CHAPTER VI
SUMMARY

Education being the sub system of society plays a key role in moulding, shaping, reforming and reconstructing it from time to time. One of the major features of contemporary educational thinking has been a growing concern about the development of effective personality and efficiency of teaching learning outcomes that can be assessed in terms of student’s achievement. The academic achievement of students is considered to be very significant determinant of their success in later life.

Achievement is the end product of all educational endeavours (Balasubramanyan, 1997). It is the sole criteria to evaluate the ability of students. In other words academic achievement refers to the pupils’ knowledge attainment and skills developed in the school subject and is assessed by the authorities with the help of achievement tests in the form of examination (Bajwa et al., 1994). Moreover, there are many higher and professional institutions which follow the criteria to admit the students on the basis of marks acquired by them in their examination (Uniyal, 2006). Some students excel in examination, understand easily and quickly whatever is taught in the classrooms while others remain as they are, even when the teaching is same to all in the class. The degree of variation with regard to achievement and excellence found among pupils is really a problem (Krishnan, 1993).

Academic achievement is attained ability or degree of competence in school task, usually measured by standardized tests and expressed in percentage or grade units, based on norms derived from performance of people (Trow, 1967). The effectiveness of home environment, attitudes towards subjects and educational aspiration emerged as the more important and consistent predictors of achievement; peer influences, school environment and study habits had mixed inconsistent effects on achievement (Chen, 2001). Whereas Ganguly (2004) pointed out that parental care about child’s education, emotional climate at home and socio economic status of family had positive correlation whereas crowded living conditions at home had negative correlation with academic achievement of students in rural and urban areas.

Cognitive styles are the characteristics, self consistent modes of functioning, which is shown in the individual’s perceptual and intellectual activities. It means that the characteristic ways in which an individual goes about taking information from the world is referred to as cognitive style. It is a characteristic and systematic procedure within the psycho-physical functioning of an individual that helps him to grasp or hold certain signal power from environment and to arrive at a desired end with the help of his innate potentialities,
perceptions and his intellectual abilities like knowledge, understanding, comprehension, application, analysis and synthesis.

It has been observed that certain individuals tend to respond very quickly in most situations (impulsive cognitive style), others are more reflective and slower to respond (reflective cognitive styles), even though both types of individuals are equally knowledgeable about the task. Cognitive styles reveal that individuals respond the same task in different ways but this doesn’t reflect level of intelligence patterns. As intellectual abilities refers to the content of cognition or the question of ‘what’ (what kind of information is being processed, with what operation and what to find); cognitive style bears on the question of ‘how’ (the manner in which behaviour occurs) while the concept of ability implies the measurement of capacities in terms of maximum or peak performance; cognitive style implies the measurement of operation in terms of typical performance (in terms of thinking, remembering or problem solving). Cognitive styles are often described as falling on the border line between mental abilities and personality traits (Broadzensky, 1982). Main cognitive styles are field articulation, conceptualizing styles, breadth of categorization, compartmentalization, conceptual articulation, conceptual integration, conceptual differentiation, cognitive complexity vs simplicity, leveling vs sharpening, reflection vs impulsivity, risk taking vs cautiousness, tolerance vs intolerance of unrealistic experience, constricted vs flexible control, strong vs weak automatization, conceptual vs perceptual motor dominance, converging vs diverging and field dependence vs field independence.

Personality refers to the distinctive patterns of behaviour including thoughts and emotions that characterize each individual’s adaptation to the situations of life (Mischel, 1976). It is an individual’s enduring persistent response patterns across a variety of situations which comprised of relatively stable patterns of action often referred to as traits, dispositional tendencies, motivation, attitude and beliefs which are combined into a more or less integrated self structure (Harre et al., 1983) and that determine those commonalities and differences in the psychological behaviour (thoughts, feelings and actions) of people that have continuity in time and that may or may not be easily understood in terms of social and biological pressures of immediate situation alone (Maddi, 1976).

Personality traits are distinguishing qualities or characteristics of a person. Traits are readiness to think or act in a similar fashion in response to a variety of different stimuli or situations. A personality trait is some particular quality of behavior such as cheerfulness, self reliance which characterizes the individuals in a wide range of his activities and is fairly consistent over a period of time (Woodworth, 1965). The biophysical concept of personality
organization believes that traits are dynamic and flexible dispositions resulting at least in part, from the integration of specific habits, expressing characteristics modes of adaptation of one's surrounding (Allport, 1948). Cattell (1968) defined trait as structure of personality inferred from behavior in different situations. Richardson (1980) emphasized the traits of personality as the ability to understand others correctly and to appreciate their work; gave proper importance to the feelings of others; be careful about the facilities of others; show good manners; normal emotional maturity; adjust oneself according to changed circumstances. Main trait approaches are Cattell sixteen personality factors; Eysenck three traits viz. introversion-extroversion, neuroticism (emotional instability-emotional stability) and psychotocism. McCrae et al. (2003) five traits as neuroticism, extraversion, openness to experience, agreeableness, conscientiousness.

Adjustment is a harmonious relationship with the environment in which most individual’s needs are satisfied in socially acceptable ways resulting from passive conformity to vigorous action (Veena et al., 2003). It is a condition or state of mind and behaviour in which one feels that one’s needs have been, or will be, gratified. The satisfaction of these needs, however, must lie within the framework and requirements of one’s culture and society. As long as this happens, the individual remains adjusted; failing this, he may drift towards maladjustment and mental illness.

Adjustment is the interaction between a person and his environment (Arkoff, 1968). How one adjusts in a particular situation depends upon one’s personal characteristics and the circumstances of the situation. It is a continual process in which a person varies his behaviour to produce a more harmonious relationship between himself and his environment (Gates et al., 1970). In other words, both personal and environmental factors work side by side in adjustment. An individual is adjusted if he is adjusted to himself and to his environment and maintains a balance between his needs and circumstances that influence the satisfaction of needs (Shaffer, 1961). An adjusted learner is one who attacks problem directly, accepts and tolerates normal amount of frustration, acts rationally, makes sincere efforts to reach his goal, enjoys company of others, remains cheerful, energetic and possesses an optimistic view of life and things around him. So it is the establishment of a satisfactory relationship, as representing harmony, conformance, adaptation or the like (Webster, 1951).

Rationale of the Study

The success of any educational program is dependent on how well the teacher is able to deliver his thoughts and concepts and how well child is able to receive it. Today, it is well known fact that education is not only cramming up and acquiring bookish knowledge but
refers to the development of the child as a whole. So the primary responsibility of the teacher’s is to determine the student’s progress in each area. Trout (1991) contended that academic achievement of a child is the knowledge, attitude and skills developed by him in the subjects in which he is imparted training in schools. Although high achievement is considered as one of the primary goals of education, since it has come to be recognized as a strong basis for ambition and progress. The stage of adolescence is very important from the point of view of education for shaping the personality of an individual. Erickson (1968) asserts that at this stage, adolescents search by questioning and redefining his own socio-psychological identity established during earlier stages and is definitely linked with his sudden and rapid bodily changes; and anxiety and pressures related to his need to make decisions about his future education and carrier. Consequently, the adolescent tries to search for his new role and identity. Teachers and parents can play a constructive role in helping adolescents. Keeping in view the problems of this crucial stage, the investigator takes into account adolescent stage in her present study.

Related literature shows that large number of studies was conducted on cognitive style. Most of the studies revealed positive correlation between cognitive style and academic achievement as Gosnel (1983), Copeland (1983), Bowers (1984), Canning (1984), Lestch (1984), Paul (1986) Lata (1986), Marx et al. (1987), Vaidya (1988), Wolf (1992), Pandey (1992), Goswel (1993 ), Dutt (1993), Kiranmayi et al. (1996), Albert (2004), Bagchi (2004), Malathi et al. (2006) and Kenth (2009). A few studies revealed no significant relation between cognitive style and academic achievement as Witkin et al. (1977), Yeatts et al. (1971), Zhang (1982) and Parikh (2004). It should be noted that population of these studies were different such as gifted, student with specific subject and specific area. Moreover, comprehensive study of literature on cognitive style has revealed that most researcher have studied only two dimensions of cognitive style i.e. field independent and field dependent but in the present study, the investigator had selected different five dimensions of cognitive style viz. systematic, intuitive, undifferentiated, integrated and split cognitive style. Also the investigator found that there was hardly any research, which studied the relationship of these five dimensions of cognitive style with academic achievement. That is why the investigator selected cognitive style particularly with these dimensions.

Regarding Personality variable, most of the researchers found that personality trait intelligence, conscientiousness, self sufficiency, shrewdness, social awareness, strong superego, adventurous, socially bold, exhibition and endurance were positively and significantly correlated with academic achievement whereas neuroticism, introvert,
maladjustment, psychotocism, paraxarnia, practical conservatism, apprehension and tense behavior were negatively correlated. Few studies showed positive relationship between academic achievement and different personality factors as reported by Cithatoon (1988), Rajiv (1983), Dhillon (1993), Bhatnagar(1995) Khatoon (2003) and Suresh (2003), but many studies showed negative relationship between academic achievement and different personality factors as Enthuistle et al. (1983), Sood (2005) and Bajwa et al. (2008). But a few studies revealed inconsistent findings regarding personality factors and academic achievement as reported by Verma et al. (1998), Sood (2005) and Bajwa et al. (2008). Much of these studies have been conducted on few selected traits of personality such as extroversion and introversion. But the investigator selected all fourteen personality traits determined by Cattell et al. (1999).

Academic Achievement of an adolescent also depends upon the adjustment as it is main component part of human life. Most part of the studies revealed positive correlation between adjustment and academic achievement as Sesnick (1951), Hoyt et al. (1954), Jensen (1958), Dana et al. (1961), Cowell et al. (1962), Anderson et al. (1963), Watley (1965), Sinha (1966), Crites et al. (1967), Yellott et al. (1969), Sinha (1970), Pathak (1972), Street (1973), Singh (1974), Millar (1975), Tiwari et al. (1976), Fatal et al. (1977), Saxena (1978), Finn (1979), Saxena (1979), Rai (1979), Gulati (1979), Houtz et al. (1980), Shukla et al. (1980), Chattarjee et al. (1981), Seefeldt (1981), Gulati (1982), Mohan et al. (1983), Rai (1989), Kumari (1998), Aggarwal (2003) and Mohan et al. (2006) whereas some part of the studies shows positive correlation between home adjustment and academic adjustment as Dhaliwal (1971), Biopra (1982), Chopra (1982), Goel (1986), Goel (1988), Kumar (1993), Jagannadhan (2003) and Mohanty (2009) and some showed positive correlation between emotional adjustment and academic adjustment as Johnson (1970), Dhaliwal (1971), Singh (1988), Chauhan (1994), Sinha (1996), School of Emotional Literacy (2003) and Usha (2007) and only few studies showed relationship of academic achievement with social, health, occupational adjustment and although inconsistency in the results were shown. Many studies showed no significant relationship between different dimensions of adjustment (home, social, emotional) with academic achievement as Dhaliwal (1971), Sharma et al. (1988), Rai (1989), Sood (1992), Chauhan (1995) and Ebenezer et al. (2009). Therefore, these studies revealed that the degree of adjustment and influence on achievement was not same in different areas of adjustment. These observations emphasize to study all these areas of adjustment along with general adjustment as related to academic achievement. That is why the investigator had selected all the dimensions of adjustment for the present study.

On the basis of above discussed observations the investigator designed a study to
examine academic achievement in relation to cognitive style, personality traits and adjustment of adolescents. For through understanding of relationships and differences between these, some additional variables were also examined such as gender, location and type of school. It was expected that the findings of present study would contribute to fill some gap and might help in generalisation regarding these variables.

**Statement of the Problem**

A study of Academic Achievement in relation to Cognitive Styles, Personality Traits and Adjustment of Adolescents

**Delimitations of the Study**

The present study was delimited to:

1. Students of 10+1 class of senior secondary schools affiliated to Punjab School Education Board, Mohali of Amritsar district.

**Objectives of the Study**

1. To find out the difference in academic achievement of adolescents between different levels of cognitive style.
2. To find out the difference in academic achievement of adolescents between different personality factors.
3. To find out the difference in academic achievement of adolescents between different levels of adjustment (dimension wise).
4. To study the influence of gender, cognitive style and their interaction on academic achievement of adolescents.
5. To study the influence of gender, personality factors and their interaction on academic achievement of adolescents.
6. To study the influence of gender, adjustment and their interaction on academic achievement of adolescents.
7. To study the influence of location, cognitive style and their interaction on academic achievement of adolescents.
8. To study the influence of location, personality factors and their interaction on academic achievement of adolescents.
9. To study the influence of location, adjustment and their interaction on academic achievement of adolescents.
10. To study the influence of type of school, cognitive style and their interaction on academic achievement of adolescents.
11. To study the influence of type of school, personality factors and their interaction on academic achievement of adolescents.

12. To study the influence of type of school, adjustment and their interaction on academic achievement of adolescents.

13. To study the correlation between academic achievement and different cognitive styles of adolescents for gender, location and type of school.

14. To study the correlation between academic achievement and different personality factors of adolescents for gender, location and type of school.

15. To study the correlation between academic achievement and different dimensions of adjustment of adolescents for gender, location and type of school.

16. To study the difference in correlation between academic achievement and different cognitive styles of adolescents on the basis of gender, location and type of school.

17. To study the difference in correlation between academic achievement and different personality factors of adolescents on the basis of gender, location and type of school.

18. To study the difference in correlation between academic achievement and different dimensions of adjustment of adolescents on the basis of gender, location and type of school.

19. To establish regression equation for predicting academic achievement on the basis of cognitive style, personality factors and adjustment (dimension wise) of adolescents.

20. To study the factor structure of academic achievement, cognitive style, personality factors and adjustment (dimension wise) of adolescents.

**Hypotheses of the Study**

1. There is no significant difference in academic achievement of adolescents between different levels of cognitive style.

2. There is no significant difference in academic achievement of adolescents between different personality factors.

3. There is no significant difference in academic achievement of adolescents between different levels of adjustment (dimension wise).

4. There is no significant influence of gender, cognitive style and their interaction on academic achievement of adolescents.

5. There is no significant influence of gender, personality factors and their interaction on academic achievement of adolescents.

6. There is no significant influence of gender, adjustment and their interaction on academic achievement of adolescents.
7. There is no significant influence of location, cognitive style and their interaction on academic achievement of adolescents.

8. There is no significant influence of location, personality factors and their interaction on academic achievement of adolescents.

9. There is no significant influence of location, adjustment and their interaction on academic achievement of adolescents.

10. There is no significant influence of type of school, cognitive style and their interaction on academic achievement of adolescents.

11. There is no significant influence of type of school, personality factors and their interaction on academic achievement of adolescents.

12. There is no significant influence of type of school, adjustment and their interaction on academic achievement of adolescents.

13. There is no significant correlation between academic achievement and different cognitive styles of adolescents for gender, location and type of school.

14. There is no significant correlation between academic achievement and different personality factors of adolescents for gender, location and type of school.

15. There is no significant correlation between academic achievement and different dimensions of adjustment of adolescents for gender, location and type of school.

16. There is no significant difference in correlation between academic achievement and different cognitive styles of adolescents on the basis of gender, location and type of school.

17. There is no significant difference in correlation between academic achievement and different personality factors of adolescents on the basis of gender, location and type of school.

18. There is no significant difference in correlation between academic achievement and different dimensions of adjustment of adolescents on the basis of gender, location and type of school.

**Method**

Descriptive survey method of research was employed for the present study.

**Sample**

In the present study schools were selected by stratified random sampling technique. From each selected school, the intact class was taken as a sample. In this way, total sample of 1246 adolescents of 10+1 grade was taken as follows.
Table 6.1
Structure of the Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Boys</td>
<td>684</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>562</td>
</tr>
<tr>
<td>Location</td>
<td>Urban</td>
<td>674</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>572</td>
</tr>
<tr>
<td>Type of School*</td>
<td>Govt.</td>
<td>397</td>
</tr>
<tr>
<td></td>
<td>Aided</td>
<td>434</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>415</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1246</td>
</tr>
</tbody>
</table>

* The school receiving hundred percent grant from government are called government school: The school receiving partial grant from government are called aided school: The school receiving no grant from government are called private school.

Tools

1. Marks of students from result (Gudgets) of PSEB matriculation examination (March, 2007) were taken as academic achievement.

2. Cognitive Style Inventory (2001) prepared by Dr. Praveen Kumar Jha was used. It consists of 40 questions which measure systematic cognitive style and intuitive cognitive style consisting of 20 questions each on a five point scale. The inventory consists of five dimensions of cognitive style viz. systematic, intuitive, integrated, undifferentiated and split cognitive style.

3. Jr. Sr. High School Personality Questionnaire H.S.P.Q. (1999) prepared by Dr. R.B. Cattell and Mary D. L. Cattell (1999) was used. It measures 14 personality factors viz. A (Reserved/Warmhearted), B (Less Intelligent/More Intelligent), C (Affected by feelings/Emotionally Stable), D (Undemonstrative/Excitable), E (Obedient/Assertive), F (Sober/Enthusiastic), G (Disregards rules/Conscientious), H (Shy/Adventurous), I (Tough Minded/Tender minded), J (Zestful/Circumspect individualism), O (Self Assured/Apprehensive), Q2 (Socially group dependent/self sufficient), Q3 (Uncontrolled/Controlled) and Q4 (Relaxed/Tense) by 142 questions. The scoring was done with the help of two stencils provided along with test.

4. Bell's Adjustment Inventory (1999) prepared by Dr. R.K. Ojha was used. The inventory includes four aspects of adjustment viz. home, health, social and emotional. Each part has 35 questions (140 questions), which were answered on a three point scale as Yes, No and question mark.

Data Collection

The data was collected in a set of three to four visits from each school selected for the sample. Prior permission from the Principals of respective schools was taken for data collection. An available intact class was taken for data collection at a time. The students were
given a single test at a time. The instructions of the test were made clear to them. After that
the test was administered on them and the answer sheets were collected. In the same way all
tools were administered on them. Scoring was done according to the instructions given in
respective manual. After that tabulation and analysis of the data was done in the light of
framed objectives.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Objective Number</th>
<th>Statistical technique employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,2,3</td>
<td>One Way ANOVA followed by t-test</td>
</tr>
<tr>
<td>2</td>
<td>4, 5,6,7,8,9,10,11,12</td>
<td>Two Way ANOVA</td>
</tr>
<tr>
<td>3</td>
<td>13,14,15</td>
<td>Product Moment Correlation</td>
</tr>
<tr>
<td>4</td>
<td>16,17,18</td>
<td>t-test for testing significance of difference between correlation</td>
</tr>
<tr>
<td>5</td>
<td>19</td>
<td>Regression Analysis</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>Factor Analysis</td>
</tr>
</tbody>
</table>

Findings of the study

1. Cognitive styles (systematic and intuitive), personality factor B, personality factor H,
   home adjustment, health adjustment, emotional adjustment, gender and location
   influenced the academic achievement of adolescents whereas personality factor A, C, D,
   E, F, G, I, J, O, Q2, Q3, Q4, social adjustment and type of school did not influence the
   academic achievement of adolescents.

2. There was no influence of interaction between gender and cognitive style; gender and
   systematic cognitive style; gender and personality factor A, B, C, D, E, F, G, I, J, O, Q2,
   Q3 and Q4; gender and home adjustment, gender and health adjustment, gender and
   emotional adjustment; location and cognitive style, location and systematic cognitive
   style, location and intuitive cognitive style; location and personality factor A, B, C, D, E,
   F, G, H, I, J, Q3 and Q4; location and home adjustment, location and health adjustment,
   location and social adjustment, and location and emotional adjustment; type of school and
   cognitive style, type of school and systematic cognitive style; type of school and
   personality factor A, C, D, E, F, G, H, I, J, O, Q3 and Q4; type of school and home
   adjustment, type of school and social adjustment, type of school and social adjustment,
   and type of school and emotional adjustment on academic achievement of adolescents.

3. There was influence of interaction between gender and intuitive cognitive style; gender
   and personality factor H; gender and social adjustment; location and personality factor O;
   location and personality factor Q2; type of school and intuitive cognitive style; type of
   school and personality factor B; type of school and personality factor Q2 on academic
   achievement of adolescents.

4. There was significant, positive and low correlation between academic achievement and
   systematic cognitive style, academic achievement and home adjustment, academic
achievement and health adjustment; a significant, positive and negligible correlation between academic achievement and intuitive cognitive style, academic achievement and personality factor B, academic achievement and personality factor G for adolescents; academic achievement and social adjustment, academic achievement and emotional adjustment for adolescents; there was no correlation between academic achievement and personality factor A, C, D, E, F, H, I, J, O, Q2, Q3 and Q4 for adolescents.

5. There was no difference in correlation of academic achievement and systematic cognitive style, academic achievement and intuitive cognitive style of adolescents on the basis of gender and location; academic achievement and cognitive style (systematic and intuitive) of adolescent on the basis of type of school (aided and private); academic achievement and personality factor A, B, C, D, E, F, G, H, I, J, O, Q2, Q3 and Q4 on the basis of gender and location; academic achievement and personality factor B of adolescent on the basis of type of school (government and private); academic achievement and personality factor A, C, D, E, F, G, H, I, J, O, Q2, Q3 and Q4 of adolescents on the basis of type of school (government and aided, government and private, and aided and private); academic achievement and home adjustment, academic achievement and health adjustment, and academic achievement and emotional adjustment on the basis of gender; academic achievement and different dimensions (home, health, social and emotional) of adjustment on the basis of location and type of school (government and aided, government and private, and aided and private).

6. There was difference in correlation of academic achievement and cognitive style (systematic and intuitive) of adolescent on the basis of type of school (government and aided; and government and private); academic achievement and personality factor B of adolescent on the basis of type of school (government and aided, and aided and private); academic achievement and social adjustment of adolescents on the basis of gender

7. The regression equation for predicting academic achievement was as follows:
\[
\text{Academic achievement} = 55.797 + \text{Gender} \times 1.248 - \text{Location} \times 1.958 - \text{Home adj.} \times 0.243 - \text{Health adj.} \times 0.394 + \text{Personality Factor E} \times 0.140 + \text{Sys. Cog. Style} \times 0.127. 
\]

8. Seven factors were found as Factor I (Personality factor D, O and Q4); Factor II (home, health, social and emotional adjustment); Factor III (Personality factor A, C, G, I and Q3); Factor IV (Systematic and Intuitive cognitive style with academic achievement); Factor V (Personality factor Q2); Factor VI (Personality factor E, J); Factor VII (Personality factor B, F and J).

Limitations of the Study

Academic achievement of the students was measured as per result of PSEB matriculation examination; few randomly selected schools refused for collection of data.
Educational Implications

Teacher should follow logical, step by step sequential approach to thinking, learning, problem solving and decision making which helps to attain more academic scores; holistic and visual approach for learning of the concepts should be followed; adventurous activities may be initiated in the school curriculum; focus on the educational aspect in the areas of home, health and emotional adjustment; develop an ability to receive information from the environment, transform and use that information to respond to the environment in an own characteristic way; provide real life experience patterns to the learner; develop the ability of self assurance and self sufficiency among adolescents; involve the activities which develop higher mental capacities, reflective thinking, enthusiasm among the students to enhance academic achievement.

Suggestions for further research

Standardized tool may be developed to measure academic achievement of students; different schools as Kendriya Vidalayas, Navodaya Vidalayas can be taken for comparative study with same variables; experimental work may be conducted by taking these variables to enhance academic achievement.