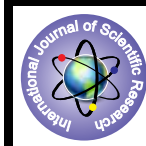


## Role of Emotion in Learning Process



### Education

**KEYWORDS :** Emotion, Learning, Feelings and Amygdala

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### ABSTRACT

*This study is an attempt to discuss the role of emotion in learning process. Emotions are important in the classroom in two major ways. First, emotions have an impact on learning. They influence our ability to process information and to accurately understand what we encounter. For these reasons, it is important for teachers to create a positive, emotionally safe classroom environment to provide for the optimal learning of students. Second, learning how to manage feelings and interfere with learning occurs when students are anxious about their school-work (Cole, 1991; Dobson & Dobson, 1981). Students who are depressed or anxious about learning often do not feel competent academically. Teachers will understand how their students' emotions affect learning. Teachers will understand the need to make judgments about when emotions are interfering with or supporting learning*

### Introduction

Emotions are important in the classroom in two major ways. First, emotions have an impact on learning. They influence our ability to process information and to accurately understand what we encounter. For these reasons, it is important for teachers to create a positive, emotionally safe classroom environment to provide for the optimal learning of students. Second, learning how to manage feelings and interfere with learning occurs when students are anxious about their school-work (Cole, 1991; Dobson & Dobson, 1981). Students who are depressed or anxious about learning often do not feel competent academically. They do not trust themselves and are likely to take more time double-checking their answers or questioning their work before turning it in to their teachers. They may even start over each time they make a mistake, convinced that it undermines their entire effort. Because they may take more time on a task, these students give themselves and their teachers an inaccurate perception of the actual time it took for them to solve a problem or understand a concept. Emotions can interfere with students' learning in several ways; including 1) limiting the capacity to balance emotional issues with schoolwork, 2) creating anxiety specifically about schoolwork, and 3) triggering emotional responses to classroom events. Teachers will understand how their students' emotions affect learning. Teachers will understand the need to make judgments about when emotions are interfering with or supporting learning

### Discussion

#### Kinds of Emotion

Emotions in general, can be categorized as pleasant (positive) emotions and unpleasant (negative) emotions. Emotions can affect learning, in both a positive and negative way. When a learner experiences positive emotions, the learning process can be enhanced. When the learner experiences a negative emotion, the learning process can be disabled.

#### Emotion and Brain

The limbic system of the Brain is the primary part of the Brain that regulates emotion. The limbic system contains the amygdala complex, the hippocampus, the thalamus and the hypothalamus. The amygdala complex is one of the main area to process emotional content of behaviour and memory. The main purpose of the amygdala is to filter the important sensory information from the unimportant. The hippocampus converts objective versions of events from short term to long term memory. The hippocampus converts objective versions of events from short term to longterm memory. Together, the hippocampus and the amygdala can shape memories combining the emotional version of the amygdala with the more objective version

of the hippocampus. Because of the effect of the amygdala on the memory, the emotional state of the learner will change the subject's perception of the memory. The thalamus observes external stimuli and tells the brain what is happening outside the body. The thalamus can observe a stimulus outside the body and immediately transmit limited information to the amygdala which can then trigger a quick, emotional outburst. The hypothalamus informs the brain as to what is happening inside the body. When the thalamus records a stimuli, the brain will attempt to produce a reaction. when no reaction can be produced the hypothalamus will trigger the endocrine system to release hormones. Cortisol, endorphins and adrenalin are hormones that affect human behaviour and learning. cortisol is a hormone that is released when an individual experiences stress. Chronic levels of cortisone can destroy the hippocampal neurons that are associated with neurons and memory shorter stress which elevates levels of cortisol in the body can also hinder neurons and memory. Endorphins are hormones that are released during exercise, positive experiences and listening or creating of music. It creates a joyful response and helps to solve problems. Adrenalin is a hormone that is relaxed when the body experiences arousal, when it is released the body becomes more attentive.

#### Role of Nervous System in Emotion

##### Role of Peripheral Nervous System

Peripheral nervous system consists of fibres of afferent and efferent neurons and form a channel that carries information to and from central nervous system.

##### The receptor effector mechanisms

Receptors are found in almost every part of our body which on stimulation become activated and make the organism aware of the surrounding. External receptors and internal receptors are involved in emotion. Receptors sense the presence of emotional situation or stimuli convey the impulses originated in them to the centre where the impulses are decoded and evaluated as emotional and the kind of emotion is experienced through the motor fibres in the peripheral channel appropriate emotional response impulse is conveyed to the effectors.

##### Role of Central Nervous System

Impulses from receptors travel into central nervous system. Some go up the spinal cord while others enter the brain via spinal cord directly. The CNS integrates the sensory information of the emotion provoking stimuli, interprets them and takes cognizance of the emotional situation, assigns a level to the emotional experience and directs the organs of response to display a particular kind of emotional response appropriate to the emotional

situation. Thus CNS plays a significant role.

### Autonomic Nervous System

Our autonomic nervous system plays a significant role in controlling and regulating our emotional behaviour. It has two divisions, the sympathetic and parasympathetic, that work in close cooperation at the time of an emotional experience. In fear and anger situations, for example, the sympathetic division stimulates the adrenal glands to secrete the hormones adrenaline and noradrenalin resulting in the increase of blood pressure and sugar level of the body. The sympathetic division also causes an enlargement of the pupils, a slowing of the salivary glands and a contraction of the digestive muscles. The parasympathetic system on the other hand, activates itself for the rescue operation. It lowers down the blood pressure and heart rate, starts up stomach and intestine mechanisms and finally helps the organism to return to its normal state of behaviour.

### Hypothalamus

Impulses that come from the hypothalamus increase both smooth muscle and skeletal muscle activities.

### Evidences from Brain Research

Studies in brain processes reveal that there is a strong connection between reason and emotion. Scientists have discovered that the same areas of the brain that are involved in processing emotion are also involved in processing memory. The connection is so strong that reason, emotion and bodily sensations and functions affect each other at neurological levels. Any learning experience is accompanied by feelings. It involves the mastery of knowledge in the form of facts, figures and reflective thoughts. It is the interplay between knowledge and the context within which it is acquired and internalized. Physiologically speaking, everything that enters through our sensory organs passes first through thalamus. This information is passed to other sections first the information reach brain's emotion - arousal system and perceive it whether safe or dangerous. In short, emotion activates attention, which then triggers the short term and long term memory and eventually makes the overall learning possible.

### Emotion is Fundamental to learning

Over 2,000 years ago, Plato declared that all learning has an emotional base, but it is only recently that neuroscientists have begun to uncover the biological interdependence of learning and emotion. Scientific evidence that emotion is fundamental to learning. Learning is more likely to be more effective if educators help to minimise stress and fear, teach emotional regulation strategies and provide a positive learning environment that is motivating to students. The major brain networks involved in learning can be classified into recognition network, strategic network and affective network. The recognition network receives sensory information from the environment and transforms it into knowledge. It identifies and categorizes what students see, hear, or read. The strategic network is recruited for planning and coordinating goal-oriented actions. Finally the affective network is involved in emotional dimensions of learning such as interest, motivation and stress.

### How to develop emotion while teaching & learning impact:

Make an impact of the subject matter on the student. Make her to know the importance. Give example of real-life stories and live examples can make an impact. Subject that is stored in this way will reach the longterm memory.

### Relevance:

Whatever subject is taught to the students, it must be made relevant. This set of arranging the thinking is called cognitive restructuring. Make them sure that what they know already and develop a link with the present lesson and how it is relevant.

### Empathy:

Whenever any instance is taught, it should develop a concern over the society. Thus whenever a lesson relevant to society, neighbour comes, the teacher should develop the character of empathy.

### Helping students learn by mildly stimulating adrenaline levels

In order to create student interest in learning the teacher should try and interest the students in the topics. This can be done by using real life tasks for lessons, having the students engage the physical body in the tasks and being animated in class. Students should also be given plenty of opportunity to discuss the lesson with the teacher and other students in the class.

### Creating an Emotionally safe classroom Environment

An emotionally safe classroom environment is necessary for students. It can be created by affirming students works in non-competitive ways, developing self confidence, making to take risks and giving thoughtful feedback. Researchers have found that students' emotional and academic functioning improve when caring and respectful teachers support students. Teachers can develop positive relationships with their students by conveying respect and compassion for students, by listening carefully to them, and by responding to their needs and feelings.

### Application in Classrooms

Due to brain reactions and hormones, we understand that how emotion can effect can affect learning. A teacher has to know the information about how emotion occurs.

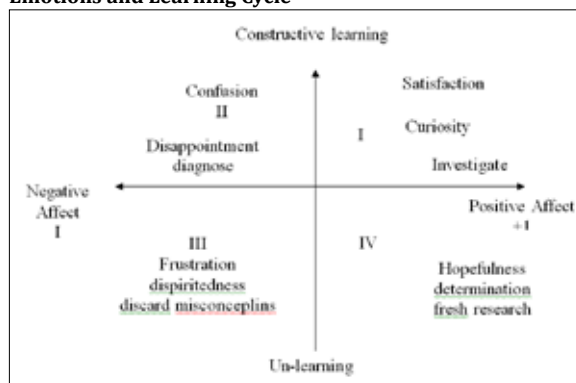
### Helping students learn by Endorphin levels

Endorphins levels are raised through positive experience and interactions. It is also increased by doing exercises. It is also increased with positive social interaction with peers, the teacher can use co-operative learning in classrooms. The classroom environment must be pleasant will kept, organized. When the students enter the classroom they should like the atmosphere. Not only, that the teacher can ask about them personally, can congratulate for their well preparation of seminars. Asking them to tell their positive experiences can motivate them.

### Helping students learn by avoiding increase in cortisol

In order to avoid possible increase in the level of cortisol, the teacher should create a safe environment in the class. The teacher should not criticize, or give negative comments. The teacher should be fair to all students. Should give enough time to complete tests and assignments.

### Emotions and Learning Cycle



### Role of a teacher in classroom

Learning is a brain based and is practical neuroscience learning requires attention and attention is mediated by specific parts of the brain. Neural systems become tired within minutes. They can recover within minutes too, but when they are stimulated in a sustained way, they just are not as efficient.

When a student is in a familiar and safe situation, as in most of our classrooms, their brain will seek novelty. If she hears only factual information, she will become tired of the information.

The most effective presentation must move back and forth through these interrelated neural systems weaving them together. Similarly in teaching, it is most effective to work one neural area and then move on to another therefore the students

should be engaged with a story which can touch the emotional parts of their brain. This is to activate and prepare the cognitive parts of the brain for storing information. Information is easiest to digest when there is emotional "seasoning". Explain the next concept links it will the story.

#### Implication for teaching and learning

1. Creating a surprise while teaching a new concept.
2. Making humor from time to time.
3. Use appropriate techniques that develop emotional connection.
4. Starting new concept by reviewing the old.
5. Make learners in charge of their own learning.

6. Spending time with the students.
7. Eliminating the threat
8. Classroom environment must be creative.
9. Challenge learners without threats.

#### Conclusion

Teachers will understand how their students' emotions affect learning. Teachers will understand the need to make judgments about when emotions are interfering with or supporting learning. Teachers will consider how to create emotionally safe learning environments where students can take risks, develop confidence, and grow emotionally and academically

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