CHAPTER II

Review of Related Literature
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CHAPTER II
REVIEW OF RELATED LITERATURE

2.00 INTRODUCTION

A review of related literature is an important step in any research work since a good researcher must be familiar with the existing body of knowledge. It helps to determine in what way the present study is related to the existing knowledge concerning the problem area. It provides a background for the research project, and it makes the reader aware of the dimensions of the issue (John W. Best & James V. Khan, 1992, p. 38).

For any worthwhile study in any field of knowledge, the research worker needs an adequate familiarity with the library and its many resources. Only then will an effective search for specialized knowledge be possible. The search for reference material is a time consuming, but very fruitful phase of a research programme. Every investigator must know what sources are available in his field of enquiry, which of them he/she is likely to use and where and how to find them. (Sukhia, et al, 1980).

The related literature forms the foundation upon which all future work will be built. It enables the investigator to know the means of getting to the frontier in the field of his research. It also provides ideas, theories, explanations, hypotheses or methods of research, valuable in formulating and studying the problems. It furnishes the researcher with indispensable suggestions about comparative data, good procedures, likely methods and tried techniques. The information about the activities of previous investigations, stimulate the researcher to use each bit of knowledge as a starting point for new and further progress.

The present study is aimed to find out the relationship between achievement in teaching of mathematics of primary teacher trainees and self-concept, emotional competence, and learning environment. Therefore research studies directly or indirectly
related to the problem area are reviewed in this chapter. In this study, the literature was collected from various books, theses and dissertations. For the latest studies, the investigator has refereed the current journals, internet. The studies directly or indirectly related to the topic were collected, classified, organized and presented below.

2.01 STUDIES RELATED TO ACHIEVEMENT IN MATHEMATICS

a) INDIAN STUDIES

Ranjana Choudhury & Dhirajkumar Das (2012) studied the Influence of Attitude towards Mathematics and Study Habit on the Achievement in Mathematics at the secondary stage. The study aimed at studying the influence of areas in relation to the attitude towards mathematics and study habit on the achievement in mathematics to the pupils’ at secondary stage. Analysis of data indicated that there was no significant difference on achievement in mathematics of the students in case of medium and sex.

Sadia Mahmood & Tahira Khatoon (2011) made an attempt to study the Influence of School and Students Factors on Mathematics Achievement. This study examined the effects of school type, gender and mathematics anxiety on mathematics achievement. The sample consisted of 863 males and 789 females from 15 secondary schools of Uttar Pradesh (India). The results of the analysis showed that among the three independent variables, school type had the greatest influence on mathematics achievement (46%).

Venkatesh Kumar & Karimi (2010) conducted a study on Mathematics Anxiety, Mathematics Performance and Overall Academic Performance in High School Students. This study examined the relationship between Mathematics anxiety, Mathematics performances and overall academic performance of high school students. The results revealed that Mathematics anxiety significantly has negative correlation with Mathematics performances and overall academic performance. Moreover it was found that there is significant gender difference in Mathematics anxiety, where as there is no significant
difference between boys and girls in Mathematics performances and academic performance.

**Sabita Mahanta & Mofidul Islam (2009)** tried to study the Attitude of Secondary Students towards Mathematics and its Relationship to Achievement in Mathematics. Data were collected from 1057 secondary students selected by simple random sampling from 33 secondary schools of Kamrup district. The results revealed that boys show more positive attitude towards mathematics than girls and attitude of students and achievement is positively correlated.

**Yadav, et.al. (2009)** conducted a study on the Accuracy of Self-Assessment of Achievement in Mathematics in Relation to Some Personality Related Variables of Eighth Grade. They found that the accuracy of self-assessment of achievement in Mathematics was found to be independent and it was found to be independent of the interaction between gender and dependence when intelligence and achievement were taken as covariates.

**Ganihar & Wajiha (2007)** conducted a study on “Factors affecting Academic Achievement of IX standard Students in Mathematics”. Results of the study showed that girls were high on achievement in mathematics than boys and the students studying in aided schools were high on achievement in mathematics when compared to government school.

**Naseema & Usha (2007)** intended to measure whether there is any significant difference in the self-concept, school adjustment and achievement in mathematics of visually impaired and normal secondary school pupils in the integrated system. A sample of 500 normal and 147 visually impaired pupils studying in IX standard in the integrated system of education, in the state of Kerala was selected. Results of the study revealed a significant difference at 0.01 levels, between visually impaired and normal pupils in respect to their self-concept, school adjustment and achievement in mathematics. The mean scores of normal pupils were higher than visually impaired on self-concept, school adjustment and achievement in mathematics.
Singh & Singh (2007) attempted a study on the Impact of Caste and Habitat on Achievement in Mathematics at Upper Primary School Level. The results showed that there was significant difference in mean achievement scores of boys and girls students in mathematics and boy students seem to be better in achievement in mathematics than girl students.

Chamundeswari & Sumangala (2006) conducted a study on General Mental Alertness and Intelligence in relation to Academic achievement of students at the secondary level. The results revealed that there was significant correlation among the variables, mental alertness, intelligence, achievement in mathematics and English of students at the secondary level in different types of schools.

Nirmala, et.al. (2006) conducted a study on Optimization of Academic Achievement in Mathematics: A Linear Programme Approach. The findings of the study revealed that mathematics information skills, decision making skills and attitude towards mathematics have made a significant contribution towards the academic achievement. Moreover all the four factors of attitude to mathematics (Confidence, Usefulness, Success and Teacher) have made a significant contribution towards the maximization of the aggregate performance in mathematics.

Sharma & TilParsad (2005) conducted a study on Student’s Performance in Mathematics in relation to Teaching Techniques. For enhancing the performance of students there searcher had organized a brain storming session where he found that a majority of the participants who came from various premier intuitions of Ajmer city felt that simplicity of presentation, clarity of the topic covered, and the ability to read a student’s mind in order to make him understand made a good mathematics teacher. Therefore, with such characteristics of teaching students will like the teacher, the subject and perform well in the subject.
Patel (1984) made an investigation into the mathematical ability of pupils of classes IX and X in the context of some cognitive and affective variables. He found that there were no significant sex difference with regard to mathematical ability of pupils of classes IX and X and the pupils having high anxiety were inferior in mathematical ability to pupils having low anxiety.

b) FOREIGN STUDIES

Mohamed, et al. (2013) studied the Path Analysis of the Factors influencing students’ Achievement in Mathematics. This study seeks to test a causal model for the students’ achievement in mathematics. The results revealed that teachers’ attribution and their characteristics is the strongest predictor of students’ achievement in mathematics over and above other variables included in the model. The teaching method and teaching practices directly predict students’ achievement but insignificantly and indirectly predict students’ achievement via both teachers’ attribution and their characteristics and the classroom climate. However, students’ attitude towards mathematics and students’ anxiety have predicted students’ achievement directly and negatively but the correlation is insignificant and weak.

Effandi Zakaria, et al. (2012) attempted a study on “Mathematics anxiety and Achievement among secondary school students. The research examined the differences in mathematics anxiety according to gender as well as the differences in mathematics achievement of students based on the level of mathematics anxiety. The study involved 195 Form Four students (86 male and 109 female). The data was analyzed using Statistical Package for the Social Sciences (SPSS) to determine the mean, frequency, t-test and one-way ANOVA. The findings of the study indicated that there is mathematics anxiety among secondary school students. The t-test showed that the mean difference between mathematics anxiety and gender is not significant. The ANOVA test showed that there
were significant differences in achievement based on the level of mathematics anxiety. Thus, math anxiety is one factor that affects student achievement. Therefore, teachers should strive to understand mathematics anxiety and implement teaching and learning strategies so that students can overcome their anxiety.

**Martin Andrew, et.al. (2012)** made a study on “Problem Solving and Immigrant Student Mathematics and Science Achievement”. The study investigated the problem-solving skill alongside more widely recognized settlement and sociodemographic factors in first-generation (1G) and second-generation (2G) immigrant students' science and mathematics achievement. A total of 113,767 students (ages 15–16 years) from 17 countries were drawn from the 2003 Programme for International Student Assessment (PISA) data set. Multilevel hierarchical regression findings confirm that along with settlement and sociodemographic factors, problem-solving skill is a factor in immigrant students' achievement in mathematics and science—but that immigrant students scored lower in problem solving than non-immigrant students. Settlement and sociodemographic factors relevant to achievement and problem-solving skill for immigrant students include socioeconomic status, language background, age of arrival, gender, and age-in addition to significant between-school and between-country effects. The variance explained by settlement and sociodemographic factors suggests it is not immigrant status per se that explains lower achievement and problem-solving skill (thus countering deficit perspectives), but various factors that are embedded in and associated with immigrant status that explain the bulk of such variance.

**Adebola Jaiyeoba & Ademola Atanda (2011)** conducted a study on School quality factors and secondary school students’ achievement in mathematics in south-western and north-central Nigeria. This study investigated nine school quality factors that
are likely to influence students’ achievement in Mathematics in South-Western and North-Central Nigeria.

The study adopted the descriptive survey research design of the ex-post facto type and made use of a sample of 1,014 Mathematics teachers and principals selected through a multi-stage sampling procedure. The findings showed that conveniences have relationship with students’ academic achievement in Mathematics and contributed significantly. The study showed the importance and significant role played by instructional materials on students’ achievement, especially in Mathematics. They have positive influence on achievement in Mathematics. Out of the nine variables, the two variables that contributed significantly to student’s achievement in Mathematics are conveniences and instructional materials ($\beta = 0.130$, $t = 2.381$, $P < 0.05$), ($\beta = 0.134$, $t = 2.470$; $P < 0.05$) respectively. Instructional materials and conveniences (toilets) have been adjudged to have contributed significantly to students’ achievement in Mathematics.

Brian Hemmings, et.al. (2011) made a study on Predicting Mathematics Achievement: The Influence of Prior Achievement and Attitudes. This study sought to examine the relationships among attitude towards mathematics, ability and mathematical achievement. By drawing on a sample of Australian secondary school students, it was demonstrated through the results of a multivariate analysis of variance that females were more likely to hold positive attitudes towards mathematics. In addition, the predictive capacity of prior achievement and attitudes towards mathematics on a nationally recognized secondary school mathematics examination was shown to be large. However, when these predictors were controlled, the influence of gender was non-significant. Moreover, a structural equation model was developed from the same measures and subsequent testing indicated that the model offered a reasonable fit of the data. The study revealed that the positing and testing of this model signifies growth in the Australian
research literature by showing the contribution that ability (as measured by standardized test results in numeracy and literacy) and attitude towards mathematics play in explaining mathematical achievement in secondary school.

Were, et. al. (2010) studied gender differences in self-concept and academic achievement among visually impaired pupils in Kenya. A sample of 262 respondents (152 males and 110 females) was drawn from the population by stratified random sampling technique. Two instruments were used in this study: Pupils’ self-concept and academic achievement test. The t test was used to test the relationship between self-concept and achievement. The data was analyzed using Analysis of Variance (ANOVA) structure. Results of the study revealed that there are gender differences in self-concept among visually impaired pupils. Girls scored higher than boys in self-concept and hence in achievement test.

Deepa Marat (2007) conducted a study on Students' and Teachers' Efficacy in Use of Learning Strategies and Achievement in Mathematics. The study examined students' and teachers' efficacy in use of learning strategies in mathematics, and the relationship with achievement. The second phase of a multi-method doctoral study, ninety-two students and ten teachers from a diverse secondary school were surveyed on efficacy in use of learning strategies, and the factors they perceived as facilitating or inhibiting the use of learning strategies in the classroom context. Findings were contextualized within a multi-method framework comprising two research projects. The cumulative findings bring to light illusory-efficacy in a sizeable number of student participants who did not achieve, highlighting the importance of true efficacy and learning strategies to reduce disparities and enhance achievement.

Rubén Alberto CerviniIlturre (2005) made an attempt to study the relationship between School Composition, School Process and Mathematics Achievement in
Secondary Education in Argentina. The study examined the relationships between school compositions, some characteristics of schooling (such as institutional culture and climate), and students' achievement in Mathematics in the last year of high school. The study applied multilevel linear modeling on the levels of student, school and state. It found a close relationship between achievement in Mathematics and the variables of school composition and schooling processes. It showed that when both variables acted together, the effect of all other variables significantly decreased. The variables of schooling processes, however, even when diminished in influence, nonetheless notably continue to affect students' achievements.

Hind Am Hammouri (2004) made a study on Attitudinal and Motivational Variables Related to Mathematics Achievement in Jordan. The aim of the study was to examine the effects of student-related variables on achievement in mathematics. The sample consisted of 3736 13-year-old Jordanian 8th-graders who participated in the Third International Mathematics and Science Study (TIMSS). Results from this study indicated that four attitudinal and motivational variables had strong positive total and direct effects; and two variables had negative total and direct effects on mathematics achievement.

Keith Topping, et.al. (2003) tried to study on “Cross-age Peer Tutoring in Mathematics with Seven- and 11-year-olds: Influence on Mathematical Vocabulary, Strategic Dialogue and Self-concept”. The findings were: Tutors gained significantly overall on MALS and BIOS. Tutees gained significantly overall on BIOS. The tutor overall questionnaire gain was not significant, but the tutee gain was. Verbal interactions showed marked and significant increases in use of mathematical words, strategic dialogue and praise between partners, with a corresponding decline in procedural talk. Other qualitative improvements in interactions were evident, and subjective feedback from tutors and teachers was largely positive.
Keeling (2001) tried to find the relationship between Types of Anxiety and Under-Achievement in Mathematics. Using regression equations based on the relationship between Otis I.Q. and mathematics achievement and employing the cut-off procedures recommended by Thorndike, a sample of 246 11 and 12-year-old children was divided into groups of over-achievers, achievers, and under-achievers in mathematics. Analysis of variance was used to compare the performances of the three groups on measures of general anxiety, test anxiety, and mathematics anxiety. It was hypothesized that the measure of mathematics-specific anxiety would differentiate the under-achieving group from the other two groups more strongly than the measures of general and test anxiety. The results confirmed the hypothesis.

CaiWeiwei (1993) made an attempt to study the Factors influencing students’ mathematics achievement in the sixth grade. The sample consisted of 125 sixth grade students. The findings indicated that there was no significant difference in mathematics achievement with regard to sex and Mathematics achievement was significantly related to intelligence, achievement motivation and socio-economic status.

2.02 STUDIES RELATED TO SELF-CONCEPT

a) INDIAN STUDIES

SiddiRaju (2013) made an attempt to find the impact of Self-Concept on Scholastic Achievement of 9th Class Students in Physical Sciences. The study looked at the relationship between student’s self-concept and how it affects their academic achievement in Physical Sciences in some selected secondary schools in Chittoor District, Andhra Pradesh. The sample consisted of randomly selected 1800 9th class students. The result of the findings showed that students have good self-concept of themselves is performing well in physical sciences to please themselves, their parents and to get admission into higher institution of their choice. Better Self-Concept is associated with
better scholastic achievement in Physical sciences. It is possible to predict the scholastic achievement of 9th class students in physical sciences with Psychological variables like Self-Concept.

**Padma Sundari & Venkatmmal (2012)** tried to find the impact of place of living on adolescents’ problems, depression and self-concept. 454 (age from 17-20) sample of adolescents from Annamalai University in different faculties, particularly late adolescents were selected. Results revealed that the adolescents from Urban and Rural areas have significant effect on adolescents’ problems, and Depression. The significant differences were observed between Urban and Rural adolescents on Self-concept.

**Ekta Sharma & Talat Aziz (2009)** made a study on Relationship of Creativity with Academic Achievement, Achievement Motivation, Self-concept and Levels of Adjustment among adolescents. The sample consisted of 770 students of Government schools of West Delhi in the age group of 14-15 years. The findings revealed that Self-concept didn’t contribute in predicting Academic Achievement of adolescents.

**DoraiThambi & Muthuchamy (2008)** tried to find the impact of Teaching Practice Programme upon the Self-concept of B.Ed. Students. The investigator used the Mohsin self-concept inventory questionnaire. The tool was administered to the sample selected before and after the teaching practice period and collected data from the respondent. The group sampling was used for this study. A total of 200 women B.Ed. students were selected from 3 self-financing B.Ed. colleges for women in Tiruchenkod and Namakkal districts of Tamilnadu. The findings from this research revealed that the level of self-concept of women B.Ed. trainees increases significantly after the teaching practice programme compared to the self-concept level of pre-teaching programme.

**Kharlukhi (2005)** attempted to study the self-concept in relation to some selected personality variables among teacher trainees in Meghalaya. For the study all the
elementary and secondary level teacher trainees admitted in the different training institutions in Meghalaya were taken into account. A respective sample of the population was drawn by adopting stratified random sampling technique, the strata being different levels of teacher trainees. The findings were: i) the level of self-concept of the teacher trainees for each dimension was noted: the highest percentage (77.50%) of the high level category was found to be in SC-E (moral), the highest percentage (89.69%) of the average level category was found to be in SCD-F (intellectual). There was a significant difference between the means of male and female teacher trainees in SCD of physical, social and moral, ii) the level of the scores in each primary personality factors (PPF) was found out: the highest percentage (49.53%) of the teacher trainees were assertive, aggressive, stubborn.

Masomeh Khosravi (2005) conducted a study on A Comparative Study of Relationship between Self-concept and Anxiety among Adolescence Students. The sample comprised 600 Indian and the same number of Iranian students selected by random sampling method. The results revealed that: i) there was no significant difference between girls and boys on self-concept in Indian students, ii) among Iranian students there was no significant difference between girls and boys on self-concept, iii) overall result on school anxiety showed that Iranian students were higher on test anxiety and lack of confidence than the Indian students.

Nibedita Nayak (2005) conducted a study on Mental Health and Adjustment of Secondary School Teachers Influencing Development of Self-Concept in Teachers. The sample of the Study consisted of 352 secondary school of the undivided Puri district has been well drawn through random sampling. The findings revealed that female, unmarried, less qualified and more experienced teachers are found to be in possession of better self-concept than male, married, more qualified, less experienced teachers.
Thiagarajan & Ramesh (2005) conducted a study on Personality and self-concept of B.Ed Trainees. The sample consisted 96 student-teachers of Dr. Sivanthi Aditanar College of Education, Tiruchendur. The Multidimensional Personality Inventory designed by Manju Rani Agarwal was used to collect data. From the six personality dimensions, the dimension of self-concept was selected for the study. The Findings were: (i) the self-concept of B.Ed Trainees was above the average i.e. high self-concept; (ii) There was no significant difference in self-concept of the respondents in terms of their sex, community, locality and optional studies.

Banerjee Debasri (2003) took a study on Self-concept and Cognitive Style Creation and Non-creative Students in Calcutta University. The sample was made of 567 students of Class VII and VIII of secondary schools in Calcutta under the West Bengal Board of Secondary Education. The findings were: i) Grade-wise comparison showed students of Class VII to be relatively higher than Class VIII students. Cognitive style and self-concept revealed no difference due to grades, ii) observations based on inter relational table revealed positive and significant correlation between creativity and cognitive style and creativity and self-concept, iii) the factors discriminating between high creative, moderate and low creative are fluency, both verbal and non-verbal elaboration and originality. Cognitive style did not significantly discriminate between creativity groups.

Kaur (2001) tried the study of self-concept in relation to intellectual variables. The objective of the study was to find out correlation with the values of self-concept and independent variables such as intelligence, creativity and achievement of rural and urban schools. The findings showed that there was no correlation between the variable of achievement and self-concept.
**Nirmala Rani (2001)** made a study on the topic “Self-Concept: A Comparative study of Women in Different Professional Groups”. The sample for the study consisted of 180 women belonging to six different occupational groups, residing in the twin cities of Hyderabad and Secunderabad. The major findings of the study were: i) majority of the sample had moderate to high level self-concept, ii) there was no significant difference in self-concept among the six groups.

**Ganapathy (1992)** made an attempt to study on Self-concept of student teachers and their attitude towards teaching profession. The sample of the study consisted of 723 student-teacher teachers from nine selected colleges of education in Tamil Nadu. He found that both male and female student-teachers had a favorable attitude towards the teaching profession and both male and female student-teachers had a positive self-concept and it was related to their attitude towards the teaching profession.

**Taneja (1988)** made an attempt to study the relationship between creativity, sense of humor and self-concept among secure and insecure female teacher trainees. The study was a normative survey and the sample for the study consisted of four hundred teacher trainees of different colleges of Agra city. The findings were: i) creativity was positively related to sense of humor and self-concept, but not related to feeling of security of the teacher trainees, and ii) self-concept was positively related to feeling of security of the teacher trainees. There was an interaction among all selected variables.

**b) FOREIGN STUDIES**

**Wondimu Ahmed, et.al. (2012)** examined the Reciprocal Relationships between Math self-concept and Math Anxiety. A sample of 495 grade 7 students (51% girls) completed self-report measures assessing self-concept and anxiety three times in a school year. Structural equation modeling was used to test a cross-lagged panel model of reciprocal effects between math self-concept and math anxiety. The analysis showed a
reciprocal relationship between self-concept and anxiety in math (i.e., higher self-concept leads to lower anxiety, which in turn, leads to higher self-concept). However, the magnitude of the path from anxiety to self-concept is almost half of that from self-concept to anxiety. Overall, the results provide empirical support for the theoretical notion that math self-concept and math anxiety are reciprocally related.

Chiungjung Huang (2011) attempted a study on “Self-concept and Academic Achievement: A meta-analysis of Longitudinal Relations”. The main objective of the study was to find the relation between self-concept and academic achievement was examined in 39 independent and longitudinal samples through the integration of meta-analysis and path analysis procedures. The findings of the study were: For relations with more than 3 independent samples, the mean observed correlations ranged from .20 to .27 between prior self-concept and subsequent academic achievement and from .19 to .25 between prior academic achievement and subsequent self-concept. Globality / specificity of self-concept were the only significant moderating factor in the relation between (a) prior self-concept and subsequent academic achievement and (b) prior academic achievement and subsequent self-concept. As high self-concept is related to high academic performance and vice-versa, intervention programs that combine self-enhancement and skill development should be integrated.

Oluwatayo James Ayodele (2011) made an attempt to study the Self-concept and Performance of Secondary School Students in Mathematics. The sample for the study consisted of 320 Senior Secondary School One (SSS1) students (male=160, female=160) selected from 16 schools (urban=8, rural=8) in eight out of the 16 local government areas of EkitiState. Random sampling technique was used to select the eight local government areas, while stratified random sampling technique was used to select the schools and the selected participants. Senior Secondary School One was used, being a foundational class,
while mixed schools were also used on the assumption that the students had homogenous characteristics. Two instruments were used for data collection. The first was a 20-item self-report questionnaire titled, “Self-concept towards Mathematics” in which the students were asked to rate how they think, feel, act and value and evaluate themselves in Mathematics on a four-point scale. The findings were: i) self-concept and performance in Mathematics were not significantly related, ii) gender has no significant influence on self-concept of students towards Mathematics, and iii) gender has no significant influence on performance of students in Mathematics.

**Suliman Safiye (2011)** investigated the role of self-concept in academic performance among Grade Eleven pupils. The purpose of this study was to explore the role of self-concept in academic performance among Zambian grade eleven pupils. The primary objective was to examine self-concept and academic performance in order to show how they contribute to the academic success and healthy personality development of students in Zambia. By means of purposive sampling, four schools were selected from Lusaka city. From each school, grade eleven pupils constituted the sample for the study. The sample consisted of 147 males and 106 females, yielding a total of 253 participants in the study. Through statistical analyses, the following findings were revealed: (i) Boys were found to have a higher self-concept than girls, (ii) Self-concept seems to be stronger related to academic performance more among girls than among boys, and (iii) Raven's non-verbal cognitive ability revealed no statistically significant correlations with either self-concept or academic ability.

**Xiaofeng Zhang & Chengzong Li (2011)** made an attempt to Study University Students’ Self-Concept. The main objective of the study was to discuss the development of self-concept of university students. The researchers used “Tennessee Self Concept Scale (TSCS)”, measured 426 university student’s self-concept status. The results of the
study were: In the dimension of physical self-ethics, self-criticism, self-satisfaction, there were gender differences in university students’ self-concept. Males’ physical-self, self-criticism and self-satisfied were higher than females’, while females’ ethics were higher than males’. When referred to social self-concept, there were special differences. Students’ majored liberal arts had a higher score than the students of science. There were also differences in self-criticism, for example, the home location, whether only child or not, and the grades. College students also had differences in grade. Conclusion: College students’ self-concept developed to a relatively stable level in the university. Except for a noticeable difference in gender, only a certain dimensions were noticeable in other demographic variables, while self-criticism had remarkable differences in most of them.

AziziYahaya, et.al. (2009) examined the relationship between Self Concept and Personality and Students’ Academic Performance in Selected Secondary Schools. The purpose of this research was to determine the relationship between the self-concept and personality of students with academic achievement. The sample consists of 270 students from six secondary schools were chosen by using stratified randomly method in Kluang, Johor. The questionnaire for self-concept was modified from Tennessee Self-concept Scale that was created by Fitts (1971). Meanwhile the questionnaire for personality was modified from the Junior Eysenck Personality Inventory (JEPI) that was created by H. J. Eysenck (1967). The descriptive statistics such as frequency, percentages, mean and standard deviation were used to analyze the dominant dimension in student’s self-concept. Other than that, inferential statistic such as t-test was used to analyze the difference between the self-concept and personality of students according to gender. The findings were: i) the dominant dimension of self-concept was family self-concept, ii) there was no significance difference between dimension of self-concept and personality of students
according to gender, and iii) there were no significance relation between dimension of self-concept and personality with student’s academic achievement.

Frank Worrell (2007) made a study on Ethnic Identity, Academic Achievement, and Global Self-concept in Four Groups of Academically Talented Adolescents. The objectives of the study were: academically talented African American \( (n=28) \), Asian American \( (n=171) \), Hispanic \( (n=8) \), and White \( (n=92) \) middle and high school students are compared on ethnic identity (EI) and other group orientation (OGO) attitudes as measured by the Multi group Ethnic Identity Measure. The contributions of these variables to self-esteem and academic achievement are also examined. Results indicated that the ethnic minority groups had significantly higher EI scores than their White counterparts but do not differ on OGO. EI predicts self-esteem for the Hispanic students, and OGO predicts self-esteem for the African American students, but neither variable predicts self-esteem for the other two groups. EI and OGO were negative and positive predictors of school achievement, respectively, but only for African American students, and neither variable predicts achievement in a summer program for academically talented youth.

Hanna Eklöf (2007) made a study on “Self-concept and Valuing of Mathematics in TIMSS 2003: Scale Structure and Relation to Performance in a Swedish Setting”. The study investigated whether two summated rating scales used in the Trends in International Mathematics and Science Study (TIMSS 2003), Mathematics Self-Concept (MSC), and Students' Valuing of Mathematics (VoM) seemed appropriate, meaningful, and useful in a Swedish context. 4,256 Swedish eighth-grade students involved in TIMSS 2003 participated in the study. Items in the TIMSS Student Background Questionnaire asking for motivational beliefs were subjected to item analyses, principal components analyses, and confirmatory factor analyses. Factor scores were saved and regressed on mathematics score. The results indicated that the MSC scale was internally consistent, showed a simple
factor structure that fitted the data rather well, and was positively related to mathematics achievement. The VoM scale was unrelated to mathematics score, showed a poor model-data fit, and the items in the scale were rather heterogeneous. The findings are discussed from an expectancy-value perspective and suggestions for researchers performing secondary analyses on TIMSS data are presented.

Sanchez & Roda (2007) conducted research on relationship between self-concept and academic achievement in primary students. The sample consisted of 245 primary school students currently studying in public or subsidized schools in Almeria Province (Spain). A close relationship was found between academic self-concept and measures of academic performance. Results indicate that non-academic self-concept negatively predicts school achievement (and that of language, arts and of mathematics), while academic self-concept powerfully and positively predicts both general achievement as well as that in language arts and in mathematics.

Jianjun Wang (2006) conducted an Empirical Study of Gender Difference in the Relationship between Self-Concept and Mathematics Achievement in a Cross-Cultural Context. The objective was to examine the reciprocal relationship between mathematics achievement and self-concept is examined in this study to expand the existing knowledge to a cross-cultural setting. Findings of the study were: Based on analyses of educational data two years before and after Hong Kong’s sovereignty switch in 1997, this investigation shows a weak reciprocal relationship among the eighth-grade students across gender categories. With the introduction of a new policy to promote Chinese instruction, changes in the perceived importance of English have been assessed by education stakeholders, and the results are used to indicate a latent factor of “English push” behind the learning process. In the context of cross-cultural transition, gender differences have been found in path coefficients toward mathematics achievement and self-concept.
Limited by the four-year research period, one may speculate whether it would take longer to demonstrate a large effect size in the reciprocal relationship.

**Kjaldman (2006)** conducted a longitudinal study which aimed to survey the self-concept and school achievement of pupils with cleft lip, cleft palate or both from juvenile age to adolescence. The target group in this study consisted of Finnish children with clefts comprising four different age groups. 175 children formed the research subjects. According to these results, structures of self-concepts and school achievement are in fact stable. Basic self-concept elements are seen to be formed at an early age. The developmental aspects of self-concept following puberty were observed as the stability of self-concept and as the forming of a general self. The level of school achievement was stable, but the structure of school achievement changed. From these results, it is possible to state that the gender of the child had a statistical significance regarding self-concept and school achievement. However, the experienced disorder does not have statistical significance as regards with self-concept and school achievement.

**Burbach Mark (2005)** tested the relationship between emotional intelligence and full-range leadership as moderated by cognitive style and self-concept. This study examined the effect of an ability-based measure of emotional intelligence as a predictor of full-range leadership style. The moderating effects of leaders' cognitive style and direction of self-concept (internal vs. external) on the relationship between emotional intelligence and full-range leadership style were also examined. The analyses were conducted on data collected from 146 self-identified leaders and 649 raters. The leader's direction of self-concept added significant variance to the relationship between emotional intelligence and transformational, management by exception and laissez-faire leadership from leaders' perceptions. This indicated that internal self-concept is associated with transformational leadership over and above emotional intelligence and external self-concept is associated
with management by exception and laissez-faire leadership over and above emotional intelligence. A significant interaction was found between direction of self-concept and emotional intelligence while predicting transformational leadership.

**Danuta Chessor (2004)** made an attempt to study the impact of grouping gifted primary school students on self-concept, motivation and achievement. The purpose of this research was to determine the interrelationship of self-concept, motivation and achievement in gifted and talented primary school children in a variety of groupings. An initial study of two groups was used. The experimental group consisted of 24 gifted and talented students in a homogenous class of gifted and talented students in a primary school in Metropolitan area of Sydney. The group consisted of 13 boys and 11 girls aged between 9-12 years. The comparison group was matched for age, gender and IQ and attended mixed ability classes in four local primary schools. Each group completed a Self-Description Questionnaire at the start of the school year and six months later. The SDQ was administered 12 months later to both groups. The academic self-concept of the experimental group was diminished after six months and remained diminished for the 12 month follow-up study. There was no difference in non-academic self-concept between the experimental and comparison groups. Study 2 was a qualitative study of each parent’s response to their child’s experience in the gifted and talented class by asking them for their perception of the special class placement on their child using an open ended structured interview. Study 3 analyzed data from a wider group of gifted and talented students in a Metropolitan area of Sydney, on an academic self-concept and motivation, reading and mathematics achievement. From this analysis the interrelationship of motivation, academic self-concept and achievement was observed and conclusions drawn for best practice for gifted and talented students. Academic achievement was enhanced by selective class
placement. All motivational goal orientations and academic self-concept were diminished for both the experimental and control groups.

**Pietsch James, et.al. (2003)** examined the relationship among Self-concept, Self-efficacy, and Performance in Mathematics during Secondary School. The study was carried out among 416 high school students. Participants completed a questionnaire assessing mathematics self-concept and mathematics self-efficacy. Performance was assessed using end-of-term exam results in mathematics. The findings of the study were: Confirmatory factor analyses supported the existence of two self-concept components—a competency component and an affective component. Self-efficacy items and the competency items of self-concept also loaded on a single factor. Social comparison information was equally influential in the formation of each construct. Self-efficacy beliefs, however, were identified as most highly related with performance in mathematics and percentages.

**Suzanne (2002)** made an attempt to study acculturative stress, coping, self-concept and achievement in children. The sample consisted of 127 children between eight and eleven years of age (67 Anglo American and 60 Latino). The findings of the study were: (i) Latino children reported higher levels of acculturative stress and general stress than Anglo-American children, which decreased with successive generations in the United States \( (\rho<.01) \), while stress levels were significantly associated with use of overall coping strategies, Latino-American Children, \( (\rho<.001) \). (ii) Significant correlations were also demonstrated between self-concept and achievement. (iii) A general model for achievement was developed which accounted for 27% of the variance in achievement \( (\rho<.001) \). As a follow-up, the study also explored ethnically specific models of achievement. An achievement model for Anglo-Americans was able to account for 44% of
the variance in achievement, while an achievement model for Latino-Americans was able to account for 47% of the variance in achievement (p<.01).

Esther (2001) examined whether academic self-concept and school climate predicted academic achievement? Elementary students (N=581) from a metropolitan school district completed three instruments: a measure of school climate, a measure of academic self-concept, and a measure of perception of ability. Information on academic achievement was obtained through students self-report of their last recorded grades in Math’s, reading and writing. Information was obtained through an experimental Ex-post facto design where the degree of association among the variables (i.e., school climate, academic self-concept and academic achievement) that existed within school settings was examined. Results based on the multiple regression analysis indicated that the predictors explained 18% of the variance in academic achievement, although only the variance explained by academic self-concept was statistically significant. Although the structural equation models originally developed were not a good fit for the data, models developed through a specific search resulted in a better fit for the data for overall academic achievement and achievement in reading and writing. Additional studies conducted found ethnic differences between Anglo American and Hispanic students in the paths of the structural equation models. When differences were sought based on student’s personal characteristic, ethnic, gender and grade differences were found among school climate, academic self-concept, perceptions of academic ability, and academic achievement. The findings of the study provided support for the concept that school climate and academic self-concept influence student’s perceptions of themselves as learners as well their academic achievement.

A study conducted by Rehman (2001) attempted to investigate the relationship of self-concept with classroom environment, gender role, cognitive development, and
academic achievement of the students at secondary school level. Data were obtained regarding the students’ academic achievement with the help of the test in the subject of Pakistan studies. Standard progressive matrices were used to measure students’ cognitive development. The scale had a re-test reliability varying with age, from 0.83 to 0.93. Correlation, F-ratio- and t-test were used as statistical techniques to analyze data. It was found that self-concept was positively correlated with educational success.

Sicherer & Michelle Joan (1995) attempted to study the self-concept and college academic achievement among multicultural college women. The objectives of the study were to investigate the relationship between global self-concept, academic self-concept and college academic achievement for multicultural college women receiving the Educational Opportunity Fund (EOF) grant. The sample consisted of 120 (56 African-American, 12 Asian-American, 33 Latin-American and 19 White) volunteers (out of a population of 258). The tools used in the study were Tennessee Self-concept Scale and Academic Self-concept Scale and Non-cognitive Questionnaire (Revised). The findings were: i) when racial and ethnic groups are valued within the context of a successful EOF programme for college women there are no significant differences in self-concept for both global and academic self-concept, ii) when traditional college women receive comparable support for personal and academic success, significant differences in GPA between and among specific ethnic and racial subgroups may be minimized, iii) the relationship between self-concept and GPA was similar for all racial and ethnic groups in this study, global self-concept was positively but not significantly correlated with GPA and academic self-concept had a significant, positive relationship with GPA.
2.03 STUDIES RELATED TO EMOTIONAL COMPETENCE

a) INDIAN STUDIES

Arjinder Singh (2013) made a study on Predicting Academic Achievement on the basis of Achievement Motivation, Emotional Intelligence, and creativity of student-teachers. The sample for the study consisted of 745 student-teachers of B.Ed. in Guru Nanak Dev University, Amritsar. The findings of the study were: i) Achievement Motivation was not found to have direct path to Academic Achievement of student-teachers, ii) Creativity was not found to have direct influence on Academic Achievement, iii) Emotional Intelligence was found to influence significantly Academic Achievement.

Justin Joseph & Joseph (2013) made a study on Emotional Competency and Happiness among Teacher Trainees. The study was conducted on a sample of 40 B.P.Ed. (Male=15 & Female = 25) and B.Ed. (Male=15 & Female=25) students randomly selected from the different colleges under Mahatma Gandhi University, Kottayam, Kerala. The Emotional Competencies Scale (Revised) developed by Sharma and Bharadwaj (2007) was used to measure the emotional competencies of individuals in different sectors and The Oxford Happiness Questionnaire developed by Hills and Argyle (2002) at Oxford University, was used to measure the happiness of individual. The findings were: i) both the B.P.Ed. and the B.Ed. students had comparable levels of emotional competency, ii) the female students were found to be more competent in emotional aspects than the males, iii) as far as happiness was concerned, the whole groups of students were found to be good levels of happiness irrespective of gender or course differences.

Kartar Singh Thakur & Sanjeev Kumar (2013) made a study on Mental Health as a predictor of Emotional Competence of prospective teachers of Science in Himachal Pradesh. The study was carried on 120 prospective teachers of science from four districts of Himachal Pradesh. The findings were: i) prospective teachers of science belonging to
general and reserved categories were found to be significantly different in their emotional competence, ii) the total score obtained by prospective teachers of general category was higher than their counterparts. The poor score of emotional competence of prospective teachers belonging to reserved category indicates their weakness in five components of emotional competence—adequate depth of feelings, adequate expression and control of emotions, ability to function with emotions, ability to cope with problem emotions and encouragement of positive emotions, iii) male and female prospective teachers of science were found significantly different in their emotional competence. Male prospective teachers of science were found more emotionally competent than their counterpart, iv) there is no significant difference in the emotional competence of high and low mentally healthy prospective teachers of science and v) there are no significant interactional effects found between respective variables.

Muthusamy & Balasubramanian (2013) examined the relationship between Emotional Intelligence and Self-concept of B.Ed. trainees. The sample consisted of 306 B.Ed. students from various Colleges of Education affiliated to Tamil Nadu Teacher Education University. The findings were: i) there was a significant positive correlation between the emotional intelligence and self-concept of student teachers. The relationship between emotional intelligence has positive effect on self-concept, ii) gender does not create difference in emotional intelligence and self-concept among student-teachers, iii) the optional subject does not create difference in emotional intelligence of language, Science and Social Science student teachers. Similarly it does not create difference in self-concept in Language, Science, Social Science student-teachers.

Surender Sharma & Suman Latha (2013) made a study on Emotional competence among student teachers in relation to their gender and type of institute. The sample for the study consisted of 200 students from Ludhiana District of Punjab. The researcher had
taken the tool “Emotional competence scale” by R. Bhardwaj and H.C. Sharma (1998) for collection of data. The major Findings were: (i) there was a significance difference of means scores of KV and Non KV school students of Ludhiana district. (ii) There was a significance differences in mean scores of KV and Non KV boys. (iii) There was a significance difference in mean scores of KV and Non KV girl students of Ludhiana district.(iv)There was no significant difference in emotional competence of KV girls and KV boy students of Ludhiana district. (v) There was no significant difference in emotional competence of Non KV boys and Non KV girl students of Ludhiana district.

Latha (2012) tried to examine the Emotional Intelligence among prospective teachers. The study was conducted on a sample of 200 B.Ed. trainees, selected through random sampling technique. Emotional Intelligence scale developed by Anukul.I. JSanjotha. P.K and Upended das was used to measure the Emotional Intelligence of B.Ed. trainees. The findings were: i) all the B.Ed. trainees had high Emotional Intelligence, ii) no significant difference existed between male female B.Ed. trainees, iii) no significant difference was found between Science and Arts B.Ed. trainees on Emotional Intelligence, and iv) there was no significant difference between Emotional Intelligence of Aided and Private College trainees.

Poonam Mishra (2012) attempted “A study of the impact of emotional intelligence on Academic achievement of Senior Secondary students”. The sample for the study consisted of 1000 senior secondary students (500 urban and 500 rural students) selected by adopting random-cum-cluster sampling technique from Government senior secondary schools of Jaipur district. The findings were: i) there was a positive correlation between emotional intelligence and academic achievement of senior secondary students studying in Government schools of Jaipur district, ii) there was a positive correlation between emotional intelligence and academic achievement of senior secondary urban
students studying in Government schools of Jaipur district, iii) there was a negative correlation between emotional intelligence and academic achievement of senior secondary rural students studying in Government schools of Jaipur district.

Naveen (2011) conducted a study on Emotional Competence of Teacher Educators working in Self Financing B.Ed. colleges in State Haryana. The study was carried out on a sample of 150 teacher educators of district Sonepat and Panipat of Haryana State. Revised Emotional Competence Scale developed by Dr. H.C. Sharma and Dr.R.L. Bhardwaj was used for the purpose. The results revealed that teacher educators had an average level of emotional competence and there was no significant difference in the level of emotional competence of teacher educators with respect to their gender, experience, educational level and marital status.

Amruta Panda, et.al. (2009) made a study on “Emotional Intelligence of Visually Impaired Adolescent girls in relation to their level of Aspiration and Educational Achievement”. The sample consisted of 100 visually impaired adolescent girls- 50 from inclusive setting and 50 from exclusive setting. The major findings revealed that emotional intelligence is more closely related with educational achievement than level of aspiration with reference to specific sample. It was found that out of five dimensions of emotional intelligence both managing emotions and empathy have very low or no correlation with level of aspiration and educational achievement. Another most important findings of the present study are the differences between two settings and two categories of visually impaired in terms of emotional intelligence, level of aspiration and educational achievement. Significance differences were found between inclusive vs. exclusive settings and congenital vs. adventitious groups of visually impaired adolescent girls on these mentioned variables.
Holeyannavar & Itagi (2009) made a study on Stress and Emotional Competence of Primary School Teachers. The sample for the study consisted of 50 Government primary schools in Dharwad, 105 female teachers were randomly selected from 18 primary schools in the city in 2009. The married teachers more than 25 years of age and at least 5 years of teaching experience were considered for the study. The findings of the study were: i) most of the teachers indicated average to high levels of stress and majority of them showed average to competent level of emotional competence, ii) age and work experience were negatively and highly significantly related to stress whereas education showed positive and highly significant relationship, iii) the emotional competence of teachers showed positive and highly significant relationship with age and work experience, (v) there was a negative and highly significant relation between the stress and emotional competence of teachers. Thus increase in the emotional competence reduced the stress levels of teachers significantly.

Patricia & Mark (2008) studied classroom teachers’ social and emotional competence in relation to students and classroom outcomes. The researchers proposed a model of the pro-social classroom that highlights the importance of teachers' social and emotional competence and well-being in the development and maintenance of supportive teacher–student relationships, effective classroom management, and successful social and emotional learning program implementation.

Neelakandan (2007) studied the understanding of the emotional competence of school teachers of Cuddalore district of Tamil Nadu. From his study the researcher found that the primary school teachers have average level of emotional competence. The teachers having higher qualification were found to have better emotional competence than teachers having essential qualifications only. Further, the results reveal that there is no significant
difference between the teachers of government schools and private schools in respect of
their level of emotional competence.

**Patil & Kumar (2006)** made an attempt to study on Emotional Intelligence among
Students Teachers in Relation to Sex, Faculty and Academic Achievement. A sample of
302 student-teachers studying in four colleges of education in Kolnapur district, using
simple random sampling method was selected for the study. The findings revealed that:
1) there is no significant difference between emotional intelligence of male and female
students teachers, ii) there is no significant difference in the emotional intelligence of
students’ teachers of arts and science faculty, iii) there is no significant relationship
between the emotional intelligence and academic achievement of student teachers.

**Shobhana Zambare (2005)** examined the relationship between the Emotional
Competencies and Intelligence among B.Ed. trainees. The sample for the study consisted
of 157 B.Ed. trainees of college of education Jalgaon, (Maharashtra) admitted to the
academic year 2002-2003. The findings of the study were: i) the correlation between
intelligence and emotional competencies indices accentuate the fact that the B.Ed. trainees
having high intelligence were likely to have higher emotional competencies; ii) the
relationship between them is positive and somewhat higher.

**Balasubramanian, et.al. (2004)** made a study on Emotional Intelligence and
Academic achievement of Teacher Trainees at Primary level. A sample of 269 teacher
trainees at DIETs, and TTI s were selected using stratified random sampling technique.
Three District Institutes of Education and Training, one Govt. TTI and three private
Teacher Training Institutions were takes for the study. Emotional Intelligence Scale
prepared by the investigators was used to collect data. The findings were: i) the men and
women teacher trainees do not differ in their Emotional Intelligence, ii) the teacher
trainees of Government institutions were at a higher level than the teacher trainees of
private institutions, iii) the teacher trainees of co-education institutions were at a higher level, than the teacher trainees of non-co-education institutions in their emotional Intelligence, iv) there was a significant low positive correlation between Emotional Intelligence and total academic achievement.

b) FOREIGN STUDIES

Melissa Duncombe, et.al. (2013) made an attempt to study the relations of Emotional Competence and Effortful Control to Child Disruptive Behaviour Problems. The sample consisted of 357 Australian five- to nine-year-old children who were identified through a school-wide screening procedure as at risk for developing conduct disorder. Five independent variables were evaluated including emotion identification, emotion understanding, emotion regulation, inhibitory control, and cognitive flexibility. Outcome variables measured child disruptive behaviour problems and were based on parent and teacher assessment. Results indicated that deficits in emotion regulation and cognitive flexibility are significantly related to risk for disruptive behaviour problems, according to parent but not teacher report. These deficits outweighed inhibitory control, emotion identification, and emotion understanding in their association with problem behaviour.

Róisín Corcorana & Roland Tormeyb (2009) conducted a study on Teacher education, emotional competencies and development education. The sample consisted of 60 third year undergraduate students, across three initial teacher education courses in the University. The findings of the study revealed that student teachers did not have high levels of Emotional Intelligence. This study also hinted that without being able to make any stronger claims—that Emotional Intelligence skills may be able to be increased in student teachers through appropriately structured educational programmes.
Emma Kingston (2008) made an attempt to study on Emotional Competence and drop-out Rates in Higher Education. The purpose of this study was to compare the emotional competence of first year undergraduates enrolled on a high or low drop-out rate (HDR and LDR, respectively) course, at a newly established university within the UK. A mixed methods approach using both quantitative and qualitative data collection methods was used. The Trait Emotional Intelligence Questionnaire (TEIQue) established participants’ emotional competence, and semi-structured interviews were used to probe the findings from the TEIQue. The results indicated that typical HDR course participants have high self-esteem and a good level of interpersonal skills, but are controlled by their emotions and exhibit an external locus of control. This manifests itself in a distrust of peers as a source of support and a reactive attitude to self-improvement. Typical LDR course participants have low self-esteem and a good level of intrapersonal skills, but have developed the ability to control their emotions and exhibit an internal locus of control. This manifests itself in a high level of confidence in peers as a source of support and a proactive attitude to self-improvement. Originality/value - The paper contributes to the learning styles literature by investigating the impact of students' characteristic affective behaviours on their vulnerability to drop-out.

Michael Niles, et.al. (2008) made a study on Early Childhood Intervention and Early Adolescent Social and Emotional Competence. Data for this investigation were drawn from the Chicago Longitudinal Study (CLS). The CLS follows a cohort of 1539 disadvantaged, minority children (93% African-American, 7% Latino or Other) who was born in 1980 and attended kindergarten programs within the Chicago Public School System in 1985/86. The findings of the study were: Some 12% (or 11 of 92) of the interaction terms for social and emotional outcomes by age 15 were significant at the 0.01 or 0.05 level. The most frequently detected differential effects were for family risk level
(high or low) and sex of child. Conclusions: Most children appear to benefit equally from participation in the CPC program. The prediction from ecological theory that children experiencing a large number of environmental risk factors (e.g., high family risk status and low parental education levels) are more likely to benefit from program participation was supported.

Coetzee, et.al. (2006) conducted a study to analyze the responses of a sample of 107 South African leaders in the manufacturing industry to measures of the three constructs personality preferences, self-esteem and emotional competence. The Myers-Briggs Type Indicator (MBTI), the Culture free Self-esteem Inventories for Adults (CFSEI-AD), and the 360° Emotional Competency Profiler (ECP) were administered. Positive relationships were found between the three constructs. The self-esteem construct appeared to be a more reliable predictor of emotional competence than the MBTI personality preferences. The findings of the study make an important contribution to the expanding body of knowledge concerned with the evaluation of personality variables that influence the effectiveness of leaders.

Joseph Ciarrochi & Greg Scott (2006) tried to find the link between Emotional Competence and well-being in Australia. A total of 163 university students completed a two wave study that involved measuring emotional competence and emotional well-being at 1-year intervals. As expected, Time 1 measures of emotional competence predicted Time 2 measures of well-being, after controlling for Time 1 measures of well-being. Specifically, ineffective problem orientation predicted increases in anxiety and stress, and decreases in positive affect. Difficulty identifying and describing emotions predicted increases in anxiety and decreases in positive affect. Finally, an aspect of difficulty managing emotions (i.e. rumination) predicted decreases in positive affect. Each emotional
competence variable predicted unique variance after controlling for other significant variables.

Rebecca Abraham (2004) seeks to determine the causes of the weak relationship between emotional intelligence and performance by positing that certain emotional competencies, rather than emotional intelligence, are the true predictors of performance. The author theorizes that emotional competencies (including self-control, resilience, social skills, conscientiousness, reliability, integrity, and motivation) interact with organizational climate and job demands or job autonomy to influence performance, as represented in the form of 5 empirically testable propositions. Self-control and emotional resilience are considered to delay the onset of a decline in performance from excessive job demands. Social skills, conscientiousness, reliability, and integrity assist to promote trust, which in turn may build cohesiveness among the members of work groups. Motivation may fuel job involvement in environments that promise psychological safety and psychological meaningfulness. A combination of superior social skills and conscientiousness may enhance the self-sacrifice of benevolent employees to heightened levels of dependability and consideration. Finally, emotional honesty, self-confidence, and emotional resilience can promote superior performance, if positive feedback is delivered in an informative manner, and can mitigate the adverse effects of negative feedback.

Joseph Ciarrochi, et.al. (2002) attempted a study on Adolescents who need Help the most are the least likely to Seek It: The Relationship between Low Emotional Competence and Low Intention to Seek Help. A total of 137 adolescents (aged 16-18) completed an anonymous survey that assessed social support, emotional competencies, and intention to seek help from a variety of professional and nonprofessional sources. The findings showed that adolescents who were low in emotional awareness, and who were poor at identifying, describing, and managing their emotions, were the least likely to seek
help from nonprofessional sources and had the highest intention of refusing help from everyone. However, low emotional competence was not related to intention to seek help from professional sources (e.g. mental health professionals). The significant results involving nonprofessional sources were only partially explained by social support, suggesting that even adolescents who had high quality support were less likely to make use of that support if they were low in emotional competence.

Ann Shields, et.al. (2001) made a study on Emotional Competence and Early School Adjustment: A Study of Pre-scholars at Risk. This Short-term Longitudinal Study Examined Whether Emotion Regulation and Emotion Understanding made Unique Contributions towards At-risk Preschoolers' Classroom Adaptation. Participants were 49 Children (22 Boys and 27 Girls) who attended a Head Start Program for Low-income Children. Seventy Percent of this sample was Caucasian, with the Remainder being of Latino, African American or Biracial Ethnicity. The findings of the study were: Emotion Regulation at the Start of the School Year was Associated with School Adjustment at Year's End, whereas Early Emotional Liability/negativity Predicted Poorer Outcomes. Children who made a Smooth Adjustment to Preschool also were better Able to take another Person's Affective Perspective and to Identify Situations that would Provoke Different Emotional Responses. Emotion Regulation and Understanding made Unique Contributions towards School Adjustment, even when controlling for Potential Confounds, Including Behaviour Problems and Verbal Abilities. Teachers Appeared to Influence Children's Emotional Competence by Serving an Important Regulatory Function, especially for Older Pre-scholars At-risk.

Pamela Garner & Kimberly Estep (2001) attempted a study on Emotional Competence, Emotion Socialization, and Young Children's Peer-related Social Competence. This Study Investigated the linkages between aspects of emotional
competence and Pre-scholars’ social skills with peers. Whether Parental emotion and socialization practices contributed to the prediction of social skill once emotional competence was statistically controlled was also of interest. Results revealed that the Emotional Competence Variables were meaningfully related to the peer variables and that, for Non-constructive Anger Reactions, Maternal Reports of Anger Explained Unique Variance.

2.04 STUDIES RELATED TO LEARNING ENVIRONMENT

a) INDIAN STUDIES

Kotreshwaraswamy Surapuramath (2010) conducted a study on Relationship between school Climates with academic Achievement of students in Mathematics. The sample included 100 teachers and 100 students selected by using random sampling technique, out of which 60 were male and 40 were female teachers from secondary schools and 60 were boys and 40 were girls. The findings revealed that there was positive and significant relationship between school climate and academic achievement of 9th standard students in mathematics among the gender, educational qualification, teaching experience and types of school.

Ponleena Emimal (2009) attempted a study on Impact of learning style and learning environment on the achievement in Mathematics of Higher Secondary Students in Thoothukudi district. The sample consisted of 256 higher Secondary students studying in different types and nature of schools using simple random sampling technique. The findings indicated that students perceive good learning environment have high achievement in Mathematics than the students perceive poor and average learning environments.

Vishwakarma & Ram Swaroop (2008) attempted to study the impact of School Environment on Learning Behaviour and Academic Achievement of the Students of
Chhatarpur District. The study was conducted at 115 government and non-government upper primary schools students, boys and girls, in all eight blocks of the revenue district Chhatarpur in the state of Madhya Pradesh. Two standardized tools namely “Schools Environment Inventory” and “Student Learning Behaviour Scale” along with a self-made “Score Card” were used in the study. The findings revealed that the impact of school environment on learning behaviour of the boys and girls of urban non-government upper primary schools is higher and the impact of school environment on academic achievement of the boys and girls of the urban government upper primary schools is higher.

**Sunitha & Khadi (2006)** made a study on Academic Learning Environment of students from English and Kannada Medium High schools. The sample consisted of 240 students, selected from 8 coeducational high schools in Dharwad city, Karnataka state. The findings showed that socio-economic status of the family exhibited positive and significant influence on home learning environment and school learning environment of students of both Kannada and English medium schools.

**Dwivedi (2005)** studied the influence of School Environment and Approval Motive on Academic Achievement of Students. The sample consisted of 400 Class X students drawn randomly from sixteen different institutions situated in Gorakhpur and Varanasi regions of Uttar Pradesh. Findings indicated that the students from schools with enriched environment had significantly better academic achievement than the students from poor school environments.

**Anita & Sanjeev Kumar (2004)** made a study on Effectiveness of self-learning module in Mathematics in relation to classroom environment. It was an experimental study. A sample of 120 students was used, through random cluster sampling of class IX students of school of Ambala Cantt. The results indicated that the classroom environment
effect significantly the mean achievement of students and there was no significant interaction between the mode of teaching and classroom environment.

**Devi and Mayuri (2003)** conducted a study on school and family that affect the academic achievement of residential school children studying IX and X classes. The sample consisted of 120 children, 60 from IX, 60 from X and 40 teachers from 15 residential schools of Hyderabad city. The results revealed that, among school factors—teachers qualification, physical setup, curriculum and subject matter, classroom organization, method of teaching, teacher-student interaction were found to be having effect in the academic achievement of the school children.

**Monoharan&Sundaram (2003)** studied certain school variables as related to classroom climate and teacher’s teaching as perceived by higher secondary students. The sample consisted of 410 students studying in standard XII of the schools in the Dindigul district. The results revealed that, there is no significant difference in classroom climate as perceived by the students in terms of locality of school (rural and urban), type of management (govt.vs aided school) and getting scholarship (scholarship and non-scholarship holders). And there is significant and moderate relationship between classroom climate and teachers teaching effectiveness as perceived by students.

**SucharitaParida (2003)** made an explorative study on Effect of Socio-Economic Status, School Environment and Medium of Instruction on the Mental Abilities and Academic Achievement of School Children. The random sampling technique adopted by the investigator for drawing the sample of 325 boys and girls from two types of management in government schools and nongovernment schools of Oriya and English medium schools. The findings revealed that schools having high level of teacher input, material input, and process input along with adequate schooling facilities were found to contribute significantly in the development of mental abilities and academic achievement.
Sonali Geed (2001) examined the effect of Learning Environment upon English Language Learning and Students’ Reactions towards Learning Environment. The sample for the study involved 40,103 and 70 students for the pilot study, main study and feasibility study respectively. 16 teachers were also selected for the study. The findings revealed that: i) there was no significant change in the reactions of the students of individualistic learning environment towards their learning environment at the pre-test and post-test stages, ii) competitive learning environment produced significantly negative change in the reactions of the students towards their learning environment at the pre-test and post-test stages, and iii) co-operative learning environment produced significantly positive change in the reactions of the students towards their learning environment at the pre-test and post-test stages.

Gregorie & Algina (2000) used theory on parenting styles as a theoretical framework to examine the relationship of school climate to the mathematics achievement, academic engagement and locus of control orientation of eighth graders. Hierarchical linear modeling techniques were used to examine the relationship between students’ and administrators’ perceptions of school climate and students’ achievement, engagement and control orientation. With students’ individual background characteristics as well as aggregated socio-economic status of the schools enrolled, authoritarian school climate were associated with lower academic engagement and control perceptions for eighth graders, as well as more differentiating effects of prior grades on their mathematics achievement, a greater gender gap in academic engagement, and increased differentiating of students’ socio-economic status on their mathematics achievement and perceptions of control.

Das (1996) conducted a study on psycho-social environment of the classroom and learning. Sample consisted of five classes from elementary section of the higher secondary
schools (boys-1, girls-2, coed-2, class VI). The tool used was My Class Inventory (MCI) which was developed by Fraser (1984), MCI consisting of 25 items and measures five dimensions of the classroom environment viz., satisfaction, friction, competitiveness, difficulty and cohesiveness. Findings of the study revealed that, psycho-social environment factors like satisfaction, friction, competition, difficulty, student cohesiveness, had an important role in the academic performance of the students and also revealed that students of co-educational group had better perception of classroom environment than students from single sex education.

Padhi (1991) conducted a study on effects of classroom environment and creativity on academic self-concept and academic achievement. The sample consisted of 636 students from IX class drawn from 15 schools randomly (8 urban and 76 rural). The main effect of creativity and classroom environment on academic achievement and academic self-concept is found to be significant by using Rantoul and Frasers individualized classroom environment questionnaire (ICEQ) and Acharuyulus’s think creatively (ATC). The findings of the study revealed that classroom environment affects academic achievement of the student significantly.

DharDubey (1989) examined the effect of School environment and approval motive on memory and achievement. The sample consisted of four hundred students including Science and Arts from sixteen colleges of Gorakhpur and Varanasi regions selected through stratified random method. The findings showed the main effect of school environment was found to be significant on academic achievement of arts and science students.

b) FOREIGN STUDIES

Michelle Peters (2013) attempted a study on examining the relationships among classroom climate, self-efficacy, and achievement in undergraduate
STEM (science, technology, engineering, and mathematics) education. A purposeful sample of college algebra instructors ($n = 15$), employed at public 4-year universities in various states ($n = 10$) across the nation, was administered the Principles of Adult Learning Scale at the beginning of the semester to assess classroom climate. At the end of the course semester, their college algebra students ($n = 326$) were administered the Mathematics Self-Efficacy Scale-Revised and final college algebra examinations. The results of the multi-level analysis indicated classroom climate was not a significant predictor of mathematics achievement and classroom climate did not moderate the relationship between mathematics self-efficacy and achievement.

MuruganRajoo (2013) made an attempt to investigate students’ perceptions of mathematics classroom environment and mathematics achievement. This study compared such constructs between genders of schools students in Spiting, Sabah in Malaysia. This study also focused on determining the relationship between these two constructs. All the secondary schools with sample sizes of 235 were selected to participate in this study. Findings showed the students had a moderate perception of their mathematics classroom environment. Mathematics achievement was low, with female students achieving better than males in their mathematics assessment. There was no significant difference in perception of mathematic learning environment based on gender. Significant of weak correlations were found between mathematics classroom learning Environment and mathematics achievement.

Udoh&AkpanOko (2012) made a study on Learning Environment as Correlates of Chemistry Students’ Achievement in Secondary Schools in AkwaIbom State of Nigeria. The study aimed at assessing how learning environment variables taken together predict students’ achievement in chemistry as well as their relative contribution to the prediction.
Stratified random sampling technique was used to select 94 chemistry teachers and 600 of their chemistry students for the study. The results showed that the variables taken together had significant contribution to students’ achievement in chemistry and accounted for 77.34% of the variation in students’ achievement in chemistry.

Van Dat Tran (2012) conducted a study on Predicting the Achievement of the Grade 9th Lower Secondary School Students towards Mathematics from Their Perceptions of the Classroom Learning Environment. It examined data from 487 grade 9th students in Vietnamese lower secondary schools to identify how students’ perceptions of the learning environment variables and the extent to which these predict the mathematics achievement. Results indicated that if students were satisfied with mathematics learning, and if they found their mathematics class as cohesive, then their self-esteem and attitudes towards mathematics would be positive. In contrast, if students perceived mathematics as difficult, and if they perceived the learning atmosphere as competitive, then their self-esteem and attitudes towards mathematics would be negative. This paper furthers that analysis by investigating students’ mathematics achievement. Results indicate that students’ perceptions of the classroom environment are similar for males and females. Results also show that when students perceive the environment as relatively more cohesive and satisfied they tend to have higher mathematics achievement. In contrast, when students perceive the learning as relatively more competitive and difficult they tend to have lower mathematics achievement.

Ruxandra Loredana Gherasim, et.al. (2011) made a study on Achievement and Attitude towards Mathematics in Early Adolescence: The Role of Classroom Environment and Goal Orientations. This study investigated the contributions of classroom environment and achievement goal orientations, as well as the students’
performance in Mathematics and the students’ attitude. At the beginning of the first school semester, 171 eighth graders reported on their classroom environment and achievement goals. At the end of the first semester, the students filled in the scale on their attitude towards Mathematics. Also, their final Mathematics average grade was registered. The students’ performance avoidance and mastery goals were significant predictors of the achievement and attitude towards Mathematics. Also, classroom environment was directly related to the students’ grades in Mathematics. Furthermore, the results proved that classroom environment moderated the relationships between goal orientations and achievement in Mathematics. In the light of these findings, we discuss the importance of goal orientations in educational contexts.

David Kember, et.al. (2010) attempted a study on Characterizing a Teaching and Learning Environment Capable of Motivating Student Learning. This study investigated facets of the teaching and learning environment which motivate student learning. Interviews were conducted with 36 students from nine representative undergraduate degree programs in Hong Kong. The interviewees were asked to describe teaching approaches and learning activities typical of their program. They were asked about the effect of these on their motivation. Analysis of the transcripts, using a grounded theory approach, revealed that motivation was enhanced through a teaching and learning environment with eight supportive conditions, namely, establishing relevance, establishing interest, allowing choice of courses, learning activities, teaching for understanding, assessment of learning activities, close teacher-student relationships and sense of belonging between classmates.

Rohana Kamaruddin, et.al. (2009) made an attempt to study the Quality of Learning Environment and Academic Performance from a Student’s Perception. A sample of 370 randomly selected students was taken from a population of Bumiputera’s students.
The findings showed that only two components of the learning environment are positively correlated with student’s academic performance that is housing environment and school/teacher involvement.

**Thomasson & Victoria Lee (2006)** made a study of the Relationship between School Climate and Student Performance on the Virginia Standards of Learning Tests in Elementary Schools. This study examined the relationship between organizational climate and student achievement on the Virginia Standards of Learning tests. A total of 1,061 teachers in 47 schools across the Commonwealth of Virginia responded to the climate survey. There was a significant positive relationship between overall school climate and third grade performance on the mathematics SOL test and fifth grade performance on the social studies SOL test. Further regression analyses of the aspects of climate measured by the OHI-E (Institutional Integrity, Collegial Leadership, Resource Influence, Teacher Affiliation, and Academic Emphasis) indicated that Academic Emphasis had a significant independent effect on third grade English and mathematics SOL scores as well as fifth grade English, science, and social studies SOL scores. There was a negative correlation between Institutional Integrity and English SOL scores in both the third and fifth grade. This negative correlation shows that when teachers perceive that the school is vulnerable to outside interference; English scores tend to be higher.

**Bennett Jan (2001)** studied the relationship between Classroom Climate and Student Achievement. The purpose of this study was to determine the relationship between sixth grade students’ academic achievement levels in math and their perceptions of school climate. The sample consisted of 262 sixth grade mathematics students. The findings of this study revealed that all five classroom climate indicators combined together could explain only 10.5% of the variance in mathematics.
achievement and there was a significant relationship between the climate factors of friction and difficulty when compared to mathematics achievement.

AnneFrenzel, et.al. (2000) attempted to study on Perceived learning environment and students’ emotional experiences: A multilevel analysis of mathematics classrooms. It was speculated that not only the individual perception of a student’s mathematics classroom environment but also class’ aggregate perceptions of the environment could play a role in the prediction of his or her experiences of mathematics emotions. The sample consisted of 1623 students (47.6% female) from 69 regular co-ed classes across grades 5e10 from the German state of Bavaria. The average class size was 22. On average, classes had a male proportion of 53%. The findings indicated that anxiety, anger, and boredom in relation to the subject of mathematics are differentially affected by facets of the classroom environment as perceived by students.

2.05 CONCLUSION

The above review of literature enabled the investigator to develop a wide perspective of the nature of relationship of the variables concerned. It helped the investigator to frame the hypotheses and design the appropriate tools for the present investigation. The independent variables were selected on the basis of thorough review of related literature and studies. The review of the literature reveals some very important trends in the research field and further substantiates the significance, relevance, and rationale of this research study. These critical analyses also provide the theoretical references and furnish the background for the formulation of the problem for the study.

This summary reveals that there were no studies relating achievement in teaching of mathematics with self-concept, emotional competence and learning environment of primary teacher trainees. So, a study has been undertaken to study the achievement in teaching of mathematics in relation to self-concept, emotional competency and learning
environment of primary teacher trainees. The studies related to self-concept show inconsistency in the relationship between self-concept and mathematics achievement. Six of the literature reviewed show significant positive relationship with academic achievement and three of the studies show negative relationship. Almost all the studies related to learning environment indicated that learning environment is positively related to academic achievement. It can be noted that none of the studies reviewed above attempted to relate achievement in mathematics with self-concept, emotional competence, and learning environment. Only a few studies used prospective teachers as sample, and therefore this study is of vital importance in the present educational set up.