CHAPTER – II

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2.0.0 INTRODUCTION:

Major events at the beginning of this millennium, such as the economic crisis, increasing migration, and of people who become refugees, the reorganization of relations between states and trans-national agencies and the influence of free communication on the Internet, arise the need to think about the role of Educational Research as means to ensure and enforce freedom and promote education and the comprehensive development of citizens of the whole world. The political commitment to education for all has been re-emphasized many times, both nationally and by trans-national agencies. In many cases this commitment has been supported by the commitment to explore the foundations for the general and lifelong education in society, families, institutions, professionals and individuals. On the other hand we see signs to the tendency that governments and trans-national agencies are losing the strong and necessary interest for educational research.

Research is not an isolated piece of work but a bit of addition to the organized body of knowledge. Man is the only animal who does not have to begin a new and a fresh knowledge in every generation, but can take the advantage of the knowledge accumulated through the centuries. This fact is of particular importance in research. They have seen as to how it operates as a continuous function of ever closer approximation to the truth. The investigator can be sure that his problem does not exist in a vacuum and that considerable work has been done on problems, which are either directly or indirectly related to his proposed investigation. The success of his efforts would depend on small measure to be extent is which capitalizes on the advances, both empirical and theoretical, made previous researchers, philosophers, prophets and thinkers. Educational research need for social development in worldwide generally and research in India for educational innovation and practices from primary level to higher education are an exploratory area as per social need.
2.1.0 MEANING OF REVIEW OF RELATED LITERATURE:

‘Review’, ‘Literature’, and ‘Knowledge’, three terms occupies the most crucial position in the planning and carrying of any research project. The review of related literature means considering, examining, observing or viewing again to the past events, facts, viewpoints or ideas for a deep insight into the present problem and clear perspective of the overall field. Related literature is the store house of wisdom, which can be divided into two parts. One deals with the conceptual classification literature where as the other is related to research findings. Before going to conduct any research and any problem, the researcher must have a clear and comprehensive information of all the works, conducted regarding that problem. Review of related literature provides a clear path to the researcher to discover the facts which are not explored earlier. Here an attempt is made to go through reference books, government publications on education, encyclopedia of education and dissertation abstracts international for knowing more about area and the work done so far. “The review of related literature helps to avoid unnecessary duplication, as it gives a clear and comprehensive view of all the pros and cons of the problem”.

— P.C. Katiyar (1982)

2.2.0 IMPORTANCE AND FUNCTION OF REVIEW OF RELATED LITERATURE:

It is worthwhile for an investigator to have comprehensive survey of what has already been done in the problem and its related aspects. Mouly says, “Survey of related literature avoids the risk of duplication, provides theories, ideas, explanations or hypothesis valuable in formulating the problem and contributes to the general scholarship of the investigator. According to Best, “Practically all human knowledge can be found in books and literature. Unlike other animals that must start a new with each generation man builds upon the accumulated and recorded knowledge of the past. His constant adding to the vast storing knowledge makes all progress possible in all areas of human Endeavour”. 
Emphasizing the importance of survey of related literature, Good others have pointed out, survey of related literature helps us to show whether evidence already available solves problems adequately without further investigation and thus may save duplication. It may contribute to the general scholarship of the investigator by providing ideas, theories and explanation valuable in formula, the problem may also suggest the methods of research appropriate.

From this discussion, it is clear that for any worthwhile investigation a review of related literature is of great help to the investigator. It is critical evaluation of all the literature in the form of books, articles, research papers, monographs etc. so that one could know that has been already done in that particular field and what else is needed to be done.

David J. Fox gives five important functions of the review of literature:

(1) Function of providing a conceptual frame of reference for the contemplated research.

(2) Function of providing an understanding of the status of research in the problem area.

(3) Function of providing clues to research approach.

(4) Function of providing method, instrumentation and data analysis and an estimate of the probability of the success of the contemplated research and significance of the usefulness of the findings.

(5) Providing specific information needed to state the definitions, assumptions, limitations and hypotheses of the research.

2.3.0 TYPES OF RELATED LITERATURE:

Every literature cannot be related and every related literature cannot be studied for reviewing research project. In this context, the degree of relation determines
the type and importance of literature. On the basis of intensity of relationships the related literature can be of the two types:

1. Directly related
2. Indirectly related

Directly related literature has a direct and highest relation with the proposed study whereas indirectly related literature has no straight forward contact with the problem of study. As far as the knowledge of investigator goes, in the area of present study perhaps no directly related studies have been done in India and abroad. Some of the studies are indirectly related to the problem understudy.

Keeping in mind the importance of the study of related literature and functions of the conceptual frame of reference the investigator has reviewed some available published works as under.

2.4.0 RELATED STUDIES ACCORDING TO PROBLEM UNDERTAKEN

Andrews, J.A.B. (1981), studied a study of third and fourth grade gifted students, reading achievement and its relationship to their adjustment. The purposes of the study were to determine if there was a difference in adjustment of two groups of gifted students, (i) Third and fourth grade students who were identified as gifted achievers in reading, (ii) Third and fourth grade students who were identified as gifted under achievers in reading. The forty gifted students were identified as gifted achievers. Data for the adjustment was collected by administration of an oral adjustment inventory developed by Dink Meyer. The T-test, Fisher’s Test for uncorrelated data, statistical technique was used. The results showed that there was a significant relationship between reading achievement and adjustment in gifted students. The academic achievement depends upon interrelationship among intelligence, personality, parental environment and school environment. Each case needs to be considered and evaluated on an individual basis.
Akoodia, M.A. (1980), studied the Immigrant students: A comparative assessment of ethnic identity, adjustment and Locus of control against West India, East India and Canadian students. The purpose of study was to identify and explore difference among the three groups in adjustment, group identity and Locus of control. The second objective was to explore the interrelationship which existed between the variables. And the final objective was to development an Ethnic Identity scale. The results showed that the East and the West Indian students in the study and the adjustments that were similar to the Canadian students and were more internally controlled. The West Indian students had a stronger ethnic identity scores than the East Indian and Canadian students. The identity score of Indian and Canadian students was moderately high but did not differ in any significant fashion. The interrelationship between the tests was significant. The high adjustment was associated with a low internality score and a high ethnic identity scores.

Alaxander, D.H. (1980) studied the effects of a remedial reading program upon reading attitude, reading achievement, adjustment and intellectual achievement responsibility of selected students of the 4th and 5th grades. The purposes of the study were (i) will the remedial reading programme improve reading achievement? (ii) Will the remedial–reading students achieve a better attitude towards reading, as a result of the remedial reading programme? (iii) Will the remedial programme improve adjustment? (iv) Will the remedial reading programme improve intellectual achievement responsibility? The samples consisted of 46 students. Piers–Harris adjustment scale was used for the data collection. T-test was used for the data analysis. The results showed improvement in the area of total reading achievement in total group and in the fourth and fifth grade subgroups. There was a significant improvement in the area of adjustment in the total group and in the fifth grade subgroup. No significant improvement was indicated in the fourth grade sub–group in adjustment. There was a significant improvement in the area of intellectual achievement. Haworth, C.E.L. (1980) studied the global and Academic
Adjustment with the influence of achievement. The purpose of the study was to
determine whether the relationship between achievement and academic
adjustment was significantly greater than the relationship between both global
and academic adjustment and achievement was greater for girls than for boys.
The final purpose was to determine whether strength of the relationship between
both global and academic adjustment and achievement was greater for girls than
for boys. The final purpose was to determine whether strength of the relationship
between both global and academic adjustment and achievement increased, as
grade level increased. The sample consisted of 246 students in third, fourth, fifth
and sixth rural school. The Piers–Harris students adjustment scale was used to
measure the adjustment. Mean, S.D. Factor analysis statistical technique was
used for data analysis. Results showed that (i) No significant positive correlation
was found between adjustment and achievement. (ii) Little support was found
that the relationship between academic adjustment and achievement would be
greater than that between global adjustment would be greater then that between
global adjustment and achievement. No support was found that the strength of
these relationship would be greater for girls than for boys or that the strength of
these relationship would increase as grade level increased.

Bomar, I.D. (1991) studied locus of control and academic achievement of
minority college students. The study examined internal and external locus of
control and how it impacts on academic achievement among Minority College
students. The data were collected through the utilization of a 34 forced choice
item questionnaire and Intellectual Achievement Responsibility Scale. 350
students were used in the sample. The total data were treated statistically
utilizing the analysis of variance and chi–square test. The results showed that
there was no significant difference between the mean grade point average of
college upper class men with external locus of control. (iii) There was no
correlation between locus of control and grade point average. (iv) No significant
difference of locus of control was based on sex.
Bross, T.J. (1979) studied the relationship of adjustment, creative thinking abilities and academic achievement of the students. The study examined the relationship of adjustment, creative thinking, abilities, and academic achievements. The sample consisting of seventy-five subjects. They were randomly selected from a population of 289 seventh grade students enrolled in a junior high school. Data were gathered from the result of Pier–Harris Students ’s Adjustment Scale. The Torrance Test of creative thing and the SRA achievement services Statistical procedure used to analyzed the data include the Pearson’s product moment correlation to determine the relationship of the variable, adjustment, creative thinking abilities and academic achievement. And an analysis of regression statistical technique was used to test the hypothesis. The results showed that (i) there is a significant relationship between the adjustment and academic achievement, (ii) There was a significant relationship exists between creative thinking abilities and academic achievements, (iii) The combined scores of adjustment and creative thinking abilities were significantly related to academic achievements.

Brady, S.K.K. (1989) studied the difference in adjustment, reflected self, ideal self, students self and others perceptions between and among selected groups of gifted and non–gifted students. The purpose of the study was to find out, is there any correlation between and among mean scores of various dimensions of adjustment? The sample consisted of 98 six grade students. The results showed that adjustment are not different in gifted and non–gifted students.

Bedros, G.L. (1980) studied an investigation of internal–external locus of control and adjustment in students and adolescent diagnosed as learning disabled and non–learning disabled students and adolescents. The purpose of this study was to investigate the developmental relationship across grade levels for the following variables, internal–external locus of control, adjustment and the relationship between the two constructs in students and adolescent diagnosed as learning disabled and non–learning disabled students and adolescent. The sample consisted of 148 subjects were used in he study. Nowicki–Strickland
locus of control scale for students was used for the data collection. 3 x 2 ANOVA for unequal cell size, Duncan’s Multiple Range test, the Pearson Product moment correlation coefficient were used to analyze the data. The results showed that (i) The learning disabled seventh and tenth graders obtained significantly higher external locus of control scores than the non–learning disabled seventh and tenth graders, (ii) On group comparison basis the mean internal Loc scales for the learning disabled group was significantly higher than non–learning disabled group. The correlation between the variables locus of control and self–esteem was significant for both the learning disabled and non–disabled groups.

**Blusiewicz, C.O. (1983)** studied the association of locus of control and future time orientation with achievement and underachievement. The purpose of the study was to explore the relationship between achievement, Locus of control and future time orientation. The sample consisted of 128 tenth graders, 79 fegenerals and 49 generals. Nowick–Strickland locus of control scale, the time metaphors test and dependency scale introduced by author was used for the data collection. The data were analyzed by multiple correlations, statistical procedures and 2 x 2 x 2 analysis of variance. The analysis of data revealed that no significant relationship across the entire sample between the variables of locus of control and achievement. For generals a significant correlation was found between high achievement and external locus of control emerged. No significant relationship was found between achievement and future time orientation across the entire sample for general and fegeneral.

**Baker, C.F. (1983)** studied an investigation of the relationship between locus of control, classroom environment and alienation in junior high gifted students. An application of Lewin’s Theory. The purpose of the study was to investigate the relation of locus of control orientation and perception of classroom climate to alienation in junior high gifted students. The Rotter Social Reaction Inventory and Fraser’s individualized classroom environment. Questionnaire was used for data collection and alienation was measured by Dean’s Public Opinion
Questionnaire. Multiple Regressions was used for the data analysis. Lewin’s theory suggested that behavior is a result of the interactions and interdependencies of the person and the environment in which the person exists. It was suggested that the correlation between locus of control was negative when alienation was low and positive when alienation was high.

Bhagayata, C.K. (1986) studied a study of the relationship among creativity, adjustment, and locus of control. The purpose of the study was to compare the creativity, adjustment and locus of control of boys and girls. (ii) To compare the creativity, adjustment and locus of control of urban and rural students. (iii) To compare the fluency, originality and creativity of the students with internal and external locus of control. (iv) To study the interactive effect of adjustment and locus of control on creativity. The sample comprised 1,014 students with 671 boys and 343 girls and 685 urban and 329 rural students. The three tools used to collect data for the study were the creative expression test (CET) and standardized by JunakaryDeve, the adjustment inventory constructed and standardized by Jayantilal Shah and Rotter’s Internal–External locus of control scale prepared by the investigator. The descriptive statistics such as mean, median S.D., Multiple Correlation and ANOVA were employed to analyze the data. The results showed that boys were more creative than girls. But they did not differ in their adjustment and locus of control. (ii) The urban students had higher adjustment than rural students. But urban and rural students did not differ in their creativity and locus of control. The students with a higher adjustment were more fluent, original and creative than the students with a lower adjustment. The students with internal locus of control were more fluent, original and creative than the students with external locus of control. The main effects of adjustment and locus of control on creativity were significant, but their interactive effect on it was not significant.

Cambell, P.C. (1990) studied an investigation of adjustment on locus of control of specific learning disabled students. The purpose of the study was to compare the adjustment and locus of control of specific learning disabled Primary
students with non-disabled Primary students. The sample for the study was 100 students (50 specific learning disabled students and 50 non-disabled students). The Piers–Harris students ’s adjustment scale and the Nowicki–Strickland Internal–External locus of control scale were used for the data collection. The data were analyzed using independent T-test, Pearson product moment correlation and step wise multiple regression procedures. The results showed that there was significant difference between specific learning disabled students and non-disabled students on global adjustment. Specific learning disabled students also exhibited a more external locus of control than the non-disabled students. Specific learning disabled students perceive themselves more negative than non-disabled students. Lower adjustment scores are associated with more external locus of control scores.

Coggins, C.J. (1984), studied a comparative study of locus of control in mentally related, emotionally disturbed, learning disabled and Generally achieving students. The purpose of the study was to investigate locus of control orientation in mentally retarded, emotionally disturbed and Generally achieving students in grades sixth and seventh. The sample consisted of 151 general students (72 handicapped, 79 non-handicapped). The students ’s Newicki–Strickland Internal and External Control Scale were used. ANOVA statistical technique was used for analyzing the data. The results showed that mentally retarded students are more externally oriented than emotionally disturbed and learning disabled students. (ii) Emotionally disturbed and learning disabled students do not differ in locus of control orientation. (iii) Handicapped students are more externally oriented than non-handicapped students. (iv) Internal–External locus of control orientation does not significantly change from grade 6th to grade 8th.

Drumgoole, W.P. (1981), studied the adjustment and life satisfaction as perceived by young, middle aged and senior adults. The major purpose of this study was to determine whether significant relationship existed between adjustment and life satisfaction of young, middle aged and senior adults. Another
purpose was to determine whether significant difference existed between the mean scores of adjustment of young, middle age and senior adults. Whether significant differences existed between the mean scores of adjustment of general and specific young, middle age and senior adults. Randomly 225 subjects were selected based upon chronological age. T-test, correlation of coefficient, z-test and chi-square test were used for analyzing the data. The results showed that middle aged adults had better adjustment than young adults, but there were no significant difference in adjustment when young adults were compared with senior adults and when middle aged adults were compared with senior adults. The findings indicated that significant difference existed between the three groups on certain factors of adjustment.

Doering, S.K. (1985), studied the effects of students’ literature of adjustment of gifted and non–gifted students. The study was designed to investigate the effect of two specified students’ literature programs on the adjustment of both gifted and non–gifted students at the fifth and sixth group levels. The Piers–Harris students’ adjustment scale was used as the measure of adjustment of the students. The population utilized in this study was fifth and sixth graders from three different schools. Three gifted groups and three non–gifted groups were involved. The data was collected with the help of Piers–Harris students adjustment scale. The data was analyzed using a mixed–design three – way ANOVA. The results showed that the difference in adjustments of gifted and non–gifted students is related to the type of literature program received. (ii) The gifted students responded more positively to the listing program, while non–gifted students respond more positively to the structured literature program. The non–gifted students were generally more receptive to both types of literature programs than were the gifted students.

Downes, B.R. (1981) studied relationship of locus of control to achievement among under achieving adolescents. The purpose of this study was to evaluate the association between locus of control and underachievement to determine whether locus of control in underachiever was amenable to modification through
training and whether locus of control training would ameliorate symptoms of underachievement. The result showed that underachievers locus of control was more external than that of seventh and eight grade normative groups.

Fiordalisa et al. (1981) studied the relationship among self–reported ascertain, loc and the behavioral measure of ascertain among adult college students. The present study attempted to answer the following questions: (i) will individual with high self–reported ascertain score also score high on Rotter’s internal/external locus of control? (ii) Will a positive relationship exist between the measures? The data were collected with the help of Rotter internal/external LOC scale. For the analysis of the data Pearson product moment correlation coefficient and chi–square test were used. The sample consisted of 30 students. The results showed that as assertive scale scores increased, scores on the Rotter scale decreased. (ii) A significant difference was shown between groups reporting high frequency of in–class assertion and that self–reporting high internalization the data from this study suggested a positive relationship between individuals perceiving themselves as internally oriented and those who engage in assertive behavior.

Fredericks, A.D. (1981) studied the reading attitude and locus of control in high achieving and low achieving readers. The purpose of this study was to investigate third and fourth grade student’s self–reporting attitudes towards reading of this variable upon student’s achievement in reading. The results showed that locus of control scores in third and fourth grade students were significantly related to achievement in reading, (ii) The high achieving readers were more internally controlled than low–achieving readers. Gender did not affect the locus of control acres of the students within the same reading achievement level.

Finnegan, W.F. (1987), studied investigate the relationship of intelligence and adjustment to school achievement among gifted and talented Primary school students. The sample consisted of 228 gifted students in grade 3 to 6th. The
adjustment was measured by Behavioral Academic self-esteem rating scale. Stepwise multiple regression analysis was used for data analysis. The results showed that self-esteem was a more powerful predictor of school achievement than intelligence.

**Gil, L.S. (1990)** studied the relationship between perceived locus of control and academic achievement of sixth grade Asian and Pacific American students. The purpose of the study was to examine the relationship between perceived locus of control academic achievement in Asian–Pacific American sixth grade students. The Nowicki–Strickland Locus of Control Scale for students and the comprehensive test of primary skills were administered to all subjects during the spring of 1983. The factorial designs, analysis of variance were used for analyzing the data. The results showed that in the examination of interrelationship between locus of control orientation, academic achievement and gender, no significant interactions were found. The result of this study contradicts numerous major findings which have established a firm relationship between Loc orientation and academic achievement.

**Gupta, M. (1987)** studied the relationship between locus of control, Anxiety, level of aspiration, Academic Achievement of secondary students. The purpose of the study were (i) To assess the magnitude and direction of relationship of locus of control, anxiety, level of aspiration and SES with academic achievement for different groups formed on the basis of curriculum, sex, SES, and internality and externality. The sample consisted of 670 students of average intelligence. The tools used were the Test of General Mental Ability (M.C. Joshi), Rotter’s I–E scale adopted in Hindi by investigator. The SES Index (R.A. Verma, P.C. Saxena). The statistical techniques used were measures of central tendency and variability for testing the Generality of distribution. Besides this, zero–order correlations, stepwise multiple regression analysis and T-test were applied to analyze the data. The results showed that locus of control was found to correlate negative and significantly with academic achievement for the total sample, arts and science students, boys and girls, boys of the arts group belonging to high
middle and low SES. Boys of the science group belonging to high and low SES, girls of arts group belonging to high SES only and girls of science group belonging to high SES only and girls of science group belonging to middle and low SES (ii) All the variables predicted academic achievements. But SES and locus of control were found to be the best predicted.

Hotter, S.S. (1986), studied the adjustment and attribute towards schools of gifted general students and of teacher’s attitude towards these students. The purpose of the study was to determine whether gifted students in special program (GP) had a more positive adjustment and attitude towards school than gifted students who were not in special programs (GNP) of general education students (GEN), who were participating in the schools regular curriculum. The sample consisted of 115 seventh and eighth grades students (F=54, M=61). The Piers–Harris students ’s adjustment scale was used for the collection of data. One way ANOVA and co relational statistical techniques were sued for data analysis. The results showed that the achievement of gifted students were significantly more positive adjustment in intellectual and school status and significantly more positive attitude towards school than the non–gifted students.

Ike, P.S. (1989) studied a study of adjustment among mildly mentally retarded students ,General students and gifted students . The purpose of the study was to determine the relationship between adjustment and I.Q. level in mildly mentally retarded students ,General students and gifted students . The sample consisted of 160 subjects. The subject included 40 mildly mentally retarded students , 80 General students and 40 gifted students . The Piers–Harris students ’s adjustment was used for data collection. ANOVA and MANOVA were used to analyze the data. The results showed that (i) there was no significant difference among mildly mentally retarded, General and gifted students, (ii) no significant difference between fegenerals and generals in each group.

Jamaludin Ahmad, MazilaGhazali, Aminuddin Hassan (2011)This is a quantitative research using correlational method. The purpose of this research is to
study the relationship between adjustment and ability to handle stress on academic achievement of student leaders in University Putra Malaysia. The sample size consists of 106 respondents who are the Student Supreme Council and Student Representative Committee. Tennessee Adjustment Scale (TSCS) was used to evaluate respondents’ adjustment and for respondents’ responses strategy the Response Strategy Questionnaire were used. The respondents’ CGPA is used to evaluate their academic achievements. The findings illustrate that there is no significant relationship between adjustment and academic achievement. Correlation between adjustment and academic achievement is not significant (r =0.06, p = 0.950). Meanwhile there is a significant relationship between respondents’ response strategies and academic achievements $X^2 (10, N = 106) = 19.721, p = 0.032$. This would mean that the respondent’s response strategy is influenced by his or her academic achievement. The value of frequency contingency, 0.396 illustrate that the relationship is positive and low. The findings from this research will provide information to those who intend to plan beneficial programs for the university or the community in general.

James, W.C. and Robert, L. (1990) studied some antecedents of academic adjustment, a longitudinal study. The purpose of the study was to find out the influence of cognitive achievement and family background variables on an academic adjustment. The sample consisted of 435 students participating in a major longitudinal study. The results show that academic adjustment is mainly a product of school achievement and the influence of home background.

Jones, L.H. (1981), studied the relationship between adjustment and academic achievement of middle school students . The main purpose of the study was to investigate the interrelationship of certain cognitive and affective aspect of the development of pre–middle school students. Special attention was given to the relationship between adjustment and achievement in reading mathematics. The population consisted of the 442 students enrolled in the pre–middle school program for the (1979–80) terms. Student questionnaire was used for measuring adjustment. Product–moment coefficient of correlation was used for data analysis. The result showed that there was a low but statistically significant
relationship between student adjustment and how they were perceived by their teachers. The pattern of gain was similar for general and nongeneral. There was no meaningfully significant relationship among the adjustment and achievement variables.

**Kelly, S.K. (1990)** studied the relationship of instructional placement and other correlates with the academic, social, personal, extent, desired and presenting adjustment of a group of academically gifted and non–gifted students. The purpose of the study was to compare the mean of academic, social, personal, extent, desires and presenting adjustment score of seventh and eighth graders on the basis of instructional placement, grade level, gender, intelligence (I.G.) range and grade point average (GPA) range. The sample consisted of 384 students. A series of factor analysis of variance with the SPSS-X computer program was used. The results showed that higher I.Q. was significantly related to the academic adjustment seventh graders had higher adjustment scores than eight graders.

**Lynne, J.H. (1980)** studied a comparison of the locus of control of students in the gifted and average range in intelligence. The purpose of the study was to investigate the relationship between locus of control and intelligence; especially in relationship to gifted students also of interest was the relationship between three majors of locus of control for students. The sample consisted of 50 gifted and 50 non–gifted on fourth and fifth grade students. The tools used for the study was intellectual achievement responsibility questionnaire, Locus of control scale for students and Bailer–Cromwell students ’s locus of control scale. The factor analysis technique was used for the analysis of the data. The results showed that (i) 4th and 5th grade gifted students were significantly higher in internal locus of control, (ii) There is a significantly less variance within the gifted population than within the average population on all Locus of control measured examined, (ii) all locus of control measures are significantly correlated with the three achievement measures.
Leray, R.N. (1983), studied the level of adjustment and its relation to achievement, grade and sex for students engaged in special education programs. The purpose of the study was to investigate whether or not placement in special education classes affects the adjustment of students engaged in these programs and whether this has any impact on levels of achievement. The sample consisted of 160 generals and 129 generals. Each student was administered on the Piers–Harris adjustment scale. The results showed that the adjustment of the talented gifted was higher than specific learning disabilities students. Significant difference was found between generals and generals on level of adjustment, (iv) It was found that a significant amount of variance in achievement was accounted for by level of adjustment.

Lamar, M.G. (1985) studied the Raven or T–E locus of measure of high ability. The study investigated the comparison between gifted between gifted and regular students grade 9-12 in terms of their academic abilities. The sample included 183 high school students culturally different or economically disadvantaged. The tools Ravan Standard Progressive Matrices (Non-verbal) and the Rotter Internal–External locus of control scale were used for data collection. The statistically technique correlation analysis and ANOVA was used for data collection. The results showed that gifted students had higher grades higher CTBS scores and subsequently higher Raven scores. (ii) Where as high achievers usually high internal locus of control. The culturally different or economically disadvantaged high achievers did not show this characteristic. Asians scored significant lower in reading language and did not demonstrate gifted ability on the Raven.

Less, C.D. (1981) studied a study of the relationships between the psychological variables of adjustment, self–acceptance and locus of control in students and adolescents. The purpose of the study was to explore the relationship between the variables of adjustment, self–acceptance and locus of control in students and adolescents in grade 3 to 8 students. The sample consisted of 134 students. The Piers–Harris students adjustment scale, the Bledsoe adjustment scale (self–
acceptance) and the Nowicki–Strickl and locus of control scale were administered to the students. Co relational technique, analysis of variance and multiple regressions were used to analysis the data. The results showed that a positive correlation was found between self–acceptance and internal locus of control. (ii) A positive correlation was found between adjustment and internal locus of control. (iii) A positive correlation was found between adjustment and self–acceptance. (iv) A positive correlation was found between grade level and internal locus of control scores. (v) No relationship was found between sex of subject and locus of control scores.

MostafNajafi, MD (2008)Objective: This study aimed at assessing the putative association between the fingertip patterns of right and left digits II and intellectual functioning. Methods: The study involves the evaluation of dermatoglyphic patterns on right and left digits II in 342 adolescents (144 talented ones, 102 General individuals and 96 subjects with learning disabilities) from the Shahrekord city in Iran. Comparisons between the frequencies of fingerprint patterns of each digit were made on the basis of two groups at a time employing Chi-square test. Findings: The most frequent dermatoglyphic pattern was whorl on both fingers in the 3 groups.

An observation of right digit II revealed that the General adolescents in comparison to the talented ones had a greater number of the whorl patterns ($P=0.02$), while the latter had more ulnar loops than the former ($P=0.09$). Group comprising those with learning disabilities had more ulnar loops than the group composed of the General adolescents ($P=0.09$), and there was a predominance of radial loops among the talented subjects as opposed to those among the individuals with learning disabilities ($P=0.002$). There was no significant association in the relative frequencies of different finger patterns on left digit II between the groups ($P>0.05$). Conclusion: Our results support an association between some dermatoglyphic patterns observed on right digit II with IQ level in adolescents. Further researches, needless to say, especially employing various quantitative dermatoglyphic indices and larger-sized samples are recommended.
Mayer, D.C. (1980) studied Academic achievement, adjustment, and locus of control. A causal analysis of the National Longitudinal Study. The purpose of the study was to investigate causal relations between the affective and cognitive domains. In particular, the research tested the causal associations between adjustment, Locus of control and academic achievement. The sample based on 6,198 subjects who in school at the time of base year. Cross–Lagged panel correlation statistical technique was used for data analysis. The result showed that the locus of control to achievement casual relationship was slightly stronger than the casual impact of locus of control on adjustment was evidenced in both the paths.

Morford, S.N. (1980) studied the difference between achievers and under achievers upper Primary gifted students, Locus of control, Academic adjustment and other variables. The purpose of this study was to determine any significant differences existed between achieving and under–achieving upper Primary gifted students with respect to Locus of control, academic adjustment, student role, behavior, chronological age, and proportion of generals to generals. The sample consisted of 64 subjects, 32 were defined as under–achieving gifted while the remaining 32 were defined as achieving gifted. Analysis of variance was used in evaluating all the variables except the proportion of generals to generals, for which chi–square was employed. The result showed that no significant differences were found between the two groups with respect to the variables studied.

Moredock, R.C. (1981), studied the relationship between sex–role and selected adjustment dimensions for general and general college students. The purpose of the study was to examine the relationship between sex role and adjustment for generals and generals and to translate the findings into statements about general and general adjustment pattern. The subjects, 90 generals and 120 generals. Under–graduate volunteers at the university scale and Beam sex–role inventory (BSRI) were used for data collection. The subjects were divided by sex into androgynous, masculine, feminine or undifferentiated sex role groups, using the
median split procedure. Canonical correlation analysis, canonical analysis, Manova, Multivariate Analysis or Variance, statistical techniques were used for the data analysis. The results showed that (i) there was a significant relationship between sex–role and adjustment for both general and generals; (ii) Masculine sex–role was positively related to adjustment for generals. While both androgynous and masculine sex–roles were positively related to adjustment for generals; (iii) General adjustment patterns suggested a concern for external approval of behavior, while general adjustment pattern suggested a more internal, introspective orientation. There was significant difference in adjustment between generals and generals.

**Martin, M. (1991)** studied adjustment and locus of control of learning disabled college students. The purpose of this study was to investigate the role of adjustment and locus of control with respect to the academic achievement of college students with learning disabilities. The sample consisted of 40 learning disabled and 107 non–learning disabled students with the description questionnaire and a measure of locus of control, additional demographic and personal information the data was collected on each subject. Results of the study indicated that college students with learning disabilities continue of demonstrate significantly poorer academic adjustment than, non–learning disabled students. They were less like to use external causes, such as task difficulty or luck, to explain their successes or failures. Generals students with learning disabilities were much more likely to attribute their success or (failure) to their ability (or lack of ability) than to their effort. No other gender, age or SES differences were noted.

**Mishra, C. (1983)** studied Association of locus of control, creativity and educational achievement of Urban, Rural and Tribal students. The purpose of the study was to assess the relationship between locus of control and creative thinking. (ii) To study the relationship between locus of control and academic and culture on the locus of control. (iv) To study the effect to socio–economic background and culture on creativity of students. (iv) To study the effect of
socio–economic background and culture on academic achievement of students. (vi) To access the relationship between creative thinking and educational achievement across sub–culture.

The sample consisted of 488 of the 6th, 7th and 8th classes and belonging to the age range of 10 to 13 years. The tool used for data collection was the Cornwell locus of control scale for students specially adopted by the researcher, annual examination results, and B. Mehedi’s Individualized Scale of creativity. The 3x2 and 2x2x2 ANOVA were used for analysis of data. The results showed that the trait locus of control was significantly related to creativity and educational achievement. (ii) The internal locus of control subjects secured higher scores in creativity tests and educational achievements than the external locus of control subjects. (iii) The relationship between locus of control and creativity, locus of control and educational achievement were positive and statistically significant. (iv) The locus of control scores were higher for the urban disadvantaged students compared to those of rural and tribal students.

Park, K.H. (1980), studied the relationship between adjustment and achievement in a moderately mentally retarded population. The purpose of the study is to examine the adjustment of a moderately mentally retarded population in a social environment and to investigate its relationship with their school achievement and intelligence. The sample consisted of 50 moderately retarded persons (25 general + 25 generals). The primary adjustment inventory (PAI) by Muller was used to measure the adjustment. Pearson’s product moment correlation and stepwise multiple regression analysis were used for data analysis. The findings showed that (i) The adjustment of the retardates was in a positive direction, (ii) No statistically significant relationship existed between sexual membership and adjustment scores, (iii) There was a positive and significant correlation between adjustment and intelligence, (iv) The adjustment scores were significantly correlated with the age of the retarded subjects. (v) A significant and positive relationship existed between the adjustment scores and the length of schooling of these individuals.
Rodges, B.S. (1979) studied the effect of an enrichment programme screening process on the adjustment and other concepts of gifted Primary students. The purpose of the study is to assess the impact of a screening and selection process of the adjustment and other concepts of gifted Primary students. The sample consists of 72 students. The data were gathered from the result of the Piers–Harris adjustment scale. Factorial multivariate analysis of covariance, multivariate analysis of covariance, statistical techniques were used for the data analysis. The results showed that (i) No significant correlation were hypothesized between the affective dependent variables and the cognitive measures, (ii) Significant correlation were found between adjustment and the reading mathematics achievement levels. (iii) No significant correlations were found between the dependent variables and the group cognitive ability scores. The most significant correlation was found between pre and post test scores on the Piers–Harris adjustment scale. This suggested that the 72 subjects of this study may be quite heterogeneous with reference to their perception of themselves and that individual adjustments are quite stable over time.
study may be quite heterogeneous with reference to their perception of themselves and that individual adjustments are quite stable over time.

**Regis, S.L. (1986)**, studied the adjustment, school satisfaction and teachers attitude with intellectually gifted Primary students in regular and special class. The study investigated the effect of special class placement on intellectually gifted students, adjustment and level of school satisfaction. The sample consisted of 779 students. Piers–Harris adjustment scale was used in this study. ANOVA and MANOVA statistical techniques were used for the data analysis. The results showed that (i) the sixth grader level, gifted generals in special classes would earn higher adjustment scores. And gifted generals adjustments flourished more than general in special class at the fifth grade level. (ii) gifted students in both placement condition reported an equal level of school satisfaction which was comparable to that of control group, (iii) Other analyses revealed the gifted and bright students did not differ from each other on adjustment than gifted students . Both the gifted and bright groups scored higher than average groups of adjustment.

**Rowand, B.B. (1990)** studied the perceptions of academic ability and adjustment among gifted achieving and under achieving adolescent. The purpose of this study was to explore the relationship among gifted achieving and under–achieving adolescents, perceptions of academic ability, global adjustment perception of school performance, intelligence and achievement. The sample consisted of 384 students. A series of factor analysis of variance with the SPSS-X computer program was used. The results showed that gifted had higher perception of academic ability and school performance ability than gifted underachievers. Generals had higher perceptions of intelligence then generals as well as lower competence scores, which reflected positive adjustment.

**Screen, S.J. (1987)**, studied an investigation of the adjustment of black adolescent high school students. The study was designed to test the contributions of these variables to the prediction of adjustment and academic achievement for
black general and general high school students. The sample consisted of 209 students from one high school. Pear’s–Harris adjustment scale was used for data collection. Backwards stepwise solution of multiple regression analysis, factorial analysis of variance and one way ANOVA techniques was used for the data analysis. The results showed that (i) there was a positive relationship among adjustment and arithmetic achievement, (ii) There was a linearity among adjustment and reading achievement, (iii) There was a significant difference in global adjustment between general and generals, generals had a more positive adjustment.

**Savic, A. (1980)**, studied the relationship between adjustment and achievement grade placement, absence, sex, SES, and birth position among nominated gifted students. The sample consisted 120 nominated gifted students from third to eighth grade. The data were gathered from the result of the Piers–Harris Students adjustment scale. The results showed that (i) The higher the I.G. the more positive was their adjustment, (ii) The girls adjustment was more positive in the lower grades and more they achieved, the better was their adjustment, (iii) No significant relationship was found between sex and adjustment, (iv) Gifted students tend to exhibit negative adjustment in grades seven and eight.

**Snodgrass, R.B. (1990)** studied a study of locus of control, achievement, motivation knowledge and use of study skills as factors influencing academic performance in academically talented college students. The purpose of the study was to examine the relationship between locus of control, achievement, motivation and knowledge and use of study skills and academic performance of the students. The sample consisted of 136 students. The data were obtained from the administration of the Crandall Intellectual Achievement Responsibility (CIAR) questionnaire, the academic motivation scale and the survey of study habits and attitudes (SSHA). The statistical technique Pearson product moment correlation and multiple regression was used for the analyzing the data. The results showed that there is a significant relationship between study skills and
grade–point average and between achievement and motivation. No significant relationship was found between locus of control and grade point average.

Sharms, K.L. (1978) studied a comparative study of adjustment of high and low achievement and intelligence groups of students of class tenth in urban school. The purpose of the study was (i) to find out the relationship between any two of the four main variables, namely, intelligence, SES, academic achievement and adjustment, (ii) To find out the relationship of academic achievement, intelligence, SES and adjustment, respectively with different areas of adjustment. The study was conducted on a sample of 1,427 students (690 general and 737 general) of class 10th, age group of 14 to 18 years. The results showed that (i) Intelligence showed strong relationship with achievement but the relationship between intelligence and adjustment was not significant in extreme intelligence group. (ii) Students having high intelligence had low adjustment; SES did not show strong relationship with adjustment, other variables in the low intelligence group, it was negatively correlated. (iii) Adjustment showed high positive and significant relationship with achievement and intelligence. Boys were found to be superior or girls in all areas of adjustment.

Sharma, S. (1978) studied the relationship between social class and some personality characteristics among college general students. The purpose was to see whether there was any relationship between the above–mentioned variables of students and the SES of their parents. The sample consisted of 300 Arts students. The tools of research used were Sharma, SES (Urban) and a personal data schedule. The chi–square test was used for data analysis. The results showed that there was no relationship between the social class and the adjustment of academic ability a great number of individuals of all social class has low adjustment of academic ability. The social class of students was significantly related to the faith in Labour of God as the cause of success. A greater number of students of the upper class believed that they were themselves responsible for their success in their work. Whereas a greater number of students
of the lower and middle class believed that success in their work depends upon their fate or God’s grace.

**Saxena, S.K. (1981)** studied the adjustment, study habit and school attitude as correlates of SES and cultural setting in different divisioners. The purpose of the study was how the two independent variables interacted while influencing the dependent variables. The sample had 720 students. The tools used the adjustment Inventory of Rastogi, the study habit Inventory of Patel, the school attitude inventory of GopalRao and the SES scale (Rural and Urban) of Saxena, Analysis of variance, T–test, and Duncan’s range test were used to analysis the data. The results showed that (i) The SES had the most significant effects on adjustment study habit and school attitude of different divisioners as well as failures of high school. The first divisioners belonging to the rural culture had better pattern of study habits than those belonging to the urban culture. Rural culture promoted better study habits and achievement level because the rural students did not involve themselves in bad practices prevalent in an urban society. It was found that the first and second order interaction between SES and cultural setting had no significant effect on adjustment, study habit and school attitude.

**Thatcher, C.A. (1988),** conducted a comparative investigation of the adjustment of gifted and regular classroom students in Primary and secondary grades. This study was designed to evaluate the development of adjustment of gifted students. The sample consisted of 90 gifted and 90 non–gifted students in grades 4. The Piers–Harris adjustment scale was administered to each subject. A tow-way ANOVA was used for data analysis. The results showed that no significant difference on total test scores between the gifted and non–gifted groups. The pattern of test scores obtained suggests that maturation has a differential effect upon adjustment development for the gifted students.

**Waldman, C.E.B. (1989)** investigated the relationship of birth order, sex and certain family variable with internal external locus of control, intelligence, reading level and college aspiration/intentions in hearing impaired high school
students with hearing impaired parents. The sample consisted of 79 students with the age group 13-19 years of age. The instruments used were a student information questionnaire, a college aspiration scale and the locus of control inventory for the deaf. The statistical technique like ANOVA, T-test and Pearson product moment correlation were used to analyze the data. The results showed that the general I.Q. score were more strongly related to their family environment than were general I.Q. scores. Birth order was not significantly related to locus of control acres. However, internal locus of control was associated with age difference between subjects and their sisters, especially for the general subjects. Subjects from the large family were more external than subject from small families.

Tara, P. (1980) studied a study of adjustment, level of aspiration and interest among preadolescents of various socio economic groups. The purpose of the study was to studying the influence of SES on three aspects of personality, namely, adjustment, level of aspiration and interest at the preadolescent stage. The sample consisted of 1,000 student, (500 boys and 500 girls). The tools used in the study were Pires–Harris students adjustment scale. Interest Record (Singh) SES by Kuppaswamy’s Scale (Urban) and personal data schedule development by investigator. T–test, Biserial correlation chi-square was used to analysis the data. The results showed that (i) a significant positive relationship was noticed between parental occupation, parents education, monthly income of father and the level of aspiration, (ii) SES affected the vocational interests of students, (iii) Boys showed a significantly superior scores in comparison of girls on various measures of adjustment. The Urban students scored significantly higher than their rural counter parts.

While, A.M. (1984), studied a comparison of adjustment of gifted and non–gifted general students. The purpose of the study was to investigate the relationship of three variable, grade, ability and sex of adjustment scores of students in grade three, seven and eleven. For the collection of data Piers–Harris adjustment for students was used. F–test, and multiple analyses of variance
utilizing Raff were used for data analysis. The results showed that (i) gifted students regardless of grade and sex, obtained significantly higher adjustment scores than non–gifted students. The third grade general students showed higher adjustment than did general. Students on the seventh grade level general students showed lower adjustment scores than did general students.

2.4.1 DIMENSION WISE STUDIES WITH RESPECT TO INTELLIGENCE, ADJUSTMENT, LOCUS OF CONTROL OF OPPORTUNITY, ACTIVITIES AND TECHNOLOGY

Gleason, Mary Ellen (2011), studied on Intrapersonal Intelligence Strategies in the Developmental Writing Classroom. While many of these intelligences can be incorporated into the higher education classroom, intrapersonal intelligence poses some intriguing opportunities in the developmental writing classroom. As an instructor of developmental writing, the author stumbled upon the value of students developing their self-knowledge as an aid in learning to write more fluently and with confidence. The author believes that student writing as a means to making sense of one's experience is inherently utilizing the intrapersonal intelligence. In this article, the author relates how she improved the fluency and voice of her developmental students' writing, as well as their confidence, by utilizing personal narrative essays, reflective journaling, and self-assessment strategies.

Luu, Trong Tuan (2013) studied on Leading to Learning and Competitive Intelligence. The Purpose of the study aims to examine whether there is the chain effect from corporate social responsibility (CSR) and emotional intelligence (EI) to organizational learning and competitive intelligence in chemical companies in a Vietnam business setting. Design/methodology/approach: Structural equation modeling (SEM) approach was used to analyze a set of 403 responses returned from self-administered structured questionnaires sent to 620 middle level managers. Findings: Research findings reveal the impacts of ethical CSR and EI on organizationally beneficial upward influence behaviors, which promote organizational learning. Learning in organizations then acts as an antecedent to competitive intelligence. Originality/value: To activate the transformation of
individual knowledge into organizational knowledge, managers should role model and inspire members to share, from emotions to ethical values, so that they can transcend their self-interests to develop organizationally beneficial behaviors. Organizational knowledge, from this learning process, will help members discern competitive opportunities.

Dorfman, Shari; Rosenberg, Ruth (2013) studies on Building a Community that Includes All Learners. One way to engage all students and ensure that they feel valued within a classroom is to provide opportunities for learning that tap into varied intelligences. According to Howard Gardner, "It is of the utmost importance that we recognize and nurture all of the varied human intelligences, and all of the combinations of intelligences." Because this reflects their thinking, the authors plan lessons that embrace more than one way of knowing. As a result, they have worked to "expand their repertoire of techniques, tools, and strategies beyond the typical linguistic and logical ones predominantly used in U.S. classrooms." They incorporate activities that honor multiple intelligences right from the start of their school year. When they offer possibilities within their lessons in this way, they enable students to experience success, which, in turn, encourages them to reach beyond their comfort level at subsequent points during the year. In this article, the authors share a set of lessons that they incorporate to achieve their goals: build community, set the tone for an appreciation of diversity, and tap into various intelligences to foster a sense of competence within their students.

2.4.2 INTELLIGENCE ACTIVITIES

Alvarado, John Henry (2013) conducted a study on Encouraging Preadolescent Emotional Intelligence through Leadership Activity. The study sought to determine effects of leadership activity on emotional intelligence in preadolescents. Ninety-two Central California Valley sixth grade students in two schools and four classes were assessed on emotional intelligence. Treatment and comparison groups were identified. A Two-Way Repeated Measures ANOVA examined change over time with respect to treatment, main effect, and interactions. Questions guiding the investigation were: (1) Is pre-adolescent
emotional intelligence affected by leadership activity? (2) Will students of lower SES improve emotional intelligence scores as a result of leadership activities in distinctively different ways when compared to those students of higher SES, as measured by the Mayer, Salovey and Caruso, Emotional Intelligence Test: Youth Version (MSCEIT:YV)? Findings revealed partial support for these predictions. Main effects reveal significance for 5 out of 7 areas with treatment group generating greater means, and SES groups approaching significance for 2 out of 7 areas. Results suggest that leadership activity may be an important vehicle for improving emotional intelligence in schools, students of lower SES may benefit more than students of higher SES, and assessment instrument, regarding vocabulary, for younger populations may require revision.

Iflazoglu Saban, Ayten (2011) conducted a study on An Evaluation of the Teaching Activities Implemented in the Elementary Science and Technology Courses in Terms of Multiple Intelligence Theory: A Sample from Adana The aim of this study was to evaluate to what extent class activities at the Elementary Science and Technology course address intelligence areas. The research was both a quantitative and a qualitative study. The sample of the study consisted of 102 4th grade elementary teachers, 97 5th grade elementary teachers, and 55 6th, 7th, and 8th grade science and technology teachers, including 254 teachers in total. The data in the study were collected through "The Inventory of Class Activities Done in line with the Intelligence Areas", and "the Semi-structured Interview Form". The quantitative data were analyzed by descriptive statistics such as mean, standard deviation, and one-way analysis of variance. The qualitative data were analysed by content analysis as well. It was found that teachers generally used activities addressing for all intelligence areas, they were aware of the multiple intelligence theory, not the subject teachers but the elementary teachers and the senior teachers use teaching activities for more than one intelligence area in their classes. It was determined from the teachers' responses to the questionnaire that teachers were aware of the activities for intelligence areas. However, the interviews revealed that they could not transfer their knowledge about intelligence areas into their classes. Therefore; it could be observed and investigated why teachers did not implement their knowledge about multiple intelligence theory into
their classes and their efforts in the preparation, planning, practice and evaluation phases of teaching.

**Jausovec, Norbert; Jausovec, Ksenija (2012)** conducted a study entitled as Working Memory Training: Improving Intelligence--Changing Brain Activity. The main objectives of the study were: to investigate whether training on working memory (WM) could improve fluid intelligence, and to investigate the effects WM training had on neuroelectric (electroencephalography--EEG) and hemodynamic (near-infrared spectroscopy--NIRS) patterns of brain activity.

In a parallel group experimental design, respondents of the working memory group after 30 h of training significantly increased performance on all tests of fluid intelligence. By contrast, respondents of the active control group (participating in a 30-h communication training course) showed no improvements in performance. The influence of WM training on patterns of neuroelectric brain activity was most pronounced in the theta and alpha bands. Theta and lower-1 alpha band synchronization was accompanied by increased lower-2 and upper alpha desynchronization. The hemodynamic patterns of brain activity after the training changed from higher right hemispheric activation to a balanced activity of both frontal areas.

The neuroelectric as well as hemodynamic patterns of brain activity suggest that the training influenced WM maintenance functions as well as processes directed by the central executive. The changes in upper alpha band desynchronization could further indicate that processes related to long term memory were also influenced.

**Madison, Guy; Forsman, Lea et al. (2009)** conducted a study on Correlations between Intelligence and Components of Serial Timing Variability. Psychometric intelligence correlates with reaction time in elementary cognitive tasks, as well as with performance in time discrimination and judgment tasks.
It has remained unclear, however, to what extent these correlations are due to top-down mechanisms, such as attention, and bottom-up mechanisms, i.e. basic neural properties that influence both temporal accuracy and cognitive processes. Here, we assessed correlations between intelligence (Raven SPM Plus) and performance in isochronous serial interval production, a simple, automatic timing task where participants first make movements in synchrony with an isochronous sequence of sounds and then continue with self-paced production to produce a sequence of intervals with the same inter-onset interval (IOI). The target IOI varied across trials.

A number of different measures of timing variability were considered, all negatively correlated with intelligence. Across all stimulus IOIs, local interval-to-interval variability correlated more strongly with intelligence than drift, i.e. gradual changes in response IOI. The strongest correlations with intelligence were found for IOIs between 400 and 900 ms, rather than above 1 s, which is typically considered a lower limit for cognitive timing. Furthermore, poor trials, i.e. trials arguably most affected by lapses in attention, did not predict intelligence better than the most accurate trials. We discuss these results in relation to the human timing literature, and argue that they support a bottom-up model of the relation between temporal variability of neural activity and intelligence.

2.4.3 INTELLIGENCE TECHNOLOGY

National Research Council (2010) conducted study on Review of the National Defense Intelligence College's Master's Degree in Science and Technology Intelligence. The National Research Council (NRC) was asked by the National Defense Intelligence College (NDIC) to convene a committee to review the curriculum and syllabi for their proposed master of science degree in science and technology intelligence. The NRC was asked to review the material provided by the NDIC and offer advice and recommendations regarding the program's structure and goals of the Master of Science and Technology Intelligence (MS&TI) program.
The Committee for the Review of the Master's Degree Program for Science and Technology Professionals convened in May 2011, received extensive briefings and material from the NDIC faculty and administrators, and commenced a detailed review of the material. This letter report contains the findings and recommendations of the committee. "Review of the National Defense Intelligence College's Master's Degree in Science and Technology Intelligence" centers on two general areas. First, the committee found that the biological sciences and systems engineering were underrepresented in the existing program structure. Secondly, the committee recommends that the NDIC faculty restructure the program and course learning objectives to focus more specifically on science and technology, with particular emphasis on the empirical measurement of student achievement. Given the dynamic and ever-changing nature of science and technology, the syllabi should continue to evolve as change occurs.

IflazogluSaban, Ayten(2011)An Evaluation of the Teaching Activities Implemented in the Elementary Science and Technology Courses in Terms of Multiple Intelligence Theory: A Sample from Adana were taken. The aim of this study was to evaluate to what extent class activities at the Elementary Science and Technology course address intelligence areas. The research was both a quantitative and a qualitative study.

The sample of the study consisted of 102 4th grade elementary teachers, 97 5th grade elementary teachers, and 55 6th, 7th, and 8th grade science and technology teachers, including 254 teachers in total. The data in the study were collected through "The Inventory of Class Activities Done in line with the Intelligence Areas", and "the Semi-structured Interview Form". The quantitative data were analyzed by descriptive statistics such as mean, standard deviation, and one-way analysis of variance. The qualitative data were analyzed by content analysis as well. It was found that teachers generally used activities addressing for all intelligence areas, they were aware of the multiple intelligence theory, not the subject teachers but the elementary teachers and the senior teachers use teaching activities for more than one intelligence area in their classes.
It was determined from the teachers' responses to the questionnaire that teachers were aware of the activities for intelligence areas. However, the interviews revealed that they could not transfer their knowledge about intelligence areas into their classes. Therefore, it could be observed and investigated why teachers did not implement their knowledge about multiple intelligence theory into their classes and their efforts in the preparation, planning, practice and evaluation phases of teaching.

**Lopez, Lorna M.; Mullen, William (2011)** A Pilot Study of Urinary Peptides conducted a study on Biomarkers for Intelligence in Old Age. Intelligence is an important indicator of physical, mental and social well-being. In old age, intelligence is also associated with a higher quality of life and better health. Heritability studies have shown that there are strong genetic influences, yet unknown, on intelligence, including in old age.

Other approaches may be useful to investigate the biological foundations of intelligence differences. Proteomics is a proven technique in revealing biomarkers for certain illnesses. In this pilot study, forty individuals were selected as the cognitive extremes from over 750 people in the Lothian Birth Cohort 1936 (age [approximately] 72 years) based on their high and low intelligence scores, as measured by a general cognitive ability factor. Urine samples were used as a stable, reliable and abundant source of proteins. Using capillary electrophoresis coupled to mass spectrometry (CE-MS) technology, the proteome of the high and low intelligence groups was determined.

Data were calibrated and matched against the human urinary database, to enable comparative assessment. At a nominal significance level (P less than 0.05), there were several candidate proteins for association with intelligence, including a zinc finger protein (ZNF653) that has been associated with cognitive deficits, and complement C3 and collagen fragments that have been associated with Alzheimer's disease. Results are preliminary, do not survive multiple testing correction, and require validation. This pilot study shows the potential of this
novel proteomics approach, and its applicability to understanding the biological foundations of intelligence differences.

2.4.4 ADJUSTMENT OPPORTUNITY

Coles, Rebecca; Swami, Viren (2012) conducted a study entitled as The Socio-cultural Adjustment Trajectory of International University Students and the Role of University Structures: A Qualitative Investigation. The present research explores the socio-cultural adjustment of international students and the role played by university structures in the process. The adjustment process of international students has been modelled in psychological literature as a U-curve, a learning curve and most recently as a long, uneven and unending process of change. Yet, little of the literature has addressed the role played in this process by university structures. The research was conducted in the UK with 58 undergraduates from Malaysia.

It utilized a qualitative design and consisted of two waves of semi-structured small-group interviews. It was found that university structures, in the form of accommodation provision, course provision, and student union clubs and societies, provide opportunities for integration and adjustment support in the early stages of the sojourn. However, the desire for contact with a wide range of others, central to the adjustment process, takes time to develop in international students. It is suggested that an understanding of adjustment as a long and uneven process should be built into structures aiming to support the adjustment of international students.

Bohnert, Amy M.; Aikins, Julie Wargo; Arola, Nicole T. (2013) conducted a study entitled as Regrouping: Organized Activity Involvement and Social Adjustment across the Transition to High School. Although organized activities (OAs) have been established as important contexts of development, limited work has examined the role of OAs across the high school transition in buffering adolescents’ social adjustment by providing opportunities for visibility and peer affiliation. The transition to high school is characterized by numerous changes and
OAs may provide an important setting for establishing and maintaining peer relationships during this tumultuous time.

This study included 151 8th grade U.S. students (58% male) who were assessed across the transition to high school (spring of 8th and 9th grade). Continuous involvement in academic activities across the transition and becoming involved (i.e., initiation) in community/service activities following the transition was associated with fewer depressive symptoms in the spring of 9th grade. Continuous involvement in sports and initiation of academic activities was associated with having more friendships. In addition, links between OAs and loneliness were only evident among females. There appear to be significant social benefits for OA involvement.

**Nelson, Julie A. Peterson; Caldarella, Paul et al.(2008)** conducted a study on Using Peer Praise Notes to Increase the Social Involvement of Withdrawn Adolescents. Social withdrawal is one symptom displayed by students categorized as "internalizers," who may also experience anxiety and depression. These are the quiet, invisible students. Internalizing disorders can negatively affect a student's academic performance, physical health, future psychological adjustment, and employment opportunities.

Supportive peers can help increase the positive interactions of the withdrawn student. Most recently, positive peer reporting (PPR) has been used to treat socially withdrawn behavior in elementary school students. PPR involves teaching classmates to notice and publicly praise a specific, targeted peer's prosocial behavior, then reinforcing students for reporting these behaviors. Although PPR has shown positive effects on elementary students, the effects of peer-written praise on withdrawn junior high school students have not been explored.

Given that the middle-school years often mark the beginning of many school-related behaviors leading to academic failure, school dropout, and increased emotional concerns for many students, a practice to increase the social involvement of withdrawn students in middle school seems warranted. Secondary
students reported that verbal teacher praise in the presence of peers can be uncomfortable and that they prefer quiet teacher praise. Adolescents may prefer and respond more positively to written peer praise over verbal peer praise. In this article, the authors describe how peer praise notes (PPNs) were used to increase the social interactions of three withdrawn students at risk for emotional and behavioral disorders. The authors encourage teachers to consider implementing this practice in their classrooms.

2.4.5 ADJUSTMENT ACTIVITIES

McHale, Susan M.; Updegraff, Kimberly A.; (2009) conducted a study on Cultural Orientations, Daily Activities, and Adjustment in Mexican American Youth. The links between youth's daily activities and adjustment and the role of cultural practices and values in these links were studied in 469 youth from 237 Mexican American families. In home interviews, data on mothers', fathers', and two adolescent-age siblings’ cultural practices (language use, social contacts) and values (for familism, for education achievement) were collected, along with data on youth risky behavior and depressive symptoms. In 7 nightly phone calls, youth reported on their day's free time activities (i.e., sports, academics, religious activities, television viewing, and hanging out).

Analyses revealed that youth who spent more time in unsupervised hanging out reported more depressive symptoms and risky behavior, and those who spent more time in academic activities reported less risky behavior. Results also indicated that more Anglo-oriented youth spent more time in sports, that more Mexican-oriented youth spent more time watching television, that fathers' familism values were related to youth's time in religious activities, and that parents' educational values were linked to youth's time in academic activities. Some evidence indicated that parents' cultural practices and values, particularly fathers', moderated the links between daily activities and youth adjustment.

Teglasi, Hedwig; French, Mila; et al (2008) conducted a study on Dimensions of Temperamental Activity Level and Adjustment. The relationship between students activity level and adjustment has been based on a one-dimensional
conceptualization of activity level and warrants re-examination. Current questionnaires conflate amount of physical movement with its appropriateness to the context, making it impossible to tell which aspect of activity level accounts for its links with adjustment. This investigation, using a Structured Temperament Interview (STI), separated two activity level dimensions, extent of physical movement (Vigor) and its attunement to the context (Modulation).

In two samples, questionnaire measures of activity level correlated positively with Vigor and negatively with Modulation, indicating that high Activity scores reflect a combination of high Vigor and low Modulation. Modulation, but not Vigor, correlated with adjustment as indexed by classification with emotional disability in the school system and by scores on the Behavioral Assessment System for Students. After removal of variance contributed by Modulation, significant correlations were attenuated between adjustment and activity level measured with the Dimensions of Temperament Survey-Revised.

McHale, Susan M.; Updegraff, Kimberly A. et al(2009) conducted a study on Cultural Orientations, Daily Activities, and Adjustment in Mexican American Youth. The links between youth's daily activities and adjustment and the role of cultural practices and values in these links were studied in 469 youth from 237 Mexican American families. In home interviews, data on mothers', fathers', and two adolescent-age siblings' cultural practices (language use, social contacts) and values (for familism, for education achievement) were collected, along with data on youth risky behavior and depressive symptoms. In 7 nightly phone calls, youth reported on their day's free time activities (i.e., sports, academics, religious activities, television viewing, and hanging out).

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parents' cultural practices and values, particularly fathers', moderated the links between daily activities and youth adjustment.

2.4.6 ADJUSTMENT TECHNOLOGY

Ernst, Jeremy V.; Moye, Johnny J. (2013) conducted a study on Social Adjustment of At-Risk Technology Education Students. Individual technology education students' subgroup dynamic informs progressions of research while apprising technology teacher educators and classroom technology education teachers of intricate differences between students. Recognition of these differences help educators realize that classroom structure, instruction, and activities must be conducive to all learners. These research findings are important in identifying technology education social competence characteristics of students at-risk and how they differ from a normative sample of student learners.

The goal and intent of this exploratory research project was to identify the degree of social competence exhibited by technology education students identified as at-risk. Self-control, peer relations, school adjustment, and empathy categorizations provide a depiction of the level of social competence (Walker & McConnell, 1995). Supplemental to the social competence measure, linkages between peer relation and school adjustment competencies were gauged to determine associations. The following research questions guided this exploratory project: (1) Are there differences in social competence between technology education students considered at-risk and a normative student sample?; and (2) Is there competence measure association between social competence subscale elements (self-control, peer relations, school adjustment, and empathy) for technology education students identified as at-risk?

Stebbins, Gary (2009) conducted a study on Planning and Delivering Instruction with Increasing Class Sizes in Educational Administration Program Coursework: Modeling Leadership Skills for New Professors Transitioning from K-12 Administration. Increased class sizes and advising responsibilities are the new realities in California's graduate programs of Educational Administration. In order
to effectively meet new challenges, professors must make adjustments in venue, plan meticulously, utilize technology, distribute leadership, and implement alternative grading systems. This is a particular challenge to new professors, many who are former K-12 public school administrators.

Adult instructional practices such as peer reviews, working meals, continuous movement and breaks, guest presenters, and alternative assignments must be implemented. Finally, alternative grading and assessment practices such as student/professor performance agreements can leverage a large class human resource component. By modeling effective leadership with large classes while utilizing sound principles of adult learning, professors can effectively impart the skills and dispositions vital for new school leaders in the current educational environment.

Shelton, Katherine H.; Boivin, Jacky et al (2009) conducted a study on Examining Differences in Psychological Adjustment Problems among Students Conceived by Assisted Reproductive Technologies. The aim of this study was to examine whether there was variation in levels of psychological adjustment among students conceived through Assisted Reproductive Technologies using the parents' gametes (homologous), sperm donation, egg donation, embryo donation and surrogacy. Information was provided by parents about the psychological functioning of 769 students aged 5 to 9 years who had been born using ART (from the five groups described).

Comparisons were made between the different conception groups, to UK national norms and, for a sub-sample of multiple births, to an age-matched twin sample. No differences were found between the conception groups except that fathers from the egg donation group rated students higher in conduct problems compared to other ART groups. No effects were observed by ART treatment type (ICSI vs. IVF, GIFT and IUI).

There was some evidence of lower conduct problems and prosocial behaviour among students conceived through homologous IVF compared to national norms.
Taken together, however, consistent differences between groups and in comparison to naturally conceived students were not apparent for mother- or father-rated adjustment problems. Students conceived with assisted reproductive technologies, regardless of whether they are genetically related or unrelated to their parents or born by gestational surrogacy do not differ in their levels of psychological adjustment. Nor do they appear to be at greater risk of psychological adjustment problems in middle childhood compared to naturally conceived students.

2.4.7 LOCUS OF CONTROL ADJUSTMENT

Aspelmeier, Jeffery E.; Love, et al (2012) Self-Esteem, Locus of Control, College Adjustment, and GPA among First- and Continuing-Generation Students: A Moderator Model of Generational Status. The role of generational status (first-generation vs. continuing-generation college students) as a moderator of the relationship between psychological factors and college outcomes was tested to determine whether generational status acts as a risk factor or as a sensitizing factor. The sample consisted of 322 undergraduate students who completed online measures of self-esteem, locus of control, and academic adjustment and provided self-reports of GPA. Generational status significantly moderated the relationship between psychological factors and academic outcomes. Generally, it was found that the relationship between psychological factors and academic outcomes were strongest among first-generation students.

Further, it was found that for the majority of the interactions with locus of control, first-generation status acted as a sensitizing factor that amplified both the positive and negative effects of locus of control. In contrast, for self-esteem, first generation status acted as a risk factor that only exacerbated the negative effects of low self-esteem. These results are interpreted as reflecting motivational differences between first- and continuing-generation students and are discussed with respect to the social/cultural capital hypothesis that is most frequently presented in the existing literature.
**Estrada, Lisi; Dupoux, Errol; Wolman, Clara** (2006) conducted a study on **The Relationship between Locus of Control and Personal-Emotional Adjustment and Social Adjustment to College Life in Students with and without Learning Disabilities.** This study investigated the relationship between locus of control and social and personal-emotional adjustment to college life in students with and without learning disabilities (LD). Differences in locus of control in college students with and without LD were also examined. The Adult Nowicki-Strickland Internal/External Locus of Control Scale (Nowicki & Duke, 1974) was used to measure locus of control; two subscales from the Student Adaptation to College Questionnaire (Baker & Siryk, 1989) measured the social adjustment and personal-emotional adjustment to college.

Thirty-one undergraduate college students with LD and 30 students without LD participated. Results showed a significant relationship between locus of control and both social adjustment and personal-emotional adjustment for both groups. Students with external locus of control tended to have higher adjustment scores than others. No differences were found in the locus of control orientation between students with and without LD, and in the personal-emotional adjustment to college life. Students with LD scored higher in social adjustment than their peers without LD.

**Kaniel, Shlomo; Siman-Tov, Ayelet** (2011) conducted a study on **Comparison between Mothers and Fathers in Coping with Autistic Students: A Multivariate Model.** The main purpose of this research is to compare the differences between how mothers and fathers cope with autistic students based on a multivariate model that describes the relationships between parental psychological resources, parental stress appraisal and parental adjustment. 176 parents who lived in Israel (88 mothers and 88 fathers) of students aged between 6 to 16 most of them (81%) were diagnosed as suffering from PDD and the rest (19%) as suffering from PDDNOS.
The parents answered several questionnaires measuring parental psychological resources (social support, sense of coherence, locus of control), parental appraisal of stress (challenge vs. threat), and parental adjustment (mental health and marriage quality). The results show that all the variables entered the path analysis model with the same pattern. However, some links between the variables are quite similar for mothers and fathers while others are different. The results lead to several interesting suggestions for future research using dynamic systems framework and process-oriented methodological approaches.

### 2.4.8 LOCUS OF CONTROL OPPORTUNITY

**Tull, Ashley; Freeman, Jerrid P.(2011)** conducted a study on Reframing Student Affairs Leadership: An Analysis of Organizational Frames of Reference and Locus of Control. Examined in this study were the identified frames of reference and locus of control used by 478 student affairs administrators. Administrator responses were examined to identify frames of reference most commonly used and their preference order. Locus of control most commonly used and the relationship between frames of reference and locus of control with administrator characteristics were also investigated.

Study results revealed that administrators surveyed had a high preference for the Human Resource Frame of Reference and External Chance Locus of Control. Results also revealed a number of statistically significant correlations between preferred frames of reference, locus of control, and administrator characteristics. These results present new knowledge on the frames of reference and locus of control predominantly used by student affairs administrators in formulating their perceptions, attitudes, and ultimately behaviors and decisions.

**Freed, Rachel D.; Tompson, Martha C.(2011)** conducted a study on Predictors of Parental Locus of Control in Mothers of Pre- and Early Adolescents. Parental
locus of control refers to parents' perceived power and efficacy in child-rearing situations. This study explored parental locus of control and its correlates in 160 mothers of students ages 8 to 14 cross-sectionally and 1 year later. Maternal depression, maternal expressed emotion, and child internalizing and externalizing behavior were examined, along with a number of sociodemographic factors.

Cross-sectional analyses indicated that external parental locus of control was associated with child externalizing behavior, maternal depression, less maternal education, lower income, and older maternal age. Longitudinal analyses showed that child age and externalizing behavior also predicted increases in external parental locus of control 1 year later.

Lloyd, Tracey; Hastings, Richard P. (2009) Parental Locus of Control and Psychological Well-Being in Mothers of Students with Intellectual Disability. Background: Psychological mechanisms may help to explain the variance observed in parental psychological adjustment in parents of students with intellectual disability (ID). In this study, parental locus of control and its role in relation to maternal psychological well-being was explored. Method: Questionnaires were sent to 91 mothers of students with ID at two time points, 18 months apart. Results: Parental locus of control was associated with both maternal positive perceptions and with maternal distress.

Regression analyses showed that dimensions of parental locus of control were significant predictors of negative maternal adjustment. Maternal positive perceptions were predicted by perceived control of the child and belief in fate or chance. Overall parental internal-external locus of control entered into a bidirectional relationship with stress over 18 months. Conclusions: Parental locus of control is a construct that may explain some of the variance in maternal well-being and thus is a construct that merits further research.

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2.4.9 LOCUS OF CONTROL TECHNOLOGY
Tull, Ashley; Freeman, Jerrid P.(2011) conducted a study on Reframing Student Affairs Leadership: An Analysis of Organizational Frames of Reference and Locus of Control. Examined in this study were the identified frames of reference and locus of control used by 478 student affairs administrators. Administrator responses were examined to identify frames of reference most commonly used and their preference order. Locus of control most commonly used and the relationship between frames of reference and locus of control with administrator characteristics were also investigated.

Study results revealed that administrators surveyed had a high preference for the Human Resource Frame of Reference and External Chance Locus of Control. Results also revealed a number of statistically significant correlations between preferred frames of reference, locus of control, and administrator characteristics. These results present new knowledge on the frames of reference and locus of
control predominantly used by student affairs administrators in formulating their perceptions, attitudes, and ultimately behaviors and decisions.

**Lee, Youngju; Choi, Jaeho; Kim, Taehyun (2013)** conducted a study on Discriminating Factors between Completers of and Dropouts from Online Learning Courses. This study examined the differences between persistent and dropout students enrolled in an online course with five factors: support from family and work, academic locus of control, academic self-efficacy, time and environment management skills, and metacognitive self-regulation skills. Moreover, this study investigated the most significant factors discriminating students' success in their online course completion. A total of 169 adult students participated in the study. We used online surveys, which consisted of 27 items adopted from the literature, to measure the level of five factors of which students perceive. The analysis showed persistent students had higher levels of academic locus of control and metacognitive self-regulation skills than dropout students. Our finding suggests that these factors are the most significant factors influencing students' persistence in an online course.

**Freed, Rachel D.; Tompson, Martha C. (2011)** has conducted a study on Predictors of Parental Locus of Control in Mothers of Pre- and Early Adolescents. Parental locus of control refers to parents’ perceived power and efficacy in child-rearing situations. This study explored parental locus of control and its correlates in 160 mothers of students ages 8 to 14 cross-sectionally and 1 year later. Maternal depression, maternal expressed emotion, and child internalizing and externalizing behavior were examined, along with a number of sociodemographic factors. Cross-sectional analyses indicated that external parental locus of control was associated with child externalizing behavior, maternal depression, less maternal education, lower income, and older maternal age.

Longitudinal analyses showed that child age and externalizing behavior also predicted increases in external parental locus of control 1 year later. Finally, lower
income and less parental perceived control predicted increases in child externalizing behavior over time.

2.5.0 DISCUSSIONS:

1. Tara, P. (1980) found significant positive relationship between parental occupation, parental education, monthly income of father and the level of aspiration.


   c. Savic, A. (1980), Ike, P.S. (1989), no significant difference was found between fegegenerals and generals in each group. But Moredock, R.C. (1981), Leary, R.N. (1983), Screen, S.J. (1987), Sharma, K.L. (1978) found that there was a significant difference in adjustment between generals and fegegenerals. Generals had a more positive adjustment than fegegeneral. White, A.M. (1984) found that in third grade fegegeneral students showed higher
adjustment than did general. Students on the 7\textsuperscript{th} grade level, fegeneral students showed lower adjustment scores than did general students. In the study conducted by Tara, P. (1980), Boys scored a significant superior score to girls on various measures of adjustment. The urban students scored significantly higher than their rural counterparts. From the above studies the researcher found that there are contradictory finding regarding the relationship of intelligence and adjustment and there is need for further study.


f. Baker, C.F. (1983) found behaviour is a result of the interaction and inter dependences of person and the environment in which the person exists. Waldman, C.F. (1989) birth order was not significantly related to locus of control scores. But subject from the large family were more external than subject from the small families.

difference of locus of control based on sex. But Blusiewicz, C.O. (1983) found that for generals a significant correlation was found between high achievement and external locus of control.

2.5.1 CONCLUSION:

From the above studied the researcher found that there are contradictory findings regarding the relationship of intelligence and locus of control and there is need for further study. It was also found adjustment and loci of control are in relation with intelligence of the learners. No study was found with the social category as orphan and general learners with respect to their intelligence, adjustment and locus of control. Therefore, the research undertaken such problem as social need and area of research. in order to find out their associations or in bifurcation with factorial contribution within the problem for the study.

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