EFFECT OF EMOTIVE COGNITION STRATEGIESON ENHANCING MEANINGFUL LEARNING AMONG B.ED. STUDENT-TEACHERS

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ABSTRACT

The significant gaining knowledge of method of an character is thought one at a time together along with his emotional issue or cognitive issue. Cognition and feelings are interrelated, and subsequently with inside the mastering technique it calls for features of each the domains. Cognition may be a foundation for emotion and the emotional procedure will have cognitive outcome. Therefore the intention of the have a look at is to observe the impact of emotive cognition techniques on improving significant learning. The investigator has hired experimental studies with a pre-test-post-test-manipulate institution design. The length of the pattern of the look at is ninety first yr B.Ed. Student-teachers, forty five with inside the experimental institution and forty five with inside the manage institution. The researcher has applied emotive cognition techniques utility in coaching to the experimental organization for reinforcing their significant learning. The information had been accrued earlier than and after the intervention thru the management of the tools- A Scale for Assessing the Application of Emotive Cognition Strategies in Teaching and A Scale on Measuring Meaningful Learning of the Learners. The statistics were analyzed thru statistical techniques. The descriptive evaluation suggests that there's a full-size imply distinction among pre-check and post- check rankings of the experimental institution in emotive cognition software and significant learning. The experimental organization which had intervention scored better with inside the post-check of their significant learning. The experimental organization which had intervention scored better with inside the post-take a look at of their significant learning. In contrast, the manipulate organization had the conventional approach of coaching acquired a low rating with inside the post-test. Correlation evaluation suggests that there may be a considerable dating among emotive cognition software and significant learning.

Keywords: Emotive cognition, Learning, Meaningful learning, Strategies, Teacher education and B.Ed. Student-Teachers.

INTRODUCTION

A classroom is a place where teachers and learners experience their emotions during curriculum transaction So it's far critical to observe that the expression and revel in of superb and bad feelings have their very own impact on one’s cognitive function. Emotions modulate cognitive

capabilities of the students' attention, perception, learning, memory, choice making and social cognition. Positive emotions such as enjoyment, pride, hope and happiness have positive effects on learners' cognitive function in meaningful learning Negative feelings which include anxiety, anger, grief and disgrace can strongly inhibit learners' cognitive system at the same time as learning.

Teachers can sustain students' attention through dialogues, voice modulation and sharing their past joyful experiences with students. It triggers the cognitive characteristic to preserve the awareness closer to the statistics for spotting and understanding. Perception plays a vital role in individual awareness of receiving and acquiring any new information. Activating five sensory organs via extraordinary coaching aids creates a feel of outside perception, triggering formerly found out records and assemble inner perception. Memory is the process of recalling, remembering and retrieving the previously learned information of the learners. Triggering emotional reminiscence has a robust have an impact on reminiscence encoding and retrieval. Decision making is a high level of the cognitive process. It is influenced heavily by emotions. Providing the opportunity to think and decide upon the learning task develops decision-making skill among learners. All these strategies in teaching facilitate meaningful learning among learners.

Emotive Cognition Strategies

The artwork of coaching is hooked up with the right software of emotive cognition techniques in study room coaching and learning. Dale Purves et al. (2008) says, "Emotive cognition refers to feelings modulate records processing in mind areas that mediate numerous cognitive functions, that specialize in notion and attention, gaining knowledge of and memory, and choice making". Emotive cognition approach can facilitate superb conduct amongst learners. By applying the emotive strategy of humor while teaching makes understanding the difficult concepts becomes easy. The use of pedagogical humor in education has positive effects on reducing stress levels and increasing learners' cognitive engagement in learning. Emotions have a strong influence on cognitive functions, and the frequent interaction of affective and cognitive domains in teaching triggers high cognitive ability on student's goal setting and their good academic achievement.

Usually, cognition and emotion are believed to be independent systems; however, research in the cognitive and neurobiological sciences has shown that the relationship between cognition and emotion is interdependent and extensive (Schmidt and Shelly J, 2019). Recent advances in neuroscience propose that interest and memory, essential cognitive additives of learning, are profoundly suffering from emotions (Immordino-Yang and Damasio, 2007). When emotions overwhelm concentration, what is being swamped is the mental capacity cognitive scientists call "working memory," the ability to hold in mind all information relevant to the task at hand. Working memory is an executive function par excellence in mental life, making possible all other intellectual efforts, from speaking a sentence to tacking a knotty logical proposition (Alan

Baddeley, 1986). Working memory interacts closely with cognitive functions; for instance, it is intimately linked to perception and long term memory, which provide most of its input and content (Purves et al. 2008). In this way, the techniques of emotive cognition characteristic at the same time as coaching and learning. Moreover, it complements the coaching strategies of the trainer and studying behaviors of the learner.

Meaningful Learning

Learning is acquiring knowledge, skill and behavior modification of an individual according to the environment. Joseph D. Novak (2010) says, "Meaningful mastering stipulates that important connections among new understanding and what's already recognized require the combination of thinking, feeling, and performance". The significant gaining knowledge of procedure calls for the mixing of affective and cognitive domains. Meaningful studying includes the non-stop creation of latest know-how and interpretations with preceding know-how. It claims that the learning experience becomes meaningful only when the learner himself or herself gives meaning to it: experiences must personally affect and be subjectively valued by the learner (Merriam & Clark, 1993). It also comes through risk-taking behavior and a feeling of interest in learning.

Teacher Education and Learning

Teacher schooling desires to construct capacities with inside the trainer to assemble knowledge, to address exclusive contexts and to expand the talents to determine and choose in moments of uncertainty and fluidity, characteristic of teaching-learning environments. Teacher schooling must combine educational know-how and expert mastering right into a significant whole. It need to permit student-instructors for mirrored image and impartial examine with out packing the education time table with teacher-directed sports alone (NCFTE, 2009). In this regard, the teacher education program requires application of emotive cognition strategies in teaching towards constructing meaningful learning.

Bretz (2001) classifies meaningful learning based on three criteria: (1) relevant prior knowledge of the student, (2) meaningful material organized by the teacher to connect to this prior knowledge, and (3) the conscious choice of the student to make connections between the prior knowledge and the new meaningful material (Bretz et al., 2013; DeKorver and Towns, 2015). Instruction of the new information needs to be properly interpreted and interrelated to prior knowledge of learners facilitating their meaningful learning. Tapping the previous understanding enables new reminiscence creation and that ends in significant learning.

Research Reviews (1) Research Studies Related to Emotive Cognition Application in Teaching Gustavo Martínez-Sierra et al. (2019) investigated to identify the daily discrete emotions experienced by a high school mathematics teacher in the classroom and also to identify the triggering situations of those emotions

Michael is a consultant case of Mexican arithmetic instructors in center and excessive school. In this research, a case study was done. The investigators found that Michael, the teacher participant, experienced emotions of satisfaction, disappointment, appreciation, happy-for, sorry-for, reproach, and anger triggered by the cognitive appraisal of six types of triggering situations: (1) achievement of the planned activity, (2) students' participation, (3) students' collaboration, (4) students' attitude, (5) students' independence, and (6) students' learning and understanding.

Jann Pietarinen, Tiina Soini & Kirsi Pyhalto (2014) examined the interrelation between students' emotional and cognitive engagement in their well- being and achievement in school. The researcher conducted a survey and three case studies. The results showed a positive correlation of emotional engagement in teacher-student and peer group relations with cognitive engagement. Michalinos Zembylas (2005) conducted a study to show the value of the ethnography of emotions in teaching and the importance of exploring teacher emotion in understanding teaching. In this research, ethnography approach changed into observed and a participatory case look at changed into conducted. Catherine Myers, is an experienced early childhood and elementary educator, participated in this study and expressed her feelings. "Emotional freedom in coaching confirmed that after I went to kindergarten to teach,' says Catherine: I felt cushy for the primary time speaking approximately my emotions and my ideas. I felt I didn't need to know all the answers. Also, going to kindergarten, I recognized the incredible need that everything had to be hands-on".

(2) Research Studies Related to Meaningful Learning Behaviour

Yunita Arian Sani Anwar (2020) examined the implementation of the multilevel inquiry approach to achieve meaningful biochemistry learning. The results showed that the class that applied the multilevel inquiry approach achieved higher scores in all three variables of learning outcomes, practical skills, and attitudes toward biochemistry than the control classThe MANOVA take a look at confirmed that the implementation of this technique has a wonderful impact at the 3 variables, which constitute the cognitive, psychomotor, and affective domains. Multilevel inquiry became capable of foster significant gaining knowledge of in biochemistry courses. Emma Kostiainen et al. (2018) aimed to explore the Interaction Skills in a Group and Network (ISGN) course further to outline the basic features of personally meaningful learning in teacher education based on the experience of the teacher students. The qualitative evaluation discovered 11 dimensions that make studying studies significant for trainer students. They are:

1) Importance of the phenomenon and the theme; 2) Common goal and commitment; 3) Intensiveness; 4) Linking theory and practice; 5) Daring and taking risks; 6) Becoming heard and seen; 7) Belonging, equality, and roles; 8) Sense of subjectivity; 9) Safety; 10) Authenticity and trust; and 11) Feeling of bafflement and wonder.
   Deirdre Ni Chroinin, Tim Fletcher and Mary O'Sullivan (2018) aimed to find out the pedagogical approach to physical education teacher education (PETE) to support pre-service teachers (PSTs) in learning how to facilitate meaningful experiences in physical

education and to contribute new understanding through sharing pedagogical principles that support pre-service teachers (PSTs')

'Learning About Meaningful Physical Education' (LAMPE). The inductively analyzed facts has discovered 5 pedagogical ideas that mirror how pre-carrier teachers (PSTs) had been supported to research and facilitate significant bodily training experiences. Pedagogies protected making plans for, experiencing, teaching, analyzing, and reflecting on significant participation. Ananta Kumar Jena (2012) examined the application of the constructivist approach through individual and cooperative modes of spider and hierarchical concept maps to achieve meaningful learning on science concepts. The investigator found that the cooperative spider concept map was more effective than individual modes of the spider concept map and it provided meaningful learning in science. Collaborative mastering is beneficial than man or woman mastering and collaborative mastering a function of constructivist mastering.

Significance of the Study Students have to be prepared to overcome the defined and undefined challenges in the 21st century. To sustain themselves in the competitive world, they need to be ready to face any kind of difficult situation and they have to show how they are unique and efficient from others. It is possible through meaningful learning in every curriculum transaction. In this context B.Ed. Student-teachers have been trained through emotive cognition intervention program on meaningful learning as preparation for future teaching. The essence of meaningful learning is to gain knowledge, skill and behavior modification of the learner. Meaningful learning is important in teacher education to gain a refined understanding of the process and experience by which student- teachers construct learning. This knowledge can assist trainer educators to layout a significant pedagogical exercise for richer and applicable learning. Interconnecting affective and cognitive domains in pedagogical practices of teacher education programmes facilitate student-teachers meaningful learning. In this regard, implementing an emotive cognition intervention program in teacher education plays a significant role in triggering student-teachers emotions on cognitive functions towards their meaningful learning. The implementation of positive emotions such as joy, excitement, hope, happiness, thrill and amazement in teaching increases cognitive functions of perception, attention, memory, problem-solving ability, decision-making, and social cognition of the learners. Negative feelings which includes anger, anxiety, acrimony, vexation and disgrace lower cognitive functions.

In this study, emotive cognition intervention application includes complete of nice emotional techniques to stimulate B.Ed. Student-teachers cognitive functions on meaningful learning behavior on attention in learning, receive and respond to new information, ability to recall and retrieve the learned information, ability in decision

making, habits of general gain knowledge, develop professional skills, competence to deal with many situations, accept to work with the team, understand the personal responsibilities, understand other peoples' need and maintain the relationship with others. The above- expected outcome can be achieved by implementing emotive cognition intervention program. This treatment program can stand like a frame of reference for teacher educators.

Research Questions

1. Do B.Ed. student-teachers has emotive cognition? 2. Do B.Ed. Student-teachers learn meaningfully? 3. Is there any improvement in meaningful learning behavior after the implementation of an emotive cognition intervention program? 4. What is the relationship between emotive cognition and meaningful learning? 5. Is meaningful learning depend on emotive cognition?

OBJECTIVES OF THE STUDY

• To find out the existing level of emotive cognition application among B.Ed. student-teachers • To find out the existing level of meaningful learning behavior among B.Ed. student-teachers • To find out the level of emotive cognition application among B.Ed. student-teachers after implementing an emotive cognition intervention program • To find out the level of meaningful learning behavior among B.Ed. student-teachers after implementing an emotive cognition intervention program

To find out the relationship between emotive cognition application and meaningful learning behavior of B.Ed. student-teachers

• Student-teachers meaningful learning will be predicted through emotive cognition application

HYPOTHESES OF THE STUDY

1. There will be no significant difference between the pre-test mean scores of the control group and experimental group in the Emotive Cognition Application. 2. There will be no significant difference between the pre-test mean scores of the control group and experimental group in Meaningful Learning Behaviour. 3. There will be no significant difference between the pre-test and post-test mean scores of the control group in the Emotive Cognition Application. 4. There will be no significant difference between the pre-test and post-test mean scores of the experimental group in the Emotive Cognition Application. 5. There will be no significant difference between the pre-test and post-test mean scores of the control group in Meaningful Learning Behaviour. 6. There will be no significant difference between the pre-test and post-test mean scores of the experimental group in Meaningful Learning Behaviour. 7. There will be no significant difference between the post-test mean scores of the control group and experimental

group in the Emotive Cognition Application. 8. There will be no significant difference between the post-test mean scores of the control group and experimental group in Meaningful Learning Behaviour. 9. There will be no significant relationship between Emotive Cognition Application and Meaningful Learning among experimental group B.Ed. Student-teachers. 10. B.Ed. Student-teachers Meaningful Learning will be predicted through Emotive Cognition Application.

Research Design

The investigator has employed experimental research with a pre-test-post-test-control group design (Fraenkel, 2009). The experimental group was under emotive cognition implementation program and the control group was under the traditional way of teaching. Sample The population of the research is first-year B.Ed. Student-teachers. The sampling technique adapted was a convenient sampling technique. The sample was chosen from Trichy district, students from Pope Johan Pal II College of Education as experimental group and students from Indra Ganesan College of Education as a control group. The size of the sample in the present study was 90 first year B.Ed. Student-teachers, 45 in experimental and 45 in the control group.

Design and Description of the Tools Used

Tool 1: A Scale for Assessing the Application of Emotive Cognition Strategies in Teaching It was constructed and validated by the investigator with the help of the supervisor, which consists of 50 items. Each object measures the utility of emotive cognitive method in teaching. This device is with inside the shape of a Likert kind scale with 5 responses. of positive statements. Pattern of Items Scoring as follows Response Scoring Strongly Agree 5 Agree 4 Undecided 3 Disagree 2 Strongly Disagree 1 The reliability of the tool was established by the split-half method using the Spearman-Brown prophecy formula and it was found out to be 0.739

Tool 2: A Scale on Measuring Meaningful Learning of the Learners It was constructed and validated by the investigator with the help of the supervisor which consists of 62 items. Each item measures the meaningful learning of the first year B.Ed. Student-teachers This device is with inside the shape of a Likert kind scale with 5 responses. It is full of positive statements.

Pattern of Items Scoring as follows Response Scoring Always 5 Mostly 4 Moderately 3 Sometime 2 Rarely 1 The reliability of the tool was established by the split-half method using the Spearman-Brown prophecy formula and it was found out to be 0.873

Experimental Method

The test became performed in 3 levels as said below:

Phase I: To find out the entry-level of emotive cognition application and meaningful learning behavior of the B.Ed. Student-teachers a pre-test was administered (Tool-1 and Tool-2) in control and experimental group.

Phase II:

The researcher implemented the de- signed treatment program to the experimental group for 60 days. The selected perspective paper Child- hood and Growing Up was chosen from first year B.Ed. Program. The content of the perspective pa- per was analyzed and the units in the paper, namely Status of Childhood and Adolescence and Theories of Development, were chosen for classroom trans- actions The lesson plan consists of emotive cognition software in each one-hour study room teaching. During classroom transactions the researcher motivated the students and emotionally interacted with them to sustain their attention on listening, thinking, and understanding. This process created knowledge gaining behavior. Using different teaching aids in the classroom stimulated sensory organs of the learners emotionally as well as cognitively. They triggered the senses of the learner to receive and respond to different information through touch and feel, visu- al-spatial task, body orientation, auditory, smell and visual perception. Integrating students' emotional episodes in their learning increased their memory power. Episodic memories are filled with the learn- ers' past feelings. It builds episodic memory retriev- al behavior in every learning. Creating a peaceful learning environment in the classroom gave a joyful learning experience and stimulated positive emo- tions towards learning and it reduced hateful, angry, or self-deprecating thoughts upon learning. When the students were allowed to be emotionally sound to reflect on their previous learning, they recalled their memories and prior experiences, which they already knew to build or project a new concept. From this process learners recalled what they have understood and what they did not. Through this process they got the ability to connect learned information with new information for their meaningful learning. All these implemented strategies enhanced B.Ed. Stu- dent-teachers meaningful learning behavior.

Phase III:

To determine the effect of an emotive cognition intervention program on enhancing mean- ingful learning behavior, a post-test was administered (Tool-1 and Tool-2) in the control and experi- mental group.

Collection of Data

Data were collected from both the experimental and control group during the entry and exit level. On both occasions, Tool-1 and Tool-2 were administered to both the groups.

Analysis of Data

Data were analyzed through statistical techniques such as descriptive statistics, paired sample 't' test, independent 't' test, Person's correlation and regression analysis.

Table 1: Mean and Standard Deviation of Pre-test and Post-test Scores on Emotive Cognition Application among Control and Experimental Group (Maximum Score: 100)

Subject	N	Mean	SD	Low	Moderate	High
Control group Pre test	45	81.42	650	6 (13.33%)	30 (66.67%)	9 (20.00%)
Control group Post test	45	80.50	505	6 (13.33%)	33 (73.33%)	6 (13.33%)
Experimental group Pre test	45	81.73	45	7 (15.56%)	34 (75.56%)	4 (8.89%)
Experimental group Post test	45	87.11	144	8 (17.78%)	28 (62.22%)	9 (20.00%)

Table 1 suggests that the imply and well known deviation of emotive cognition software is 81.forty two and 6.50 in pre-take a look at, 80.50 and 5.05 with inside the post- take a look at manage group, respectively.

It also shows that the mean and standard deviation of emotive cognition application is 81.73 and 4.5 in pre-test, 87.11, and 1.44 in the post-test experimental group, respectively. It is found that the emotive cognition application is a moderate level in pre-test and post-test scores of the experimental group.

Table 2: Mean and Standard Deviation of Pre-test and Post-test Scores on Meaningful LearningBehaviour among Control and Experimental Group (Maximum Score: 100)

Subjects	N	Mean	S.D	Low	Moderate	High
Control group Pre-test	45	71.35	7.68	9 (20.00%)	29 (64.44%)	7 (15.56%)
Control group Post-test	45	70.84	9.86	7 (15.56%)	30 (66.67%)	8 (17.78%)
Experimental group Pre-test	45	69.82	10.10	9 (20.00%)	28 (62.22%)	8 (17.78%)
Experimental group Post-test	45	89.47	2.07	5 (11.11%)	31 (68.89%)	9 (20.00%)

Table 2 suggests that the imply and well known deviation of significant getting to know conduct is 71.35 and 7.sixty eight in pre-check, 70.eighty four and 9.86 with inside the post- check manipulate group, respectively. It is determined that significant gaining knowledge of conduct is a mild degree in pre-check and post-check rankings of the manage group. It additionally suggests that the suggest and widespread deviation of significant mastering conduct is 69.eighty two and 10.10 in pre-take a look at, 89.forty nine and 2.07 with inside the post-take a look at experimental group, respectively. It is found that meaningful learning behaviour is a moderate level in pre-test and post-test scores of the experimental group. Hypothesis 1 There will be no significant difference between the pre-test mean scores of the control group and experimental group in the Emotive Cognition Application.

Table 3: Independent Sample 't' test between the Pre-test Mean score of Control and Experimental Group on Emotive Cognition Application

Variable	Control group Pre-test (N=45)	Experimental group Pre-test (N=45)	't' value
Emotive Cognition Application	**Mean :203.86 SD 16.44**	**Mean :204.33 SD 10.87**	**0.159****

**Not significant at 0.05 level

Table 3 shows that the t' value obtained for the emotive cognition application (0.159) is not significant at the 0.05 level. So it can be inferred that there is no significant mean difference between the pre-test scores of the control group and experimental group B.Ed. Student-teachers in emotive cognition application. This indicates that both groups are identical before the intervention.

Hypothesis 2

There will be no significant difference between pre-test mean scores of control group & experimentalgroup in Meaningful Learning Behaviour.

Table 4: Independent Sample 't' test between the Pre-test Mean score of Control and Experimental Group on Meaningful Learning Behaviour

Variable	Control group Pre-test (N=45)	Experimental group Pre-test (N=45)	't' value
Meaningful learning behavior	**Mean: 221.20 SD:23.79**	**Mean:216.44 SD:31.65**	**0.8.6****

**Not significant at 0.05 level

Table 4 shows that the 't' value obtained for the meaningful learning behavior (0.806) is not significant at the 0.05 level. So it can be inferred that there is no significant mean difference between the pre test scores of the control group and experimental group B.Ed. Student-teachers in their meaningful learning behavior. This indicates that both groups are identical before the intervention.

Hypothesis: 3

There will be no significant difference between the pre-test and post-test mean scores of the control group in the Emotive Cognition Application.

Table 5: Paired Sample 't' test for the Pre-test and Post-test Mean scores of Control Group on Emotive Cognition Application

Variable	Control group Pre-test (N=45)	Control group Post-test (N = 45)	't' value
Emotive Cognitive Application	Mean:203.86 SD: 16.44	Mean: 201.24 SD: 12.61	1.364**

** Not Significant at 0.05 level

Table 5 shows that the 't' value obtained for emotive cognition application (1.364) is not significant at 0.05 level. So it is inferred that there is no significant mean difference between the pre-test and post-test scores of control group B.Ed. Student- teachers in emotive cognition application. This may be because students in control group had not had emotive cognition application from pre to post-stage.

Hypothesis 4

There will be no significant difference between the pre-test and post-test mean scores of the experimental group in the Emotive Cognition Application.

Table 6: Paired Sample 't' test for the Pre-test and Post-test Mean scores of Experimental Group on Emotive Cognition Application

Variable	Experimental group Pre test (N=45)	Experimental group post test (N=45)	t-value
Emotive Cognition Application	Mean:204.33 SD:10.87	Mean:217.77 SD: 3.60	8.521*

*Significant at 0.05 level

Table 6 shows that the 't' value obtained for emotive cognition application (8.521) is significant at the 0.05 level. So it is inferred that there is a significant mean difference between the pre-test and post-test scores of experimental group B.Ed. Student- teachers in emotive cognition application. This may be because the students in the experimental group underwent an emotive cognition application.

Hypothesis 5

There will be no significant difference between the pre-test and post-test mean scores of the control group in Meaningful Learning Behaviour

Table 7: Paired Sample 't' test for the Pre-test and Post-test Mean scores of Control Group on Meaningful Learning Behaviour

Variable	Control group pre test (N=45)	Control group post test (N=45)	t-value
Meaningful learning behavior	Mean: 221.20 SD: 23.79	Mean: 219.20 SD: 30.57	0.516**

** Not Significant at 0.05 level

Table 7 shows that the 't' value obtained for meaningful learning (0.516) is not significant at the0.05 level. So it is inferred that there is no significant mean difference between the pre-test and post-test scores of control group B.Ed. Student-teachers in their meaningful learning behavior. This may be because the students in the control group had not had emotive cognition applications on enhancingmeaningful learning.

Hypothesis 6

There will be no significant difference between the pre-test and post-test mean scores of the experimentalgroup in Meaningful Learning Behaviour.

Table :8 Paired sample t-test for the pre test and post test Mean scores of Experimental Group on Meaningful Learning Behaviour

Variable	Experimental group pre test (N=45)	Experimental group post test (N=45)	t-value
Meaningful learning behaviour	Mean: 216.44 SD: 31.65	Mean: 277.35 SD: 6.42	12.809*

*Significant at 0.05 level

Table 8 shows that the 't' value obtained for meaningful learning (12.809) is significant at the 0.05 level. So it is inferred that there is a significant mean difference between the pre-test and post-test scores of experimental group B.Ed. Student-teachers in their meaningful

learning behavior. This may be because the students in the experimental group had emotive cognition application on enhancing meaningful learning.

Hypothesis 7

There will be no significant difference between the post-test mean scores of the control group and experimental group in the Emotive Cognition Application.

Table 9: Independent Sample 't' test between the Post-test Mean score of Control and Experimental Group on Emotive Cognition Application

Variable	Control group pre test (N=45)	Experimental group post test (N=45)	t-value
Emotive cognition application	Mean: 201.24 SD: 12.61	Mean: 217.77 SD: 3.60	8.453*

*Significant at 0.05 level

Table 9 shows that the 't' value obtained for the emotive cognition application (8.453) is significant at the 0.05 level. So it can be inferred that there is a significant mean difference between the post- test scores of the control group and experimental group B.Ed. Student-teachers in emotive cognition application. The experimental group scored high than the control group. This may be because the Experimental group underwent an emotive cognitionapplication.

Hypothesis 8

There will be no significant difference between the post-test mean scores of the control group and experimental group in Meaningful Learning Behaviour.

Table 10: Independent Sample 't' test between the Post-test Mean score of Control and Experimental Group on Meaningful Learning Behaviour

Variable	Control group pre test (N=45)	Experimental group post test (N=45)	t-value
Meaningful learning behaviour	Mean: 219.60 SD: 30.57	Mean: 277.35 SD: 6.42	12.400*

*Significant at 0.05 level

Table 10 shows that the 't' value obtained for the meaningful learning behavior (12.400) is significant at the 0.05 level. So it can be inferred that there is a significant mean difference between the post-test scores of the control group and experimental group B.Ed. Student-teachers in their meaningful learning behavior. The experimental group scored high than the control group. This may be because the experimental group underwent an emotive cognitionapplication for enhancing their meaningful learning.

Hypothesis 9

There will be no significant relationship between Emotive Cognition Application and Meaningful Learning among experimental group B.Ed. Student-teachers.

Table: 11 Pearson correlation between Emotive Cognition Application and Meaningful LearningBehaviour among Experimental group B.Ed. Student-Teachers

Variable	Correlation value
Emotive cognition application	**0.594**

Tables 11 shows that there is a positive correlation between emotive cognition application and meaningful learning behavior with value of (0.594) at 0.05 level. The relationship is moderate.

Hypothesis 10

B.Ed. student-teachers Meaningful learning will be predicted through Emotive Cognition Application

Table 12: Regression Analysis on Prediction of Meaningful Learning from the Emotive Cognition Application Model

Modal	Un standardized coefficient	Standardized coefficient
I constant	**B: 168.55 Standard error: 22.568**	**Beta**
Emotive cognition	**B: 0.519 Standard error: 0.107**	**0.594**

Table 12 regression analysis shows that $Y=a+b_1X1$. Y-Meaningful Learning, X1-Emotive Cognition Application. Y=168.255+0.519. The above regression equation reveals the prediction on meaningful learning (Y) is dependent on emotive cognition application as

revealed by unstandardized Beta co-efficient. The maximum predictive value of 0.519 indicates the predictive power of the emotive cognition intervention program. It clearly shows the effect of emotive cognition application on enhancing meaningful learning among B.Ed. Student-teachers.

DISCUSSION

After implementing the emotive cognition application, the investigator found that B.Ed. Student-teachers experienced their positive emotions such as joy, happiness, appreciation, enthusiasm, absence of fear, humor, encouragement, amazement, empathy, affection, friendliness and kindness. Their experienced emotions triggered the cognitive function of students: (1) attention on learning, (2) perception to receive new information, (3) learning with a good memory, (4) easy to understand difficult concepts (5) learn to think, (6) logic and problem solving ability, (7) decision-making ability and (8) social cognition. It concurs with the research findings of Gustavo Martínez-Sierra et al. (2019). The implemented emotive cognition intervention program enhanced B.Ed. Student-teachers meaningful learning in four dimensions they are: (1) Learning Habit, (2) Learning Behaviour in the Class, (3) Learning Behaviour outside the Class, and (4) Metacognitive Behaviour in Learning. It concurs with the research findings of Yunita Arian Sani Anwar (2020). It is also found that there is a relationship between emotive cognition intervention programmes and meaningful learning. It concurs with the research findings of Pietarinen, et al., (2014).

CONCLUSION

The learning process becomes joyful when emotions and cognition are properly interconnected. When positive emotions influence learner cognitive functions effectively, the leaner can learn meaningfully. At this juncture, the designed emotive cognition application properly interconnects emotions and cognition of B.Ed. Student-teachers to perform well in their learning. This new model of learning practice works efficiently and it can help future teachers to train their learners inside as well as outside the classroom to learn meaningfully.

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