The Fifth Chapter namely deals with Summary, Major Findings and Conclusion of the study.

CHAPTER - II

REVIEW OF THE RELATED LITERATURE

2.1 INTRODUCTION
This chapter deals with the internal review of the literature. It is an attempt to discover relevant material published in the problem area under study. This covers the empirical research studies done previously in the problem area. The studies conducted during the last few decades in the field of achievement that are more relevant and pertinent to the present investigation are discussed in this chapter.

2.2 NEED OF REVIEW OF THE RELATED LITERATURE

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.

There are number of studies relating to the Scholastic/ Academic Achievement done in the past. However, only the literature pertaining to the independent variables used in the present study is referred in the succeeding pages.

2.3 STUDIES RELATED TO ACADEMIC ACHIEVEMENT

Eugenia (2010) conducted a study on “Teacher-Student Relationships, Sense of Belonging, Academic Self-Concept and Academic Achievement of Students Enrolled and not Enrolled in Small Learning Communities.”

Across the country, large high schools are restructuring to create more personalized school environments. The adverse effects of large comprehensive high schools are represented in achievement gaps, especially significant with students from different demographic backgrounds and for
students from low socio-economic backgrounds. The purpose of this study was to determine the relationships between the perceptions of high school students enrolled in small learning communities and those not enrolled in small learning communities of teacher-student relationships, sense of belonging, and academic self concept, and student achievement. Findings of this study indicate that there were no significant differences between students who were enrolled in small learning communities and students who were not enrolled in small learning communities towards the three personalization variables of teacher-student relationships, sense of belonging, and academic self concept. However, all of the variables were closely interrelated. Students, who had strong academic self concept, did develop positive relationships with their teachers, and felt a sense of belonging within their learning environment. These findings were positive, although not strong, and consistent across all demographic differences.

**Poonam, Kurukshetra, (2009) A Study of Family Relationship in Relation to Emotional Intelligence, Social Acceptability and Academic Achievement**

The objectives of the study are 1. To study the relationship between parental acceptance behaviour and emotional intelligence of students. 2. To
study the relationship between parental concentration behaviour and emotional intelligence of students. 3. To study the relationship between parental avoidance behaviour and emotional intelligence of students.

Survey Method has been suitably employed for the Study. The sample utilized for the study has been well drawn through simple random sampling from 4 DAV Public Schools of Ambala, Kurukshetra, Gurgaon, and Faridabad Districts of Haryana State. Finally, 300 students constituted the sample for the Study. The characteristics of all the 3 Tools used for the study, namely, Family Relationship Inventory by G.P. Sherry & J.C. Sinha, Emotional Intelligence Scale by Anukool Hyde, Sanjyot Pethe & Upinder Dhar and Sociomatrix by J.N. Sharma have been well established. Product Moment Correlation, one way ANOVA and t-test were employed to analyze the data. 1. Significant relationship was found between self-awareness and parental acceptance. 2. No significant relationship was found between empathy and parental acceptance. 3. No significant relationship was found between self motivation and parental acceptance. 4. Significant relationship was found between emotional stability and parental acceptance.

This study undertook a correlation design to explore the hypotheses. Due to the nature of correlational research, no causal relationship is sought. The design tells us about the bivariate relations between the variables. This limits the findings as to speculate about the existence of any cause and effect relationship between field dependency and attitudes. The sample of the study consisted of 130 undergraduate students ranging from freshman to senior levels at a teacher training program at Abant Izzet Baysal University in Turkey. The program aims at training English language teachers for primary and secondary level schools after their four-year of study. The first and second year mainly focuses on developing trainees' English language and basic computer skills (such as, speaking, writing, listening, computer operations, and reading skills). Starting from the third year, teacher training courses (i.e., classroom management, methods, lesson plans etc.) are provided. This study, therefore, is limited to the data from predominantly female students. The data was collected during the fall term of 2001-2003. At the end of the fall semester, participants were asked to participate in this study on a volunteer base. A correlation analysis and the analysis of covariance (ANCOVA) procedures were used to analyze data. The ANCOVA procedure was used to remove the potential sources of
variations from various achievement levels. In order to check that the assumption of equality of variance was not violated, Levene's Test of Equality of Error Variances was calculated. In this study, participants' achievement scores were chosen as covariate when attitude score differences were investigated depending upon the cognitive styles. For testing hypothesis 2, grade level is included because it may have a significant contributory or contingent effect on the correlation between attitude toward computers and cognitive style.


This investigation of the relationship between social skills and academic achievement was conducted with archival data on 109 elementary students enrolled in a small rural school district in Arizona, over a 3 year span. Specific characteristics such as gender, ethnicity, and special education vs. regular education categorical information were included. Reading, Mathematics, and Language were measured by Stanford
Achievement Test-9th Edition (SAT-9) (Harcourt, Inc., 1996). Ability was measured by Cognitive Abilities Test (CogAT), Nonverbal Battery, (Thorndike & Hagen, 1994). Results of the first research question indicated significant positive relationships between various social skills categories and specific achievement skills. The fourth question, computing correlation and partial correlation coefficients, indicated that all 12 correlation coefficients decreased when controlling for CogAT (subgroup 4), thereby partially supporting a common cause or moderating variable hypothesis. Findings of the fifth question indicated both gender similarities and differences in correlational relationships between social skills and achievement. The last research question addressed which social skills (Cooperation, Assertion, Self-Control) best discriminated between students designated in special education and those who were not. In summation, this study's results indicate significant relationships between social skills and achievement, changes in social skills and achievement across the years, social skills influence of later achievement, a significant positive correlational effect regarding ability (i.e., CogAT scores), gender similarities and differences among relationships, and implications regarding
those who were designated in special education students and those who were not.


**Objectives:** (i) To find out the extent of relationship between parental involvement and academic achievement among higher primary students; (ii) to find out the difference between high achievers and low achievers with respect to parental involvement; (iii) to find out the difference between boys and girls on academic achievement; **Methodology:** The sample of 200 students studying in 6th standard consisting of 100 boys and 100 girls were selected from four higher primary schools of Davangere in Karnataka through sampling technique. The sample was drawn from four English medium schools selected on a random basis. Tools used for the collection of relevant data included parental involvement rating scale (PIRS) by Abdul Gafoor (2001) and Achievement test constructed *January 2006* 11 by the researchers (2002). Pearson's product moment correlation technique was used to find out the relationship between parental involvement and
academic achievement. 't' test was also used to find out the significant difference between the means of two groups.

**Findings:** (1) There was positive and significant relationship between parental involvement and academic achievement. (2) There was a significant difference in the achievement scores of boys and girls of high parental involvement group. (3) There was no significant difference in the achievement scores of boys and girls of low parental involvement group. (4) There was significant difference between high achievers and low achievers with respect to parental involvement.


**Objectives:** (i) To compare educational attainments of students belonging to different categories of schools according to their environment; and (ii) to observe variability of achievement of high approval seekers and low approval seekers, coming from different 12 Indian Educational Abstracts institutions. **Methodology:** The sample consisted of 400 class X students drawn randomly from sixteen different institutions situated in
Gorakhpur and Varanasi regions of Uttar Pradesh. The tools used for collection of the data were: School Environment Scale developed by the researcher; Approval Motive Scale by Tripathi and Tripathi; Group Test of Mental Ability by Jalota and Socio-Economic Status Scale by Kulshreshtha. The data was analysed using F-ratios. **Findings:** (1) The students from schools with enriched environment had significantly better academic achievement than the students from poor school environments. (2) The students who were high approval seekers had significantly greater achievement than the students who were low approval seekers. (3) Academic achievement of students of the urban schools was significantly higher than that of students of the rural schools.


**Objective:** To find out the effect of co-operative learning on achievement motivation and achievement in biology. **Methodology:** The sample of 200 students from 3 schools of Tumkur town of Karnataka was selected for the study. Out of them 100 students were treated as
experimental and 100 students as control group. The students of both the groups were matched by pairing their intelligence and achievement scores in Biology. **Findings:** (1) There was positive effect of co-operative learning on achievement motivation. (2) Co-operative learning has a positive effect on achievement in Biology in terms of knowledge, understanding and application objectives as well as total achievement. The study cites six references.

**Ms. Sucharita Parida, 2003,** Effect of Socio-Economic Status, School Environment and Medium of Instruction on the Mental Abilities and Academic Achievement of School Children.

1. To assess the socio-economic background of the school students and categorize them as per the intra-variables. 2. To assess the environmental conditions available in different institutions. 3. To measure objectively the mental abilities of the concerned students through appropriate intelligence tests in relation to different variations. The study is ex-post-facto causal comparative. 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 non-government schools of Oriya and English
medium schools is quite appropriate. Intelligence Test by Mishra (1984) and SES Scale and School Environment Scale by the Investigator. The data have been analyzed using appropriate statistical techniques, both descriptive and inferential. Mean, Median, Mode, SD, t-value and F-value, coefficient of correlation and coefficient of multiple determinations have been accurately computed and well interpreted. The distribution of scores of the respondents on mental ability test reveals that there is negligible difference in the measures of central tendencies due to sex variation whereas wide disparity in mean and median is observed in case of management variation.


The school effects on students' academic self-concept and achievement were evaluated in a large-scale longitudinal study of Chinese secondary students in Hong Kong (7997 students, 44 high schools, 4 years). Consistent with prior "Big-Fish-Little-Pond-Effect" (BFLPE) research on academic self-concept, this study showed that attending schools of high school-average ability led to initially lower academic self-concept and a further decline over
time. The present study extended previous BFLPE research by including a measure of perceived school status to tap the potentially positive effects on academic self-concept in attending high-ability schools. This study examined the internal/external frame of reference effects (I/E model) on subject-specific self-concept in students' native language (Chinese), non-native language (English), and mathematics. Furthermore, analysis showed that Chinese and English language self-concepts were distinguishable and separable. The results provided strong support for the I/E model and the juxtaposition of self-concepts in native and nonnative languages. The validity of a Chinese version of a widely used self-concept instrument (SDQ-II) was evaluated by confirmatory factor analysis, multitrait-multitime analysis and factorial invariance analysis. The psychometric properties of the Chinese instrument were found to be as strong or even stronger than those of the original Australian (English) version.

Examined the relationship between social support, anxiety and academic achievement among 3 groups differing along demographic variables of age, sex, and marital status. 81 students preparing to qualify as elementary teachers completed 2 anxiety measures and a social support questionnaire that measures a quantitative dimension and perceived satisfaction with 3 types of support (emotional, instrumental, and cognitive). Results indicate a positive correlation between the 2 anxiety measures, non-significant negative contribution of anxiety to GPA, and a differential effect of various support types to stress related anxiety among the 3 groups. Stepwise multiple regression analysis of social support variables to anxiety found emotional support negatively related to teaching anxiety, while satisfaction with instrumental support negatively related to trait anxiety.

Assessed the attitudes toward acceleration for gifted children in a group of 152 primary school teachers and a group of 140 teacher trainees. Ss completed a 22-item scale encompassing beliefs about the effects of acceleration on academic adjustment, social and emotional development, and leadership skills. Ss were moderately positive but conservative in their views about acceleration, and expressed greater concern about the social and emotional effects than about the academic effects. It is concluded that the apprehensions of the teachers and teacher trainees, although based on well-intentioned common sense beliefs, appear unfounded in terms of recent research.


The objectives of the study were to find out the relationship between selected study habits and academic achievements. Methodology adopted was the present study is conducted on randomly selected 90 final year 1985-86 B. Sc (Home Science) students of the college of the Home Science. The study habit inventory developed by Bhilal Bhai and Patel was used as tool
to select the data. The major findings of the study shows that Home environment of the students and planning of schedule was significantly related to their academic achievements. Comments were related to the academic achievements, the relationship between concentration for examinations and academic were significant.


Administered the Preconscious Activity Scale (PAS), Taylor's Manifest Anxiety scale, the National Institute for Personnel Research Anxiety Scale, and the Common Elements test to 298 undergraduates. 3 measures of academic success were also used. The anxiety tests intercorrelated highly; the creativity tests did not. There was a negative correlation between anxiety and the measure of nonverbal creativity, the Common Elements. However, no relationship was found between anxiety and the PAS. The 3 indices of academic success intercorrelated highly, and 1 of them correlated with the Common Elements. Female Ss were judged as academically more successful than male.
2.4 STUDIES RELATED TO LEARNING STYLE

Mohamad Jafre Zainol Abidin, (2011) Learning Styles and Overall Academic Achievement in a Specific Educational System

This study mainly seeks to establish the empirical data on students' learning styles in an Islamic school in Malaysia. A survey research design is used to investigate, assess opinions and preferences in educational issues and problems. This design is considered the most appropriate method to measure attitudes, beliefs or personality structures in a natural setting through tests or attitude scales or questionnaires. Therefore, the research design for this study advocates a survey that is mainly identifies with a quantitative mode of inquiry. The research design necessary to provide answers to the research questions would require comparison between an independent variable which is the students' overall academic achievement, while the dependent variable here is their learning styles. As to the learning styles, the 'Dunn and Dunn Learning Styles Model' was selected.

Instrumentation In the initial screening procedure in constructing the Learning Styles Survey (LSS) a number of factors were taken into consideration. These included examining and identifying the nine learning
styles and their associated traits, cues and explanation. Studies conducted by researchers like Dunn and Dunn (1986), Reid (1987), Brown (2000), Kolb (1984), Oxford and Lavine (1991), Guild and Garger (1985), and Deporter and Hernacki (1992) are closely attended to. Data Analysis The statistical analysis conducted by Reid (1987) is adapted in this study because of the similarity in terms of determining students' preferences in 5 learning style elements. The descriptive statistical method was used first to analyze the data which had been extrapolated. The preference mean score for each set of variables was divided into three categories, namely, major, minor and negligible learning styles.

**John L. Dobson; (2010)** A comparison between learning style preferences and sex, status, and course performance,

Students have learning style preferences that are often classified according to their visual (V), aural (A), read-write (R), and/or kinesthetic (K) sensory modality preferences (SMP). The purposes of this investigation were to compare student perceived and assessed SMPs and examine the associations between those SMPs and status (i.e., undergraduates vs. graduates), sex, and course performance. According to Flemming (5), who is
a learning style expert and the author of what is likely the most widely used sensory modality preference assessment, there are four major sensory modalities. Those four modalities are visual (V), aural (A), read-write (R), and kinesthetic (K). Students with V preferences learn best using pictures, graphs, diagrams, etc. Those with A preferences learn best by listening to and discussing material. Those with R preferences learn best with textual materials. Finally, K learners internalize information best when they are involved physically (e.g., touching and manipulating materials).

RESULTS
A total of 67 students completed the fall 2009 exercise physiology courses, including 53 undergraduate students and 15 graduate students. From both those classes, 94% of the students (i.e., 50 undergraduates and 14 graduates) completed the questionnaire. Of those respondents, 62% were women and 38% were men.


Students have individual learning style preferences including visual (V: learning from graphs, charts, and flow diagrams), auditory (A: learning
from speech), read-write (R; learning from reading and writing), and kinesthetic (K; learning from touch, hearing, smell, taste, and sight). The responses were tallied and assessed for gender difference in learning style preference; 54.2% of females and only 12.5% of males preferred a single mode of information presentation. Among the female students, 4.2% of the students preferred V, 0% of the students preferred A, 16.7% of the students preferred printed words (R), and 33.3% of the students preferred using all their senses (K). In contrast, male students were evenly distributed in preference, with 4.2% of the students preferring A, R, or K, respectively, while 0% of the students preferred V. Furthermore, 45.8% of female and 87.5% of male respondents preferred multiple modes [female: 2 modes (12.5%), 3 modes (12.5%), and 4 modes (20.8%); males: 2 modes (16.7%), 3 modes (12.5%), and 4 modes (58.3%)] of presentation. In summary, a majority of male students preferred multimodal instruction, specifically, four modes (VARK), whereas a majority of female students preferred single-mode instruction with a preference toward K. Thus, male and female students have significantly different learning styles. It is the responsibility of the instructor to address this diversity of learning styles and develop appropriate learning approaches.
The purpose of this study was to examine the differences of preferred productivity and learning style preferences of both deaf and non-deaf pre-service teachers in deaf education. This study also investigated the relationship between the pre-service teachers' visual, auditory, tactile, and kinesthetic learning style preferences related to specific background variables. These variables included age, gender, ethnicity, hearing loss, membership in Deaf culture, primary language, second language, beliefs about auditory technology (cochlear implants and/or hearing aids), signing skills and communicate mode preferences for teaching deaf children. Data collection involved profiling sixty deaf and non-deaf pre-service teachers who were enrolled at two large universities with teacher preparation programs in deaf education. Results indicated that the non-deaf pre-service teachers preferred less structure, preferred to learn in the morning and early afternoon, preferred to have less intake of food and beverages while learning, preferred a warmer learning environment, and preferred a more
formally designed classroom. In contrast, the deaf pre-service teachers preferred more structure, preferred learning in the evening, preferred to consume food and beverages while learning (more intakes), preferred to learn in a cooler environment, and preferred learning in an informally designed classroom.

**Brian E. Myer (2006) THE INFLUENCE OF STUDENT LEARNING STYLE ON CRITICAL THINKING SKILL.**

The purpose of this study was to determine the influence of student learning style on critical thinking skill. The target population for this ex post facto study was 135 students enrolled in a college of agriculture and life sciences leadership development course at the University of Florida. Results showed that no critical thinking skill differences existed between male and female students in this study. These findings have implications for faculty with teaching appointments in colleges of agriculture. If Abstract Sequential learners are inherently adept at thinking critically, teachers may not need to focus as intently on teaching strategies that address this learning style. Purpose and Objective The purpose of this study was to determine the influence of student learning style on the critical thinking
skills of students enrolled in an agricultural leadership development course. The objectives of this study were as follows: 1. To describe the learning style and critical thinking skills of students enrolled in an agricultural leadership development course. 2. To determine the influence of gender on critical thinking skills. 3. To determine the influence of learning styles, as defined by Gregorc (1982a), on critical thinking skills. Methods/Procedures. The target population for this ex post facto study was students enrolled in the College of Agriculture and Life Sciences at the University of Florida during the 2002 Fall Semester. The Gregorc Style Delineator (Gregorc, 1982a) was administered to assess the preferred learning styles of each student. The Gregorc instrument separates learning styles into combinations of four categories: Concrete Sequential, Concrete Random, Abstract Sequential, and Abstract Random. Scores of individuals may range from 10 - 40 in each style category. Scores of 26 or higher indicate a general preferred learning style in a particular category.

BERNADETTE LAMSIS-SOLIBA. (2006) Learning styles of the first year students of Saint Louis University Laboratory High School in the school year.
The study aimed at identifying the different Learning Styles of the first year students of Saint Louis University Laboratory High School in order to design an effective course content that would meet and cater to the varied learning styles of the students. The study aimed to answer the following problems: 1. To what extent are the learning experiences in each language learning style mostly manifested? 2. Is there a significant difference in the extent of the languages learning style of students who come from the science and regular sections, and between the male and female students? 3. What appropriate course content should be developed to enhance the different learning styles of the first year students? The descriptive method of research was used in the study with the questionnaire checklist as the main data-gathering tool. Weighted means and T-test were used for the statistical treatment of the gathered data. Findings: 1. The first year students of SLU-LHS are classified as visual, auditory, tactile and kinesthetic learners although they have different extent of manifesting the four learning styles 2. The first year students have the same extent of manifesting the four learning styles as shown in the overall t-test computed and interpreted as not significant. Students from the science sections are more visual than the regular sections. This is shown in the computed t-test
where the science sections have a higher result. The null hypothesis is accepted. There is no significant difference in the manifestation of the auditory and kinesthetic learning style among the science and regular sections.

**Alexandra Yeung, (2005)** Students' learning styles and academic performance in first year chemistry.

Methodology Participants Three different groups of first year chemistry students participated in this study at the University of Sydney in 2004. All students were enrolled in one of the semester one chemistry units of study (UOS) available to students undertaking mainstream science qualifications. These UOS were CHEM1001 (Fundamentals of Chemistry 1A), CHEM1101 (Chemistry 1A) and CHEM1901 (Chemistry 1A - Advanced). All three units cover similar material, but differ in the level of assumed prior knowledge and the level at which material is presented. CHEM1001 students have either not completed chemistry for the Higher School Certificate (HSC), i.e., university entry level, or achieved comparatively poor results. CHEM1101 students have satisfactorily completed HSC chemistry, whilst CHEM1901 students have achieved a
HSC chemistry mark above 80. The survey instrument and scoring the instrument The PLSI was distributed to 1143 first year chemistry students during a laboratory session. For any student with a balanced score on a dimension - that is, a score of 5 to 7, inclusive - it is usual to administer an additional survey called the dimensions pairs list to clarify a preference (Shindler and Yang 2002). Sample representivity The PLSI was completed by 914 (77.3%) students. Figure 1 shows the distribution of examination grade bands for the CHEM1901 students, where it was found that there was no statistically significant difference between the distributions for respondents and non-respondents ($\chi^2=4.17$, df=3, p=0.243). It follows that the responding advanced students were representative of all advanced students in first year chemistry.


*Objective:* To find out the effect of co-operative learning on achievement motivation and achievement in biology. *Methodology:* The sample of 200 students from 3 schools of Tumkur town of Karnataka was
selected for the study. Out of them 100 students were treated as experimental and 100 students as control group. The students of both the groups were matched by pairing their intelligence and achievement scores in Biology. Achievement values and anxiety inventory (AVAI) by Prayag Mehta and Achievement Test in Biology developed by one of the investigator were used in the study. **Findings:** (1) There was positive effect of co-operative learning on achievement motivation. (2) Co-operative learning has a positive effect on achievement in Biology in terms of knowledge, understanding and application objectives as well as total achievement. The study cites six references.


**Objectives:** (1) To study the influence of Psycho-social factors on receptive learning skill of teacher trainees; (2) to study the influence of cognitive abilities and non-cognitive abilities on receptive learning skill of
the teacher trainees. **Method:** Descriptive sample survey method and quantitative approach was adopted for the study. A sample of 207 teacher trainees from DIET, Perundurai, and Erode district was selected through probability sampling technique for the study. Tools used in the studies were: Computer Assisted Receptive Skill Assessment Package, Language Aptitude Test-English (Ravi 2002), Language Aptitude Test - Tamil (Ravi 2002), Group Test of intelligence (Dr. G.C. Ahuja, 1971), Study Habits Inventory (Patel), Learning Style Questionnaire (Grasha and Teichman, 1975), Personality Trait Scale (Catell), Self-concept - Tamil (Milligan 2000), Failure Tolerance (Ravi 2002), General Anxiety (Ravi 2002), Institutional Environment Scale (Arockiadoss, 1999), Socio-economic Status Scale (Bhardraj and Gupta), ANOVA, Chi-square test were analysed the data for the study.

**Findings:** (1) The study indicated that the personal characteristics, i.e. age, sex did not influence the receptive learning skills of the teacher trainees. (2) There is no significant difference in mean score in reading and listening in English between the teacher trainees who possess differential receptive learning skills. (3) Institutional environment, faculty environment, academic environment, religion, culture, socioeconomic status, learning
style, anxiety influenced the receptive learning skill of the teacher trainees. Personality trail, self-concept, locus, failure of tolerance did not influence it.


This study investigated the learning style preference of 72 elementary preservice teachers who were near the end of their third year of collegiate study. A learning style inventory, the Style Analysis Survey, was administered to determine learning style preferences. The categories assessed were (a) using physical senses, (b) dealing with people, (c) handling possibilities, (d) approaching tasks, and (e) dealing with ideas. Overall, the subjects possessed some common characteristics. They showed an inclination toward being visual learners who were extroverted, closure-oriented, and global learners.


Efficacy of teaching notwithstanding, studies on learning styles have provided mixed results concerning college males' and females'
learning styles. The purpose of the current investigation was to determine whether males and females in college differ in reference to their learning styles. The question vital to this investigation was as follows: Do the learning styles of college males and females differ?

Method - A convenience sample of 693 students from a Mid-western university and a community college participated in the study. Of this number, 50.5% were females and 45.5%, males. 86% were of traditional age (17-23 years), and 10% were characterized as non-traditional (24-up). 85% were Caucasian, 1.3% African American, 2.5% Chicano, 6.2% Asian, 3% Native American, and 2% other. The average age of the students was 25. There were 25 classes involved in this investigation. The Canfield's learning style inventory was administered in the middle of a fall term to grant students an opportunity to be exposed to varying instructional styles, and to be better able to express their own learning style needs.

Chi-square statistic performed to compare males' and females' learning styles indicated that significant differences exist between males and females, [chi square] (8, N=585)=50.68612, p< .0000). More females than males demonstrate strong preferences for the social/conceptual learning
style (27.1% to 13.0%). Females are more of the conceptual learning style type than males (12.3 % to 7.5 %). Further more females than males demonstrate a proclivity for independent/applied type (15.9% to 8.4%).


This study aimed to look into the learning style of Grade IV and VI pupils in San Juan Elementary School, Libmanan, Cam. Sur, S/Y 2000 - 2001 and its relation to academic performance in three tool subjects. Learning styles investigated and their significant association with the students' academic performance were: physical elements, personal elements and physiological elements. The study used the descriptive-associational method to describe various aspects of learning styles of Grades IV and VI pupils and academic performance was described in terms of percentages using a scale categorized as satisfactory, fair, passed, and failed. A questionnaire was designed as the main tool in gathering needed data. To quantity the learning styles percentage was used and Chi square was also used for the association of the various elements of learning styles with academic performance. Major conclusions of the study were: In the spirit of teamwork, pupils study for self-satisfaction, mostly derived from logical
accomplishment of tasks, under the teacher's guidance; most of the pupils
learn in a quiet and brightly lighted place at night and for the rest of them
lessons are learned by discussing informally with others; and predominantly
active learners the style used is the multi-sensory type to achieve better
results. Pupils were poor in English; poor in Mathematics and average in
Science.

**Sloan, Tina Rye.(2000)** Mathematics anxiety and its relationship to
learning styles among preservice elementary teachers. Dissertation
Abstracts International Section A: Humanities and Social Sciences, Vol
60(11-A), May 2000. pp. 3912. Abstract:

This project investigated (a) the effect of a Standards-based
mathematics methods course on the mathematics anxiety levels of
Preservice teachers, (b) the correlation between preservice teachers'
mathematics anxiety levels and their learning style preferences, (c) the
interaction among sensory and hemispheric learning style preferences and
pre/post mathematics anxiety scores, (d) the aspects of the math methods
course which affected mathematics anxiety levels, and (e) antecedents of
mathematics anxiety. Quantitative and qualitative methods were utilized.
Subjects included 72 preservice teachers, classified as either junior or senior level undergraduates, enrolled in three sections of a mathematics methods course at Athens State University. Findings revealed a significant difference ($p < .05$) between pretest and posttest mathematics anxiety levels, indicating a decrease in mathematics anxiety from the onset of the mathematics methods course. Additionally, a low, but significant, positive correlation was found between mathematics anxiety and global learning style preferences. No significant interactions were determined between sensory preferences and pre- and post-mathematics anxiety scores. Other findings revealed antecedents responsible for the onset of mathematics anxiety. These antecedents included (a) parental influences, (b) negative school experiences, (c) methodology employed by former mathematics teachers, (d) low math achievement, (e) test anxiety, (f) lack of confidence, (g) negative attitudes, (h) mathematics avoidance, and (i) mathematics background.


Abstract:
334 teacher education students (288 females, 46 males; 226 Whites, 101 Blacks, 7 other races) in 5 colleges and universities in a Southern state with varied topography and complex social relationships answered the Learning Styles inventory that yields 9 learner typologies. Students selected the social and conceptual styles of learning as their predominant styles. Results showed significant differences between the learning styles of Black and White students. Although both races had many conceptual learners, Whites tended to have more applied styles of learning than Blacks, and Blacks had more independent styles than Whites. When controlling for race, students with the conceptual styles made the best grades in school.

2.5 STUDIES RELATED TO ADJUSTMENT:

Randhawa Gurpreet*; (2011) Adjustment among the university students. Adjustment is a complex and multi-faceted concept.

The adjustment process is a way in which an individual attempts to deal with stress, tensions, conflicts etc., and meet his or her needs (Kulshrestha, 1979). In this process the individual also makes efforts to maintain harmonious relationships with the environment. The present
study aimed to examine the adjustment levels in the students' life when they shift from school level to college or university level. A random sample of 100 students from faculty of commerce and business management has been selected which consists of 40 male and 60 female students respectively. This scale consists of 50 items distributed on five dimensions. Means, standard deviations and t-test values were used to analyze the data. The findings of the study revealed that male students are better adjusted than the female students. The study concludes that the successful transition of the students from school level to university level is essential for the bright and prosperous future of the students. For this proper and timely guidance and counseling on the part of parents and teachers is must.

Mokone, Mpho; (2009) The adjustment of first year female engineering students into university: an evaluation.

This study focused on the relationship between spatial ability and the academic performance of first year female engineering students. The study was multimethod, involving psychometric testing of all first year engineering students to compare the two and three dimensional spatial perceptual scores of male and female students and their relationship to academic performance in the first year.
Engineering Graphics course, and interviews conducted with a matched sample of 18 male and 18 female students taking the course. The quantitative analyses indicated that male first year engineering students outperformed female engineering students academically for the reason that they had better developed three dimensional spatial perception than female students. Many of the female engineering students experienced difficulties with the first year course content, and used a variety of strategies to get over their problems. This acts as an additional barrier to female students choosing engineering as a career. Overall, the evidence from this study would thus suggest that cognitive, personal and social factors negatively influence the academic performance of many female engineering students at time of intake to the university, indicating the need for additional tutorials and academic support directed at enabling their successful transition from school to university.

One of the most important questions pertaining to self-concept and adjustment of inservice primary teachers is as to how the different teaching skills contribute towards making their teaching effective. The specific objectives of the study are as follows: 1. To study the core teaching skills of in-service primary school teachers of Delhi schools 2. To develop observation schedule for assessment of core teaching skills (CTS) at primary school level. 3 To identify and assess the extent of skill deficiencies of primary school teachers 4. To study the relationship core teaching skills, self-concept and adjustment of primary teachers. The present study has been designed and conducted into two phases, co-relational and differential phases. While the former study relationship between the core teaching skills, self-concept and adjustment of primary teachers the latter is concerned with the differences between the core teaching skills, self-concept and adjustment of primary teachers. In order to make sample which could well represent each district of National Capital Territory. Delhi, and both types of schools, this has been done in two stages First, schools have been selected randomly from each district. From each district 5% schools of different types i.e., Sarvodaya Vidyalayas and MCD Primary Schools have been selected. However if the total number of school in any category is less than 20 at least one schools is
included in the sample. Core Teaching Skill Observation Schedule (CTOS) -- It is developed by the investigator In total ten skills have been taken into considerations  

Self-Concept Inventory (SCI) -- Self-Concept Inventory has been used to measure Self-Concept of in-service teachers developed and standardized by Prof. R.R. Bhatnagar. Mangal Teacher Adjustment Inventory (MTAI) -- For the present study Mangal Teachers' Adjustment Inventory developed and standardized by Prof S.K. Mangal has been used. This study was analysed into two phases of the collected data. (A) Co-relational Phase and (B) Differential Phase. **Major Findings and Conclusions**

1. Female primary teachers are showing more skill deficiencies than the male primary teachers. 2. Primary teachers of Sarvodaya Vidyalayas are reflecting more skill deficiencies than the primary teachers of M.C.D. Primary Schools. 3. Primary teachers having professional qualification Diploma in Education (ETEIJBT) are showing more skill deficiencies than the professional qualification Degree in Education (5. Ed.).

**EKTA SHARMA (2009)** “Relationship of creativity with academic achievement, achievement motivation, self-concept and levels of adjustment among adolescents”
The study attempted to (i) identify different levels of Creativity, Achievement Motivation, Self Concept, Index of Brightness and adjustment among adolescents (ii) study the contribution of Creativity, Achievement Motivation, Self Concept, Index of Brightness and adjustment (iii) study the interaction between Creativity, Achievement Motivation, Self Concept, Index of Brightness and Adjustment and its effect on academic achievement of adolescents and (iv) study the relationship between all the variables (including Academic Achievement). To accomplish the objectives the data was collected through a sample of 770 students of Government schools in West Delhi in the age group of 14-15 years, using the Baqer Mehdi's Tests of Creative Thinking, Deo-Mohan's Achievement Motivation (D-ACM) Scale, Pandey's Adolescent Adjustment Analyzer, Pratibha Deo's Self-Concept Scale, Mohsin's General Intelligence Test and school cumulative records. The data so collected was quantitatively analyzed through statistical techniques of ANOVA, Regression Analysis, Pearson's Product Moment Coefficient of Correlation and F-test. The different levels of all independent variables were found and by taking three variables at a time, it was found that (i) there is no significant interaction effect of Creativity, Achievement Motivation, Self Concept, Index of Brightness and Adjustment on mean
performance of Academic Achievement of adolescents (ii) There was significant contribution of Creativity, Achievement Motivation and Index of Brightness in predicting Academic Achievement of adolescents, whereas Self Concept and Adjustment didn't contribute in predicting Academic Achievement of adolescents (iii) Index of Brightness and Adjustment were negatively correlated to Creativity, Achievement Motivation, Self Concept and Academic Achievement among adolescents. However, both these variables were positively correlated to each other.

**Maria Chong Abdullah (2009), Adjustment Amongst First Year Students in a Malaysian University.**

Specifically the objectives of this study are: 1. To find out the level of adjustment amongst first year undergraduates. 2. To find out the differences between male and female students in college adjustment. 3. To determine the relationship between students' adjustment and their academic achievement. 250 first year university students from six different faculties in Universiti Putra Malaysia (UPM) participated in this study. They were selected using a multistage cluster sampling technique. There were 179 (71.6%) female respondents and 71 (28.4%) male respondents,
ranging from 18 to 22 years old ($M=19.37$, $SD=1.19$). In terms of ethnic groups, there were 192 (76.8%) Malays, 43 Chinese (17.2%), 8 Indians (3.2%), and 7 others (2.8%). The Full Scale score were then divided into three categories (high, average, and low) based on the guidelines provided by the authors in the manual. The subscales scores were calculated and categorized in the same manner. Table 1 summarized the level of students' overall adjustment as well as the four separate areas of adjustment. Findings in Table 1 indicated that 70% of the respondents' overall adjustment were at the moderate level, while only 4% obtained a high level of overall adjustment. 26% were found to be in the low category for their overall adjustment.

Reeta Suri,; (2009) Role of Emotional Intelligence in Academic Success and Adjustment of Higher Secondary Level Students. Pt. Ravishankar Shukla University, Raipur, Chattigarh

**Objectives** 1. To find out the relationship between emotional intelligence and academic achievement of 12th graders. 2. To find out the relationship between emotional intelligence and adjustment of 12th graders. 3. To find out the relationship between academic achievement and
adjustment of 12th graders. It is a co-relational study. The sample of 400 Boys and Girls has been drawn through stratified random sampling from various BSP and Non-BSP schools of Bhilai city situated in Durg district of Chattisgarh State. The tools employed by the investigator for data collection were Mangal Emotional Intelligence Inventory and Adjustment Inventory by Dr. R.K. Ojha. The percentage scores obtained by the students in XII Class CBSE examination were treated as their Achievement Scores. Pearson's Product Moment Correlation and 2*2*2 Factorial Design were the techniques suitably employed for data analysis. **Findings:** 1. A significant correlation was found between Emotional Intelligence and Adjustment of both, male as well as female XII Class Students. 2. No significant relation was found between EI and Achievement of both, the male as well as female XII Class Students. 3. Adjustment and Achievement were not found to be significantly correlated. 4. Overall EI was not found to have a significant impact on achievement of XII Class Students.

David L. Rabiner; (2008) Adjustment to College in Students With ADHD

**Objective:** To examine college adjustment in students reporting an ADHD diagnosis and the effect of medication treatment on students' adjustment. **Method:** 1,648 first-semester freshmen
attending a public and a private university completed a Web-based survey to examine their adjustment to college. **Results:** Compared with 200 randomly selected control students, 68 students with ADHD reported more academic concerns and depressive symptoms. This was explained by higher rates of inattentive symptoms among students with ADHD and was unrelated to hyperactive-impulsive symptoms. Among students with ADHD, medication treatment was not related to better adjustment or diminished ADHD symptoms. The contribution of inattention to academic concerns and depressive symptoms remained significant when controlling for personality traits. **Conclusion:** Students with ADHD experience greater academic performance concerns and depressive symptoms during the transition to college. Medication treatment did not appear to diminish ADHD symptoms nor enhance students' adjustment.

**Abdullah, Maria Chong (2008),** Contribution of Emotional Intelligence, Coping, and Social Support towards Adjustment and Academic Achievement amongst Fresh Students in the University. PhD thesis, University Putra Malaysia.
Adjustment is a significant predictor of academic achievement amongst fresh students in university. Adjustment problems can affect the students performance if they are not overcome. Thus, this study aims to investigate the role of students overall adjustment as a mediator in predicting the relationship between emotional intelligence, coping, and social support with academic achievement in the university. Besides that, this study also explores students level of academic achievement, adjustment, emotional intelligence, coping effort, and their level of satisfaction towards the availability of social support at the university. Using correlational descriptive design, this study involved 250 first semester students at a local public university. Instruments employed to measure the research variables in this study are: Student Adaptation to College Questionnaire (to assess adjustment to university), Mayer-Salovey-Caruso Emotional Intelligence TestTM (to assess emotional intelligence), Ways of Coping Questionnaire (to assess coping effort), and Interpersonal Social Evaluation List-College Version (to assess social support). Data was analyzed using descriptive and inferential statistics. Research findings showed that majority of the students have a moderate overall
adjustment level, as well as for the academic adjustment, social adjustment, personal-emotional adjustment, and goal commitment/institutional attachment dimensions. Findings of the study indicated that there were significant differences in students overall adjustment level based on their gender and academic achievement. Male students overall level of adjustment was found to be higher compared to female students. Students who achieved higher grade point average were found to have higher overall level of adjustment compared to those who achieved low grade point average.

**Akbar Hussain, (2008) Academic Stress and Adjustment Among High School Students.**

Present study was undertaken to examine the level of academic stress and overall adjustment among Public and Government high school students and also to see relationship between the two variables (academic stress and adjustment). For that purpose 100 students of class IX were selected randomly from two different schools out of which 50 were taken from Public and the remaining 50 were taken from Government school Sinha and Sinha scale for measuring academic stress was used to see the magnitude of stress
and Sinha and Singh Adjustment Inventory for school students was used to examine level of adjustment among the students. Results indicated that magnitude of academic stress was significantly higher among the Public school students where as Government school students were significantly better in terms of their level of adjustment. However, inverse but significant relationships between academic stress and adjustment were found for both the group of students and for each type of school. 

**Method**
Altogether 100 class IX male students were randomly selected from two different types of schools of Delhi. Out of 100 students, 50 were taken from public school and the remaining 50 were taken from Government school. 

**Tools**
For assessing academic stress of students a 30 items composite scale for assessing academic stress among students consisting of force choice type answer was used. The scale was developed by Sinha etal., (2003) and was published in the Journal of Mental Health and Human Behavior.

**Nibedita Nayak, 2005,** Mental Health and Adjustment of Secondary School Teachers Influencing Development of Self Concept in Teachers. Utkal University, Bhubaneshwar
**Objectives:**

1. To develop and standardize a Teacher Self-Concept Scale.
2. To study the self-concept of the Secondary School Teachers in relation to the intra-variables sex, marital status, experience in teaching and level of education.
3. To study the mental health of the Secondary School Teachers in relation to sex, marital status, experience in teaching and level of education. It is a co-relational and ex-post facto study.

The sample of 352 secondary school of the undivided Puri district has been well drawn through random sampling. The Self-Concept Scale has been systematically standardized through a sample of 400 in-service teachers drawn from 13 Teacher Training Institutes. RCE, Mental Health Scale (Anand, S.P., 1986), and Mangal's Teacher Adjustment Inventory (MTAI, 1979) have been suitably used for assessment of Mental Health, and Adjustment. The data have been analyzed using suitable statistical techniques, namely, measures of central tendency and variability, t-value, zero order correlation, partial correlation and multiple correlations. The Study reveals 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. There existed no statistically significant difference between the married and unmarried teachers in regard to mental health.

**Objectives:** (i) To study male and female teachers' motivation to work; (ii) to study and compare school adjustment of boys and girls; (iii) to study and compare male and female students' liking towards their teachers; (iv) to compare the achievement of boys and girls; and (v) to examine the extent of interrelationship between the above mentioned variables. **Methodology:** A normative testing survey method and cross-sectional approach was used for collection of the data. 32 teachers and 680 Standard X students were selected from the Kendriya Vidyalayas of five zones of district Saharanpur through stratified random sampling technique. The tools used were: Teachers' Motivation to Work–the Test and Scale by B. Singh; Students' Liking Scale by S.P. Malhotra and B.K. Passi and School Adjustment Inventory by N.M. Bhagia. **Findings:** (1) Both, male and female teachers were found to possess average or above average level of motivation to work. (2) Most students displayed average and above average adjustment with school environment. The girls displayed superior adjustment as compared to the boys. (3) The girls were found to have more liking for their teachers
than the boys. (4) No significant difference was found in the achievement of boys and girls.

**Mr. Shailendra Prasad; (2004),** A Study of Psycho-Social Factors of Adjustment problems of Primary School Teachers of Garhwal Mandal. HNB Garhwal University, Srinagar (Garhwal), Uttaranchal.

All the five objectives of the study have been well enunciated. All the eight hypotheses of the study have been well formulated in the null form. Research Design: Cross-sectional normative survey Sample: The sample of 500 Primary School Teachers drawn through random sampling from the Government, Private, Rural and Urban Schools of Gharwal Mandal cutting across Chamoli, Uttar-Kashi, Rudra-Prayag, Paudi Gharwal, Tihari and Dehradoon. The data gathered have been properly analyzed through Mean, Standard Deviation and t-value. The study is quite revealing as follows: 1) The well adjusted primary school teachers of Gharwal have been found better adjusted and contented than the maladjusted teachers. 2) The rural and urban teachers have not been found differing significantly on their adjustment. 3) The married and unmarried teachers have not been found differing significantly on their adjustment.
2.6 STUDIES RELATED TO INTELLIGENCE


The Purpose is an internal compass that integrates engagement in activities that affect others, self-awareness of one's reasons and the intention to continue these activities. We argue that purpose represents giftedness in intrapersonal intelligence, which processes information related to self, identity, self-regulation and one's place in the world. Purpose is an extraordinary achievement. It is an ideal that young people are expected to accomplish by the end of high school, yet in our mixed methods study, only 26% of our sample overall (N=270 youth age 12-22) expressed a purpose. Still, purpose can be achieved precociously. Some youth achieve purpose much earlier than the norm: 11 6th graders in our sample showed a purpose.

OBJECTIVES OF THE STUDY: (1) To study the frustration among students belonging to different types of schools. (2) To study the frustration among male and female students. (3) To study the frustration among students of different socio-economic status groups. The standardized tool was administered on a sample of 300 students. To determine the intelligence of the students, a standardized tool prepared by G. C. Ahuja (2005) was used. To find out the SES of students a standardized tool prepared by Hasnain and Shrivastava (2002) was used. It provided low, middle and high socio economic status of students. For academic achievement, the marks secured by the students in last examination of classX were collected from school records. For the samples statistical techniques like mean, standard deviation and t-test were applied. To know the interaction effect of frustration and socio economic status ANOVA was applied.

MAJOR FINDINGS 1. Fixation is equally affected by type of schools. Hence, students belonging different schools do not differ significantly among themselves in this area of frustration. However type of schools have a significant impact on total frustration, regression, resignation and aggression. Students of government schools are found different in their total
frustration, regression, resignation and aggression from the students of public schools. Students of government schools are more frustrated, more regressive, more resigned and more aggressive in their behaviour. 2. Boys and girls differ significantly in different modes of frustration. In regression girls show higher score than boys. But in resignation boys have a greater mean score than girls. 3. Only in the case of resignation mode of frustration student groups based socio economic status show a significant difference. Further, high and medium group wise comparison shows that medium SES group is more resigned. While comparing high and low groups, low group exhibits a higher amount of resignation than their counter parts. Average and low SES groups do not differ significantly in resignation mode of frustration.

**Cukierkorn, Jesse Rachel; (2007)** Self-concept and intelligence of talented students in the visual and performing arts.

This study was conducted to investigate self-concept and intelligence among artistically talented high school students attending an arts conservatory instructional center for the visual and performing arts. Further, the unique relationships between artistic talent, intelligence, and
self-concept were explored. Two hundred and seventy-two students in grades nine through 12 were assessed for intelligence using the Ravens Standard Progressive Matrices (SPM) (Raven, Raven, & Court, 2000), multifaceted self-concept using the Self Description Questionnaire II (Marsh, 1990), and self-concept in the arts using the Arts Self Perception Inventory (Vispoel, 1993). The young creative writers, dancers, media artists, musicians, theater artists, and visual artists all scored higher than average on all of the self-concept scales. Approximately 18% scored at the 90th percentile or above on the Ravens SPM. Both positive and negative relationships were found between self-concept and intelligence. Although results indicated that artistic domain did not make a significant difference in intelligence score, those who scored the highest on self-concept in visual art were the visual artists and the media artists, and self-concept in visual art skill positively predicted high intelligence. Significant differences were found among the self-concept scores in the various artistic domains.

Pepi, et.al. (2006) studied “Personal Conceptions of Intelligence, Self-Esteem, and School Achievement in Italian and Portuguese Students.”
Educational research places emphasis on the fact that different cultures have different self-construals. These construals can influence cognitive, emotional, and motivational processes in individuals. Great importance is attached to individuals' implicit conceptions of the nature of their intelligence (incremental or entity) and self-esteem. In general, both representation of intelligence and self-esteem seem to play an important role in scholastic performance in terms of both a predisposition to learning and the results actually achieved. The aim of this research was to determine the relationship between variables such as school, and socioeconomic level and gender in Italian and Portuguese students. A questionnaire was administered to 1,540 high school and university students assessing socioeconomic level and school performance, the Personal Conceptions of Intelligence Test (Faira and Fontaine, 1997), and the Self-Esteem Test (Rosenberg, 1965). In general, results show that Portuguese subjects are more incremental than Italians. Moreover, significant differences have to be determined regarding motivational factors linked to school and socioeconomic level and gender. The research highlights the importance of macro-contextual factors in the social, economic, and political organizations that influence how people develop their motivational beliefs.
Ms. Malti, 2006; A Comparative Study of Values, Intelligence and Academic Achievement of Students of UP, CBSE, and ICSE Board Schools. The Mahatma Gandhi Kashi Vidyapith, Varanasi.

The related literature has been reviewed comprehensively. All the six objectives of the study have been well enunciated as follows: 1. To compare the value patterns of students of 2. To compare the value patterns of male and female students of 3. To compare the intelligence of students of 4. To compare the intelligence of male and female students of 5. To compare the academic achievement of students of 6. To compare the academic achievement of male and female students. The study has compatibly employed descriptive survey research. Random-cumcluster sampling technique has been suitably used to draw a sample of 450 students of different schools from three Educational Boards of Varanasi City, namely, UP Board, CBSE & ICSE Board. 75 males and 75 females have been drawn Board-wise. Personal Value Questionnaire (PVQ) by Sherry & Verma, General Mental Ability Test By M.C. Joshi and, Achievement Test of Life Science constructed and standardized by the investigator have been utilized for the study. The characteristics of the tools have been well established. Mean, Standard Deviation, and t-values have been computed for data.
analysis. The study has quite meaningful findings as follows: The students of UP Board Schools have been found to have higher social and knowledge values than the students of CBSE Board Schools. The students of schools of CBSE have been found to have higher aesthetic, economic, hedonistic and power values than the students of UP Board schools. The students of CBSE Schools have been found to have higher hedonistic, power and health values than the students of ICSE Board Schools. The students of ICSE Board Schools have been found to have higher religious, social, democratic, knowledge and family prestige value than the students of UP Board Schools. Findings related to Intelligence. No significant differences in the Intelligence of students have been found, inter-Board and intra-Board, overall, inter-gender and intra-gender. Findings related to Achievement. The achievement of total students of CBSE Board has been found significantly higher than that of UP Board.

**Objectives:** (i) To study the effect of Bruner's concept Attainment Model on scholastic achievement as compared to conventional method of teaching in Physics in relation to intelligence and achievement motivation; (ii) to study the effect of Ausubel's Advance Organiser Model on scholastic achievement as compared to conventional method of teaching in physics in relation to intelligence and achievement motivation; and (iii) to study the relative effectiveness of Bruner's Concept Attainment Model and Ausbel's Advance Organiser Model on scholastic achievement in Physics in relation to intelligence and achievement motivation. **Methodology:** The sample consisted of 240 students of Class IX, enrolled in Government Senior Secondary School, Kanganwal; Government High School, Jhuner, and Government Senior Secondary School, Sandaur (Distt. Sangrur, Punjab) divided into three groups (n=80 each), two experimental groups and one control group. Pre-test, Post-test control group quasi-experimental design was employed. The statistical technique of three way analysis of variance (3×2×2) was used on gain scores for finding out the main effect and interaction effect of teaching techniques, intelligence and achievement motivation on scholastic achievement in physics of Class IX students. **Findings:** (1) There was no significant effect between various teaching
techniques, intelligence and achievement motivation on scholastic achievement of students for learning of concepts in physics.


**Abstract:**

We examined the relative contribution of epistemological beliefs and implicit theories of intelligence to the adoption of mastery, performance-approach, and performance-avoidance goals, respectively, in a sample of 80 Norwegian student teachers in an innovative, co-operative instructional context with little emphasis on grades and performance evaluation. Epistemological beliefs about the speed of knowledge acquisition predicted achievement goals. Students who believed that learning occurs quickly or not at all were less likely to adopt mastery goals and more likely to adopt performance-approach and performance-avoidance goals. In addition, students who believed in stable and given knowledge were less likely to adopt mastery goals. Epistemological beliefs were found to play more important roles in goal adoption than implicit theories of intelligence.
Chittaranjan Nayak, (2002), Academic Achievement of Secondary School Students in Relation to Their Intelligence and Attitude towards Schooling. Utkal University, Bhubaneshwar

Process Objectives
1. To examine the achievement status of the students in relation to gender, intelligence, and attitude towards schooling process.
2. To find out the relation between the different predictor variables and the criterion variable, namely, school achievement. The stratified random sampling technique has been well employed to draw the sample of 500 students (307 boys and 193 girls) spread over all the six zones of the State. The tool selected for measuring Intelligence was Raven's Standard Progressive Matrices (1988), which focuses on Measurement of Abstract Reasoning. The Attitude Scales have been constructed by the Investigator following the method of Equal Appearing Intervals to measure the Attitude of students towards school subjects, school and teachers. The data have been analyzed by the investigator employing suitable descriptive and inferential statistical techniques, namely, Mean, SD, and F values through ANOVA. Pearson's co-relation has been computed to study the Intercorrelation amongst the predictor variables. It is further noticed that at the highest level of Intelligence the achievement variation between boys and
girls is marginal. No significant interaction effect of gender and intelligence has been found on the academic achievement of secondary school students.


A concept map is a graphical representation of concepts and their interconnections. Research has shown that concept maps reflect the student's cognitive structure, enabling both teachers and students to determine the level of understanding of material attained before, during or after instruction. Several studies have determined that the addition of the use of a computer-based concept mapping tool for preparing maps increases the level of complexity of students' maps. The purpose of this study was to investigate the relationship between preservice teachers' multiple intelligences profiles, as defined by the work of Howard Gardner (1983), and the levels of complexity in their computer-based concept maps. This study was conducted with preservice teachers (N = 20) enrolled in a science methods course at a northeastern university graduate program. After an
initial questionnaire to determine their computer and academic background and prior exposure to concept mapping, students received instruction on how to develop concept maps and on how to create concept maps using the computer-based concept mapping tool, Inspiration. The findings in the study substantiated the hypothesis that strengths in multiple intelligences were predictive of success in concept mapping. Using the Pearson product-moment correlation, one intelligence, musical-rhythmic, produced a significant correlation ($r = 0.54, p < 5.05$) with the level of complexity in the preservice teachers' concept maps. Ability in music and success in concept mapping both require higher order thinking skills, suggesting that success in concept mapping can be increased among students, when concept mapping is used consciously to develop higher order thinking.


Examined teachers' implicit notions of children's intelligence by having 52 student-teachers and 79 teachers with 1-4 yrs experience rate 150 descriptors on applicability to a hypothetical child described as above
average, average, or below average in intellectual functioning. Each teacher was classified by dogmatism score and by years of teaching experience. Factor analysis showed that academic skills and interpersonal competencies summarize the implicit notions. All levels of hypothesized intelligence only affected teachers' expectations of academic skills and the effect of intelligence was dependent on the teachers' dogmatism.


Examined the relationship between attitudes and intelligence in a sample of 110 English-speaking South African teacher trainees and 100 Afrikaans-speaking undergraduates. Ss were administered a questionnaire on social, religious, and political attitudes; a conservation scale, and a nonverbal analogies test. Results indicate that Afrikaans speakers were significantly higher than English speakers on most factors of conservatism and religiosity. English speaking Ss were found to be more conservative on socio-political factors. No conclusions could be reached regarding the connection between attitudes and intelligence. Language mediated
conservative attitudes, and these attitudes, not language, were the critical variables interrelated with intelligence.

Gupta, B. D.; (1988) has conducted a research study entitled, “Intelligence, adjustment and personality needs of effective teachers in Science and Arts. Ph. D Education, Agra University.

The objectives of the study were 1) To correlate teacher effectiveness with intelligence, adjustments and personality needs. 2) To test the independence of teaching effectiveness form teaching experience, salary, age and sex. Methodology adopted was prescribed as the study of 46 science teachers and 298 Arts teachers were taken form the 39 intermediate colleges of Aligarh district. Tools used included teacher effectiveness scale of Pramod Kumar and D. N. Mutha, Samohik, Manasik Yogyata, Pariksha of R.K. Tandon, adjustment inventory of S.K. Mangal. The major findings of the study shows that 1) All the distributions were almost normal. 2) Science teachers were found significantly more intelligent than Arts teacher.

An intelligence test and the Minnesota Teacher Aptitude tests were administered to 95 student teachers. Intelligence had a high degree of positive correlation with teaching attitude. Intelligence was also highly correlated with the teaching of "theory of education or principles of education or modern education." Teaching attitude and courses in the theory of teaching were found to have a high correlation (.617±.065).

2.7 STUDIES RELATED TO SELF-CONCEPT

Eugenia (2010) conducted a study on “Teacher-Student Relationships, Sense of Belonging, Academic Self-Concept and Academic Achievement of Students Enrolled and not Enrolled in Small Learning Communities.”

Across the country, large high schools are restructuring to create more personalized school environments. The adverse effects of large comprehensive high schools are represented in achievement gaps, especially significant with students from different demographic backgrounds and for students from low socio-economic backgrounds. The purpose of this study was to determine the relationships between the perceptions of high school students enrolled in small learning communities and those not enrolled in small learning communities of teacher-student relationships, sense of belonging, and academic self concept, and student achievement. The
demographics of gender, ethnicity and socioeconomic status will be analyzed to determine their relationship to academic achievement. The Personalized Learning Community Student Survey was developed and administered to senior high school students in a large comprehensive high school located on Long Island, New York. Academic achievement was measured using the cumulative grade point average from the 2007-2008 school year. Findings of this study indicate that there were no significant differences between students who were enrolled in small learning communities and students who were not enrolled in small learning communities towards the three personalization variables of teacher-student relationships, sense of belonging, and academic self concept. However, all of the variables were closely interrelated. Students, who had strong academic self concept, did develop positive relationships with their teachers, and felt a sense of belonging within their learning environment. These findings were positive, although not strong, and consistent across all demographic differences.

Carmona (2010) studied “Differences on the Relationship between Activities Involvement, Self-concept Indicators and Academic Performance.”

The aim of the present study was to examine gender differences on the relationship between extracurricular activities involvement, self-concept
indicators and performance among young students. Few studies have examined this relation among twelve years adolescents and particularly at Primary School. Thus the present research may contribute to literature adding knowledge on how important are gender differences on extracurricular activities, performance self-perception and achievement among young adolescents.

However, these gender differences on extracurricular activities will also be related to academic performance. Several studies have addressed whether extracurricular activities participation affect student achievement. In particular, results have shown a positive relationship between participation in structured out-of-school activities and academic grades after controlling for student characteristics as socioeconomic background, status and race (Valentine, Nye, and Lindsay, 1999). In addition, former results showed that adolescents’ activity involvement is related to their psychological and behavioral functioning (Bartko and Jacquelynne, 2002) and negatively with peer group affiliation and delinquency (Ellitot et al., 1996). This psychological functioning may be related to individuals self-view indicator as self-concept which is in part raised in both, academic and personal settings.
**Method**: The present study is part of a broader research on Differential Gender Study of Academic Performance at Primary School\(^1\). Data were gathered in 71 elementary schools across the three regions of Valencia. The sample was composed by 1733 students of primary school who have participated voluntarily in the data collection of this study. The 48% of sample were women and 51.2% were men, and 0.80% of students did not answer. The average mean of students was 12 years. Instruments: The data collection process is based on the multi-stage sampling which takes as data collection unit the groups of the sixth year at Primary School. The questionnaire collects information about extracurricular activities and leisure activities involvement, self-concept indicators, and students’ performance. \(^1\) This study was supported by the MAVACO Project (EDU 2009-13485, funded by "Ministerio de Ciencia e Innovación"- MICINN, Spain)

**Expected Outcomes**: Regarding self-concept, results for both, females and males showed that leisure activities were positively related to general self-concept and extracurricular activities as language and computer were more related to academic self-concept. Related to academic performance, females performed better at language subjects and males performed better at
science subjects as previous extended research has found. Additionally, further analysis will examine the moderator role of self-concept indicators on the relationship between extracurricular and leisure activities involvement on students’ academic performance.

Jagpreet Kaur, J. S. Rana and Rupinder Kaur (2009),; Home Environment and Academic Achievement as Correlates of Self-concept among Adolescents

1. To study self-concept among adolescents in relation to academic achievement. 2. To study self-concept among adolescents in relation to home environment. The study was conducted through descriptive method of research. The study was conducted on a representative sample of 300 adolescents of ninth class selected on the basis of randomized technique of sampling from different government and private schools of Patiala district of Punjab. The following tools were selected and used in the study: 1. Self-concept List (Old Personality Word List) by Deo (1998) 2. Home Environment Inventory (HEI) by Misra (1989) 3. Academic achievement was taken as the percentage of marks obtained in middle standard Punjab School Education Board examination. 300 adolescents were selected randomly from different schools of Patiala district. Subjects were contacted
personally. Cooperation of the principal of schools was sought and efforts were made to establish rapport with the subjects. In order to achieve the objectives of the study, correlational approach was followed to study self-concept in relation to academic achievement and home environment. The coefficients of correlation of self-concept with academic achievement and ten home environment dimensions were computed for the total sample (N = 300) of adolescents.

**Yueh-Chin Ma (2007)** studied on A Study of Vocational High School Students' Emotional Intelligence, Self-Concept and Academic Performance:

Also on The Influence of Homeroom Teacher's Emotional Intelligence

The main purpose of this study was to understand whether students' emotional intelligence, self-concept and academic performance would influenced while they got along with their homeroom teacher. This study adopts Stratified Random Sampling, selecting the subjects from vocational high school students in Tainan country. A total of 331 (male 211, female 120) vocational high school students from nine classes of the 10th, 11th, 12th grades were sampled to respond to “Scales of Homeroom Teacher's Emotional Intelligence”, “Scales of Student's Emotional Intelligence” and
“Scales of Self-Concept”, in which the students were guided by four male homeroom teachers and three female homeroom teachers. Subjects will be tested two times every six months, to explore whether their emotional intelligence, self-concept and academic performance will be influenced during the six months of getting along with their homeroom teacher. The employed methods included Descriptive Statistics, t-test, one-way ANOVA, Pearson Correlation Analysis and Regression Analysis. The main findings of this study were as follows. There are positive correlations between the students' emotional intelligence (before and after the test)-the understanding of emotion, the expression of emotion, the adjustment of emotion and the employment of emotion and their self-concept (before and after the test)-the self of family, morality, society, identity, criticizing, physiology and psychology. There are positive correlations between the students self-concept (before the test)-the family's self, the moral self and their academic performance (after the test)-English. There are also positive correlations between the students' self-concept-the self contentment, the self criticizing and their academic performance.

Schmidt, Charles P.; Zdzinski, Stephen F.; Ballard, Dennis L (2006)., attempts to study Motivation Orientations, Academic Achievement, and

This study is an examination of motivation orientations (mastery, intrinsic, cooperative, individual, competition, ego, approach success, avoid failure, hypercompetition, personal development competition) and musical self-concept in relation to measures of academic achievement and career goals of preservice music teachers. The research questions addressed (a) relations among motivation and self-concept variables and their underlying factors, and (b) relations between the motivation and self-concept variables and academic achievement, class level, sex, and immediate and long-term career goals. Participants were 148 undergraduate music education majors from three American universities. A survey was administered to measure the motivation constructs and to gather information concerning academic achievement, demographic variables, and career goals. Of the subjects surveyed, 69.4% reported public school teaching as an immediate career goal, and 49.3% reported it as a long-term goal. Significantly greater numbers of women (62.7%) than men (37.3%) indicated public school teaching as the long-term goal. Motivation and self-concept variables were
not correlated with academic achievement variables and generally did not
differ by sex or class level. Differences in motivation and musical self-
concept by immediate and long-term career goal categories were non
significant.

**Burbach, Mark E.; (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.


[Journal Article] Abstract:

Attempts to study poor performance in mathematics among students, at a variety of grade levels, has been attributed, in part, to mathematics anxiety (Bulmahn & Young, 1982; Kelly & Tomhave, 1985; Hadfield & McNeil, 1994). Some investigators have related this phenomenon to gender effects (Cooper & Robinson, 1989) mathematics self-concept and test anxiety (Bandalos et al, 1995), or poor test performance (Dew et al., 1984; Hembree, 1990). Others, most notably Fiore (1999) have attributed mathematics anxiety to what is referred to as math abuse or 'any negative experience related to an individual's doing mathematics' (p. 403), particularly at the hands of adults such as parents and teachers. Limited
research, however, was located that examined the relationship between preservice teacher education students' experiences with formal mathematics instruction, and their future professional practice. Specifically, more needs to be known concerning the manner in which past experiences at school may have influenced both attitudes towards the subject as well as confidence in teaching it.

**Mrs. Masoumeh Khosravi, 2005,** A Comparative Study of Relationship between Self-Concept and Anxiety among Adolescent Students. University of Pune, Pune

1) To find out the correlation between self concept and school anxiety among Iranian and Indian students.2) To compare the levels of self-concept and school anxiety across gender and cultures.3)To compare and analyze the variables like; test anxiety, lack of self confidence, fear of self expression and psycho-physiological reactions, in relation to school anxiety across gender and cultures. The survey method has been suitably employed for the present study. All students of 8th Standard in the English Medium Schools in Pune city in India, and all students of 8th Standard in the General Secondary Schools in Varamin city in Iran during the academic year 2003-
04 constituted the population for the study. A sample of 1200 students, 600 (300 boys & 300 girls) from Pune and Varamin, each, has been drawn through multi-stage sampling employing random selection technique. The study has arrived at quite meaningful findings as follows: 1. In Indian Students (Boys and Girls), school anxiety was found significantly negatively correlated with self-concept. Girls were higher on school anxiety than boys. There was no significant difference between boys and girls on selfconcept. 2. In Indian Students (Boys and Girls) on school anxiety factors, girls were higher on test anxiety, fear of expression and psycho-physical reactions than boys. But girls were lower on lack of confidence than boys.


**Objectives:** (i) To find out the level of self-concept of B Ed. trainees; (ii) to find out, if any, the significant difference in the self-concept of the B Ed. trainees in terms of their sex, community, locality and optional subject they studied viz., Bio-science (BS), physical Science (PS), Mathematics (Maths), Economics (Eco.) and English (Eng.). **Methodology:** 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 data collected from the B Ed. trainees were analysed using 't-test'. Finding: The Self-concept of B Ed. Trainees was above the average i.e., high self-concept. There was no significant difference in self-concept of the respondents in terms of their sex, community, locality and optional studies.


Objectives: (i) To find out the self-concept and personality of teacher trainees in relation to sex, community and locale; and (ii) to study the relationship of self-concept with personality. Methodology: For the study all the elementary and secondary level TT admitted in the different training institutions in Meghalaya were taken into account. A representative sample of the population is drawn by adopting stratified random sampling technique, the strata being the different level of TT. For the analysis of the data Mean, Standard Deviation and t-values were used. Findings: (1) The
level of self-concept of teacher trainees for each dimension was noted: the highest percentage (77.50%) of the high level category is found to be in SCD-E (moral), the highest percentage (89.69%) of the average level category is found 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. (2) Level of the scores in each primary personality factors (PPF) was found: the highest percentage (49.53%) of the teacher trainees were assertive, aggressive, stubborn,


**Objectives:** (i) To find out the self-concept of the students studying in integrated course; and (ii) to find out the difference between the self-concept of boys and girls, type of family and size of the family, hostellers and day-scholars, arts and science students and on the basis of parental income.  

**Methodology:** The sample consisted of 170 students of which 50 were boys and 120 were girls selected randomly from the four year integrated B.Ed course of a training college located at Pondicherry. Tools used to collect the
data included a personal data sheet constructed by the investigator and self-concept inventory by Saraswat (1984). The data was analysed using mean and S.D. **Findings:** (1) The student self-concept is above average. (2) Boys and girls differ significantly in their self-concept. (3) Day-scholars and resident scholars differ significantly in their self-concept. (4) Students from joint and nuclear families, and large and small families don't differ with each other. The same result was also found in the case of the comparison between the science and arts students.


This study investigated the relationship between the self-concepts and cultural diversity awareness of 100 European-American pre-service teachers. The Tennessee Self-Concept Scale: 2 and the Cultural Diversity Awareness Inventory were administered as a test-retest to ascertain if changes in cultural diversity awareness occurred during a standalone multicultural course, and if so were they related to the study participants'
pre-test self-concepts. The findings indicate that a statistically significant relationship does exist between total self-concept and total cultural diversity awareness. However, not all five components of self-concept consistently predicted the direction or magnitude of change in the five elements of cultural diversity awareness. These results imply that urban teacher educators should consider both constructs when developing intervention strategies to thwart student resistance to multicultural tenets in stand-alone cultural diversity courses.


Attempts to Examined self-concepts of 249 teacher education students in 4 domains of creative arts and in 12 skill-specific curriculum areas. Results of confirmatory factor analysis of survey responses show that students distinguished well the music, visual art, dance, and drama self-concepts and the 12 skill-specific self-concepts. Domain-specific self-concepts could be represented by a higher order creative arts factor and
could also represent the skill-specific self-concepts, supporting the hierarchical relations of the skill-specific and domain-specific self-concepts. Whereas the findings provide strong support for the multidimensional nature of self-concept, there is also support for a hierarchical relation of the dimensions at multiple levels of the self-concept hierarchy in the specific curriculum domain of creative arts.

**Moyana, Hlengani Jackson: (Jul 2001).** An intervention programme to improve the self-concept and attitudes of prospective mathematics teachers.

This study attempted to design and implement an intervention programme to improve the self-concepts and attitudes of prospective primary school teachers. The possible effects of the programme were researched by means of a combined quantitative and qualitative approach. A questionnaire to determine the effectiveness of the programme was also designed. Important findings of this study are that: (a) the Cronbach Alpha Coefficient indicated a 0.9 reliability of the designed questionnaire; (b) the average self-concepts of prospective teachers improved after the intervention programme was implemented, though not significantly and (c) the self-concepts of prospective teachers not majoring in Mathematics also
improved after the intervention, though not significantly. A focus group interview was conducted to improve the intervention programme.


This study attempted Examined the self concepts of student teachers. 423 primary or high school teacher trainees (age 18-34 yrs) residing in Hungary rated the applicability of various attributes to themselves in the role of teacher. Results show the 4 role perception themes of: 1) empathically determined teachers, who are decisive, attentive, cooperative, open, honest, and at times rigorous and uncompromising; 2) self-uncertain teachers, who reported low self-confidence, timidity, depression, and disappointment; 3) good leader teachers, who emphasize professional knowledge, self-confidence, and respect.

CHAPTER- III

DESIGN OF THE STUDY