

BRAIN HEMISPHERIC DOMINANCE AS THE CORRELATES OF THE CORE LIFE SKILLS OF STUDENT TEACHERS

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ABSTRACT

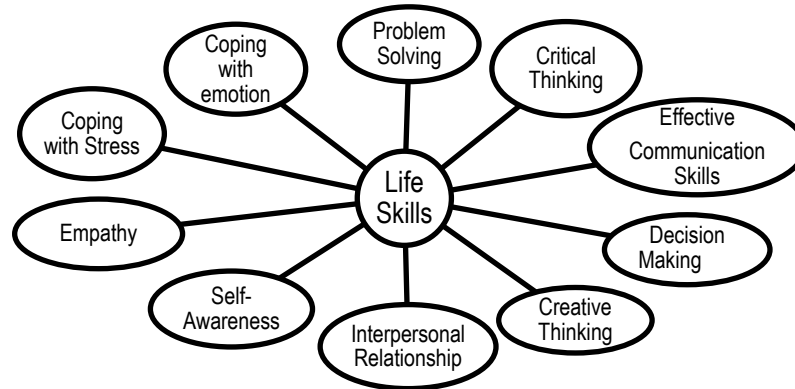
The present study was undertaken to examine Core Life Skills in relation to brain hemispheric dominance of student teachers. The sample comprised of 500 student teachers studying in education colleges affiliated to Punjabi University Patiala. Data were collected by using brain hemispheric dominance scale (1986) developed by McCarthy; Life Skills Scale (2010) developed by Prawit Erawan. The result revealed that there was negligible, negative and significant correlation between brain hemispheric dominance and Core Life Skills of student teachers.

Keywords: Core Life Skills, Brain Hemispheric Dominance, Teachers.

INTRODUCTION

Life skills are a set of human skills acquired via direct experience or teaching that are used to handle problems and questions commonly encountered in life. WHO (1997) defined Life Skills as the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. They are abilities that facilitate the physical, mental and emotional well-being of an individual. 'Adaptive' means that a person is flexible in approach and is able to adjust in different circumstances. 'Positive behaviour' implies that a person is forward looking and finds a ray of hope, solution and opportunities even in difficult situations. UNICEF (2004) defined Life Skills as "a behaviour change or behaviour development approach designed to address a balance of three areas: knowledge, attitude and skills". This definition is based on research evidence that suggests that shifts in risk behaviour are unlikely if knowledge, attitude and skills based competency are not addressed. According to Coffey and Knoll (1998) Life skills refer to a group of psychological, social and interpersonal skills which can help people make informed decisions, communicate effectively and develop coping and self management skills to lead a healthy and productive life. Life Skills are essentially individual abilities that help to promote mental well-being and competence in young people when they face the realities of life (CBSE, 2010). Skills that can be said to be Life Skills are innumerable and the nature and definition of Life Skills are likely to differ across

cultures and situational settings. Various youth and health organizations and adolescent researchers have defined and categorized the key skills in different ways. However, there are a set of Life skills, which are necessary for the promotion of psychosocial well-being in children and adolescents. UNICEF, UNESCO and WHO lists the ten core Life skills. These ten core Life Skills are given in the Figure 1.



SOURCE: WHO

Figure 1: Ten Core Life Skills

Cerebral Dominance or Brain Hemispheric Dominance is the tendency of an individual to process information through the left hemispheric or the right hemisphere or in combination Bradshaw and Nettleton (1981); Springer and Deutsch (1993); McCarthy (1996). The Oxford Dictionary of Psychology (2005) defines brain hemispheric dominance as “the tendency for one of the cerebral hemispheres of the brain to dominate certain functions. Encarta (2006) also defines brain hemispheric dominance as dominance of one side of the brain and explains it as the normal tendency for one of the two sides of the brain or brain hemispheric dominance to have stronger control over some functions of the mind and the body. Gazzaniga and Sperry (1967); Duke (1968); Sperry (1968); Bogen et al. (1969); Gazzaniga (1970); Galin and Ornstein (1974); Sperry (1975) have confirmed that our brain consists of two distinctive but anatomically symmetrical units, the right and left hemispheres. Thus, brain hemispheric dominance is the ability of one cerebral Hemisphere, commonly referred to as the left or right side of the brain, to predominately control specific tasks. Harth (1990) expounds brain hemispheric dominance refers to the functioning of the neo- cortex which is the outer, visible, portion of the brain that covers the brain stems like the head of a mushroom. It is divided by a longitudinal tissue into two highly convoluted walnuts like configuration of left and right hemisphere more commonly known as cortical hemispheres. The two hemispheres communicate with each other through a thick band of 200-250 million nerve fibers called the corpus colosum. Some studies indirectly support that

there is a significant relationship between Life Skills and Brain Hemispheric Dominance as Konstantin (2010) studied that how creative thinking relates to relative hemispheric dominance. The analysis was performed on the basis of a non-parametric vote-counting approach and effect-size calculations of Cramer's phi suggest relative dominance of the right hemisphere during creative thinking. Moderator analyses revealed no difference in predominant right-hemispheric activation for verbal vs. figural tasks, holistic vs. analytical tasks, and context-dependent vs. context-independent tasks. Fernandez (2011) studied to find out the brain hemisphericity and mathematics achievement of high school students. The results revealed that whether taken as an entire group or classified according to gender and intelligence quotient, the dominant brain hemisphericity of the students was the left brain. Newberg and D'Aquili (2001) studied that the brain has evolved over millions of years to enable an individual to adapt and to solve the immediate problems of survival in a particular environment. They have noted that: The goal of every living brain, no matter what its level of neurological sophistication has been to enhance the organism's chances of survival by reacting to raw sensory data and translating it into a negotiable rendition of a world. The brain's functions that have allowed humans to accomplish these achievements are variously described as: creativity, genius, insight and inspiration. In other words, the function of the human brain is to solve problems, one of the central features of intelligence.

METHOD

Descriptive survey method was used in the present study.

SAMPLE AND DESIGN OF THE STUDY

Population for present study is student teachers studying in all colleges of education affiliated to Punjabi University Patiala. There are total 84 colleges of education affiliated to Punjabi University Patiala. Approximately 14,000 student teachers are studying in these colleges, out of these colleges 25 colleges will be selected through stratified random sampling technique. 500 student teachers in these colleges were selected through cluster sampling technique.

TOOLS

- Brain Hemispheric Dominance Scale developed by McCarthy (1986).
- Life Skills Scale developed by Prawit Erawan (2010).

ANALYSIS AND INTERPRETATION OF DATA

The table1 showed the correlation between life skills and brain hemispheric dominance. The analysis and interpretation of data is given below.

TABLE 1
COEFFICIENT OF CORRELATION BETWEEN LIFE SKILLS AND BRAIN HEMISPHERIC DOMINANCE OF TEACHER TRAINEES

Dimensions of Life Skills	Brain Hemispheric Dominance	
	Sig. (2-tailed)	Pearson Correlation
Total Life Skill Score	.001	-.167**
Critical Thinking	.010	-.089*
Creative Thinking	.001	-.206**
Self-awareness	.001	-.169**
Empathy	.012	-.087*
Self-esteem	.001	-.163**
Social-responsibility	.098	-.058
Interpersonal	.001	-.142**
Decision-making	.001	-.145**
Coping-stress	.011	-.089*

*p<0.05; **p<0.01

The coefficient of correlation (table 1) between life skills and brain hemispheric dominance is -.167 which is significant at .01 level. It means that there is negative and significant correlation between brain hemispheric dominance and life skills of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between life skills and brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skills of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between critical thinking and brain hemispheric dominance is -.089 which is significant at .05 level. It means that there is negative and significant correlation between brain hemispheric dominance and critical thinking of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between critical thinking and brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill critical thinking of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between creative thinking and brain hemispheric dominance is -.206 which is significant at .01 level. It means that there is negative and significant correlation between brain hemispheric dominance and creative thinking of teacher trainees. In the light of this the null hypothesis

that there is no significant correlation between creative thinking and brain hemispheric dominance of teacher trainees is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill creative thinking of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between self-awareness and brain hemispheric dominance is $-.169$ which is significant at $.01$ level. It means that there is negative and significant correlation between brain hemispheric dominance and self-awareness of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between self-awareness and brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill self-awareness of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between empathy and brain hemispheric dominance is $-.087$ which is significant at $.05$ level. It means that there is negative and significant correlation between brain hemispheric dominance and empathy of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between empathy and brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill empathy of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between self-esteem and brain hemispheric dominance is $-.163$ which is significant at $.01$ level. It means that there is negative and significant correlation between brain hemispheric dominance & self-esteem of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between self-esteem & brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill self-esteem of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between social-responsibility and brain hemispheric dominance is $-.058$ which is not significant at $.05$ level. It means that self-esteem and brain hemispheric dominance of teacher trainees not share variance significantly. In the light of this the null hypothesis that there is no significant correlation between self-esteem and brain hemispheric dominance of teacher trainees, is not rejected. Therefore it may be concluded that there is no significant correlation between life skill social-responsibility and brain hemispheric dominance of teacher trainees.

The coefficient of correlation (table 1) between interpersonal skill and brain hemispheric dominance is $-.142$ which is significant at $.01$ level. It means that there is negative and significant correlation between brain hemispheric dominance and interpersonal skill of teacher trainees. In the light of this the null

hypothesis that there is no significant correlation between interpersonal skill and brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill interpersonal of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between decision-making and brain hemispheric dominance is $-.145$ which is significant at $.01$ level. It means that there is negative and significant correlation between brain hemispheric dominance and decision-making of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between decision-making and brain hemispheric dominance of teacher trainees is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill decision-making of teacher trainees decrease slightly.

The coefficient of correlation (table 1) between coping-stress & brain hemispheric dominance is $-.089$ which is significant at $.05$ level. It means that there is negative and significant correlation between brain hemispheric dominance & coping-stress of teacher trainees. In the light of this the null hypothesis that there is no significant correlation between coping-stress & brain hemispheric dominance of teacher trainees, is rejected. Therefore it may be concluded that as score moves from left to right brain hemispheric dominance the score of life skill coping-stress of teacher trainees decrease slightly.

FINDINGS

- Brain hemispheric dominance was negligible, negative and significantly correlated with life skills (critical thinking, creative thinking, self-awareness, empathy, self-esteem, interpersonal, decision-making and coping-stress) of student teachers.
- Brain hemispheric dominance was not significantly correlated with Life Skill Social-Responsibility of student teachers.

DISCUSSION

The result of the present study revealed that life skills (critical thinking, creative thinking, self-awareness, empathy, self-esteem, social-responsibility, Interpersonal, decision-making and coping-stress) of teacher trainees was negligible, negatively and significantly correlated with brain hemispheric dominance.

There are some studies which indirectly support the present finding such as Perry et al. (2001) found the role of the temporal lobe, especially the right dominance in emotions, empathy and social behaviour skills. Bogen (1989) demonstrated that the left hemisphere operates in a linear, sequential manner with logical, critical, analytical, propositional thought. McCarthy (1996) revealed that the right cerebral hemisphere is to be specialized for primarily nonverbal holistic, concrete, creative, analogical and

aesthetic functions. Konstantin (2010) studied that how creative thinking relates to relative hemispheric dominance of the right hemisphere. Kaur and Shikha (2012) revealed that there exist a significant relationship between hemisphericity and some personality traits namely general ability, creativity, self-control and social warmth, individualism and sensitivity. Kaur and Brij (2013) investigated the relationship of style of learning and thinking (SOLAT) in the right cerebral dominance with achievement in mathematics, creativity and right or left handedness among school children. After reviewing comprehensive related literature no research finding was found which directly examined the relationship of brain hemispheric dominance with life skills. This gap indicated that further research is required with objective with correlation between above said variables.

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