflection as a teaching strategy it contributes to affirming the significant role that emotions play during adult learning.

5.3.4 Using dialogue as a strategy for engaging emotions in adult learning

Paulo Freire (1970:78-79) once wrote that "love is the foundation of dialogue and dialogue itself... and that it cannot exist without humility and faith, faith in man and his

power to create and remake and to be more fully human. Therefore founding itself upon love, humility, and faith, dialogue becomes a horizontal relationship of which mutual trust between the dialoguers is the logical consequence". From the above we can affirm that dialogue invites all participants to become equals. This means that both the educator and the learners are placed on the same footing and that from there a relationship of trust can develop. From within this relationship of trust, positive emotions towards learning are fostered and learners can experience a sense of freedom, as they are not placed in the position where they may have to experience restrictions in their relationship with the educators who may demand to be in control. Educators should therefore strive to avoid situations where through a lack of adequate and appropriate dialogue learners experience negative emotions, anger and frustration. As Vella (1995:6) points out "when the teacher is not a listener but a teller, master, and critic, the learner can be reduced to dependency and anger".

This brings us back to the core of this study, the acknowledgement of emotions during learning, in particular positive emotions. Because dialogue is personal it has emotional value attached to it. Dialogue becomes the vehicle through which learners verbally express their emotions. Therefore, through the promotion of dialogue learners will be able to allow emotions to play a more significant role during the learning process. How this occurs will be determined by the type of relationship that exists between the educator and the learners. Therefore if this relationship makes use of positive emotions rather than negative ones, then the entire adult learning experience can be uplifted.

Dialogue in any relationship should be about all the participants contributing and listening. In other words a type of horizontal relationship between the teacher and the learner, which rejects the imbalance of the teacher at the top and the learner at the bottom. According to Shor (1992:86) Freire spoke about horizontal dialogue as having a number of emotional values, in particular student-teacher camaraderie which completely opposed the traditional teacher-learner relationship where the teacher was seen to be the authority and the learners were expected to passively accept this. In traditional classrooms creative and critical questioning is limited as learners are seen as empty vessels that need to be filled. Freire (1970:66) referred to this as the "banking model" where teaching is about depositing knowledge into the minds of the learners. On the other hand when learners feel that they have the freedom to engage in dialogue

with their fellow learners and their educator, they will feel emotionally secure and confident through this active participation within the class and put more effort into their work. Dialogue is therefore Furthermore they experience a sense of importance when what they say is listened to and considered by all. This feeling of being part of something is emotionally affirming and motivates learners in a positive way.

The promotion of positive emotions and student participation is to a large extent determined by the educator, thus it is the educators' responsibility to see to it that the curriculum involves mutual and equal participation from all parties through the promotion of dialogue. Shor argues that when the learning experience is devoid of participation, shared authority and the interests of the learners, learners become depressed and ultimately their negative emotions override any possibility of further learning taking place. But by promoting dialogue educators can encourage learners to feel valuable through sharing their ideas and opinions with others, which leads to learners developing positive attitudes and emotions towards their learning. This further fosters the development of the learner on an emotional and cognitive level so that they are also better equipped to examine their lives (Shor, 1992:12). Therefore from the above it is clear that the onus lies with the educator to see to it that opportunities are created that promote dialogue and positive emotions.

I now go on to discuss various techniques that educators can use to get learners to engage in dialogue that elicits positive emotions. To begin with educators need to elicit or invite dialogue. Vella (1995: 179/180) propogates the use of open questions for the promotion of dialogue within the classroom as they allow the learner to become more reflective and aware of perceptions. There are seven ways of engaging in dialogue with the use of open questions. Put briefly Vella suggests that educators ask the following questions, "who?", "why?"; "when?"; "where?"; "what?"; "what for?" and "how?". These questions can be adapted to any learning situation and promote dialogue because answers can not be limited to "yes" or "no" responses as in the case of closed questions. The success of using these types of question can be measured against the learners' engagement while answering the questions as well as how well the questions are answered. Vella (1995:39) further suggests that educators elaborate on the seven conventional open questions and incorporate further "open type questions" to stimulate further dialogue. Here educators can ask learners to respond to the following: a)

description (What do you see happening here?), b) analysis (Why do you think it happens?); c) application (When it happens in your situation, what problems will it cause?); and d) implementation of change (What can be done to improve such a situation?). With the use of open questions dialogue can be promoted in a natural unforced setting where learners can experience an abundance of positive emotions while engaging in meaningful learning. Educators should therefore strive to prepare questions that are thought provoking, allow for critical reflection and have an element of controversy so that intensive discussions and debates can be engaged in. Through the use of open questions educators can successfully get all learners to engage in dialogue, ultimately creating positive feelings and emotions towards learning in general.

Another way to generate dialogue is to make use of generative themes as already mentioned under thematic-based teaching. Generative themes stem from the learners' own personal experiences, both high and low points in their lives; things that people find topical and close to heart. It is from these generative themes that educators should take a cue to get all the learners involved in active dialogue, while at the same time allowing emotions to naturally become part of the learning process. Freire (1993) as quoted by Vella (1995:173) "makes the point that such themes are rooted in the reality of the learners, in their daily world. Instructors cannot neglect such themes with impunity. These themes are the basis of dialogue". Therefore without a doubt educators should make use of generative themes to elicit dialogue and ultimately emotions during adult learning. As generative themes are so highly personal it accounts for the intrinsic part that emotions unavoidably play during the process of engaging in generative themes for dialogue.

A problem that educators sometimes face is getting all learners engaged in dialogue. As already discussed in a previous section, learners need to feel safe in their learning environment otherwise they will resist learning (Vella, 1995:188). Because it is through a feeling of safety that learners ultimately experience a sense of freedom and positiveness while engaging in dialogue. One way of ensuring that learners feel safe to participate in dialogue is by setting up small learning groups within the larger group that are less intimidating than larger groups. Smaller groups provide learners with a safety net where they are able to experience more freedom, autonomy and acceptance and "feel safe to risk, dare, complain, argue, clarify and question" (Vella, 1995:191). Being in

a small group also creates a sense of belonging, where learners can experience trust and emotional bonds with other learners in caring and supportive ways. Through the use of small groups as a technique to elicit dialogue, educators will be able to create a safe environment where emotions can begin to play a significant role.

Wlodkowski and Ginsberg (1995:174) further provide the educator with another technique for eliciting dialogue successfully. They suggest that educators use what the learners have to say in the classroom as cues for eliciting further dialogue. In other words pose questions to learners after they have spoken and then encourage them to respond to each other. Unlike open-questions that are more structured and preconceived, these questions are determined by the flow and mood of the conversation and very much spur of the moment, on-the-spot and spontaneous. This technique further builds on the learners' ability to reflect on what they are saying by making them more focused. Furthermore, it is instrumental in creating lively debate and discussion where opinions and feelings are brought to the fore. Holding a debate-type discussion is a highly emotional process as personal feelings are so intrinsic to the process. It is these very feelings that engage learners in their learning to such an extent that they never forget the experience. Therefore educators should use what learners have to say in the class and listen for cues that may spark valuable questions that can be drawn out to become topics of conversation to promote dialogue. However, an important point to bear in mind for both educators and learners is to refrain from using "jargon or esoteric references" while involved in this sort of lively discussion as it can intimidate learners into silence (Wlodkowski & Ginsberg, 1995:174). On the contrary, sensitivity and discretion create safety and within this safety zone dialogue can be promoted to its full.

From the above we can see that dialogue can be instrumental in promoting positive emotions in adult learners. It is therefore incumbent upon the educator to ensure that effective techniques are used that will promote dialogue and furthermore promote the important role that emotions play during the learning process. Consequently Vella (1995:162) affirms that "for teachers it is vital to remember that it is in the dialogue that learning takes place".

To conclude this section I would like to reiterate that through the implementation of the suggested teaching strategies, namely motivation, thematic-based teaching, reflection

and dialogue, it is possible for educators to incorporate the affect into the adult learners learning experience. These are not the only strategies available to educators as there exists unending ways to further enhance emotions during adult learning. I have no doubt that educators will find teaching for the incorporation of emotions a more fulfilling and meaningful experience.

6. CONCLUSION

The rationale for my enquiry was to validate the role that emotions should play during the teaching of adult learners. I argued that optimal learning in adults can never be achieved if educators don't start teaching for the incorporation of positive emotions. With reference to brain-based research I advocated that educators should start teaching in the way the brain was best designed to learn while opposing the structured and unnatural learning so often found in traditional learning environments.

In discussing my claim I provided insights from recent research in the field of brain research which highlighted and substantiated the important role that emotions play during teaching. This research suggests that our emotions result from triggering systems of behavioural adaptation that have evolved over eons of time. These primitive survival systems help us determine what is important, help us solve problems, help us adapt to our environments and play an instrumental role in what we remember and forget.

I further explored the need to create positive and enriched learning environments so that positive emotions can be fostered. The psycho-socio environment was also referred to and ways of enhancing emotions within the psych-socio environment of the adult learner discussed.

Strategies for engaging positive emotions in adult learning was the next focus of my study. Strategies under discussion included motivation, thematic-based teaching,

reflection and dialogue. Through the implementation of these strategies educators can promote emotions during teaching. With the incorporation of emotions into any teaching practice, learning becomes more meaningful and lasting.

My investigation is just an initial exploration in the field of emotions related to adult learners. However with research continually making headway with new and exciting ways of redesigning educational practices, adult educators are left with numerous avenues to explore and promote the inclusion of emotions during the teaching process.

I conclude this study with a statement that I believe to be very applicable in summarising the point I have been trying to make throughout my investigation. "Acknowledging emotional factors...leads to the enhancement of education. Our ability to sense beauty, experience compassion, and gain appreciation for life needs to be enhanced in the classroom...this provides hope for our survival as a species" (Caine and Caine, 1991:60).



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Fishback, S J 1998/99: Learning and the brain. Adult Learning: The Brain, 10(2), Winter 1998-1999: 18-22.

Freire, P 1970: Pedagogy of the oppressed. New York: Heder and Heder.

Gravett, SJ 1994: Adult learning: Implications for teaching.
Johannesburg: Rand Afrikaans University. (Bureau for University Education. Internal Publication.)

Gravett, S & Henning, E 1998: Teaching as dialogic mediation: A learning centered view of higher education. : The Journal of Higher Education, 12(2), 1998: 60-68.

Hart, LA 1983: Human Brain and Human Learning. New York: Longman Inc.

Hiemstra, R ed. 1991: Creating environments for effective adult learning.
San Francisco: Jossey-Bass Publishers.

Imel, Susan: "Inclusive adult learning environments". Eric Digest, No.162 (1995)
Available:
http://www.ed.gov/databases/ERIC_Digests/ed385779.html.

Jensen, E 1995: Brain-based learning and teaching. South Africa: Lead The Field Africa.

Jensen, E 1994: The learning brain. South Africa: Lead the Field Africa.

LeDoux J 1998: The emotional brain. London: Phoenix.

Marquis, Julie: "Our Emotions: Why we feel the way we do". Los Angeles Times.
14 Oct.1996. Available:
<http://www.latimes.com/HOME/NEWS/SCIENCE/REPORTS/THEBRAIN/emote.htm>

Reardon, M 1998/99: The brain. Navigating the new reality: An exploration of brain-compatible learning. Adult Learning: The Brain, 10(2), Winter 1998-1999: 10-17.

Ringess, T (1975): Affective domain in education. Chicago: Little Brown.

Rogers, C 1961: On becoming a person. London: Constable.

Rose, A D 1998/99: Changing technology of brain research. Adult Learning: The Brain, 10(2), Winter 1998-1999: 4-5.

Shor, I 1992: Empowering education. Critical teaching for social change. Chicago: The University Press.

Sorrells, Caren: "Brain-based learning". University of North Texas (1998)

Available:

<http://people.unt.edu/cbs008/BRAIN.HTM>.



Stanberry, A 1995: Leading workshops: Facilitating learning within a non-threatening environment. Adult learning, 6 (6), July/August 1995: 8-10.

Sylwester, R 1995: A celebration of neurons: An educator's guide to the human brain. Alexandria: Association for supervision and curriculum development.

Vella, J 1995: Training through dialogue: promoting effective learning and change with adults. San Francisco: Jossey-Bass Publishers

Wlodkowski, RJ 1986: Enhancing adult motivation to learning: A guide to instruction and increasing learner achievement. London: Jossey Bass Publishers

Wlodkowski, RJ 1991: Strategies to enhance adult motivation to learn.
(In: Galbraith, MW ed.: Adult learning methods: A guide for effective instruction. Temple University: 97-117).

Wlodkowski, RJ & Ginsberg, MB 1995: Diversity and motivation. San-Francisco: Jossey-Bass Publications.

