CHAPTER - VII
SUMMARY

Education is the process by which an individual gains knowledge or insight, or develops attitudes or skills. It is called formal education when it is acquired through organized study or instruction, as in a school or college. It is informal when its content arises from day-to-day experiences or through undirected contacts with books, periodicals, motion pictures, radio and television programmes. The function of education is both social and individual. Its social function is to help each individual become a more effective member of society by passing along to him the collective experience of the past and present. Its individual function is to enable him to lead a more satisfying and productive life by preparing him to handle new experiences successfully (Encyclopedia Americana, 1965).

Achieving high standards is considered a power symbol and way of life. Everyone desires to attain high standards of excellence. Usually this achievement process begins with the academic attainment of a child at school. In education, the most essential measure of attainment is academic achievement. Academic achievement can be defined as "knowledge attained or skills developed in school subjects, usually designated by standardized test scores, or by marks assigned by teachers, or by both" (Good, Barr & Scates, 1941). Academic achievement indicates the level of progress that a student is making in his course work.

There exists an association between intelligence and academic performance (e.g., Lunge, 1974; Lewis & Adank, 1975; McArdle & Woodcock, 1998; Parker & Benedict, 2002; Watkins et al., 2007). This association suggests that IQ has a causal influence on achievement. Therefore, a child with an above average IQ should also attain higher grades. This equation constitutes that a child has a high aptitude for success in academics. But many times it has sadly
been observed that students with high aptitude for academic success perform poorly in their academics. Such students are called underachievers as there exists a gap between their ability and performance. This is a source of concern and has become an area of challenge for educators and psychologists alike (Brown & Holtzman, 1967; Naylor, 1972).

A cluster of behaviours and beliefs termed as study skills (study habits & study attitudes) has been researched on extensively in this endeavour (Ruthowski & Domino, 1975). A major cause of underachievement and probably a decisive one is poor study habits. Effective study habits include completing assignments, proper note-taking, daily schedule of study time, assigning proper time for each subject, attentiveness towards teachers, conforming to classroom rules, attending school frequently, seeking help in difficult areas, coming prepared for class, preparing efficiently for tests and examinations, persistence, etc. A student who has acquired good study habits has developed a behaviour pattern that enables him to sit down and begin working on his assignments, which in turn, leads to higher achievement.

A growing body of evidence shows that good study habits are related to high academic achievement (Mehta, 1981; Singh, Granville & Dika, 2002; Aluja-Fabregat & Blanch, 2004, Attwell, Orpet & Meyers, 1967; Good & Beckerman, 1978; Perry, Guidubaldi & Kehle, 1979), whereas poor study habits lead to underachievement (Finn, Pannozzo & Voelkl, 1995; deJung & Duckworth, 1986; Weitzman et al., 1985; Lloyd, 1974; 1978).

Some students do not study in a proper way or do not study at all. They are inattentive as well as disruptive in class (Cobb, 1972). These students also tend to procrastinate in completing their assignments (Ferrari & Sher, 2000). They do not properly prepare for tests and examinations (Dickinson & O’Connell, 1990). Such students lack discipline, diligence and perseverance (Schafer, 1975; Wood & Napthali, 1975). They also display other faulty behaviour
patterns like poor concentration, bad presentation skills as well as lack of task commitment (Lee-Corbin & Denicula, 1998).

When it comes to the field of academic success, there are certain attitudes towards scholastic aspects and activities which are important. These are called study attitudes. Brown and Holtzman (1967) have divided study attitudes into two broad categories i.e., (i) a student's opinions of teachers and their classroom behaviour and methods. This set of opinions are termed as teacher approval; and (ii) a pupil's approval of educational objectives, practices, and requirements, which is called education acceptance. When these attitudes are expressed positively by a student then he/she has a good chance of performing well in studies. In other words, when a student holds positive study attitudes, then as a result of holding these positive attitudes he/she participates well in the education process which in turn is conducive to better grades.

Sometimes students do not see any purpose in scholastic activities and have a passive outlook towards academics. They lack an affiliation or attachment towards school (Reid, 1981). They disapprove of their teachers and criticize their classroom behaviour and the manner in which they teach. They perceive their teachers to be less supportive. These students believe their teachers are very bossy, who enjoy giving their students a hard time. They think their teachers are negatively biased towards them.

A second form of debilitating thought pattern is a dislike for certain subjects or an aspect of academics (Osborne, Simon & Collins, 2003; Georgiou, Stavrindes & Kalavana, 2007; Kush, Watkins & Brookhart, 2005). When students do not like a particular subject, they tend to avoid studying it. They do not see it's importance and believe it to be an unnecessary burden on them. This constitutes a rejection of educational objectives, practices and requirements (Brown & Holtzman, 1967). When students hold such beliefs, they just want to have their full share of fun and do not consider studies important. They often feel like skipping school.
They are confused and have not decided what to do in the future. They believe that academics do not help a person meet adult problems. Thus, they finally come to the conclusion that school is a waste of time and want to drop out.

When students display these faulty behaviour patterns and harbour such dysfunctional beliefs about education, their performance in academics suffers. Hence, the problem of underachievement remains and is as old as when formal education began.

Thus, it becomes important that such students' study skills (study habits and study attitudes) should be enhanced by means of an intervention programme. This will be instrumental in removing the gap between ability and performance. This purpose can be accomplished with the help of a study skills training programme. Such a programme will aid them in getting know effective study habits and remove their mental blocks which are prohibiting them from working hard and achieving their potential. Enhanced study skills (study habits and study attitudes), in turn, would help in improving academic achievement. This in turn may give direction to their lives and they might start moving on the right path.

**The main objectives of the present study were:**

- To test the intelligence of students in the age group of 12 to 15 years enrolled in Standards- 7th, 8th and 9th from a number of public schools in Shimla, Himachal Pradesh.
- To examine the scholastic achievement of these students and to relate it with their intelligence, thereby studying the deviation level as well as to find out the underachievers through regression analysis (regression line).
- To formulate strategic interventions for removing the gap between the achievement level and intelligence.
- To implement the strategic intervention programmes i.e., Economy in Learning (Regular Study Scheduling, Part Learning Method and Distributed Learning Method) and
Problem Solving Strategy for enhancing study habits, study attitudes and academic performance of underachievers through Cognitive-Behaviour Therapy.

While initiating the present study, the following hypotheses were framed:

1. Study skills training programme will have a positive effect on Delay Avoidance (Study Habits).
2. Study skills training programme will have a positive effect on Work Methods (Study Habits).
3. Study skills training programme will have a positive effect on Teacher Approval (Study Attitudes).
4. Study skills training programme will have a positive effect on Education Acceptance (Study Attitudes).
5. Study skills training programme will have a positive effect on Academic Achievement.

Design

The present study was conducted to assess the effect of the study skills training programme on study habits (delay avoidance & work methods), study attitudes (teacher approval & education acceptance) and academic achievement of underachievers. Therefore, a factorial design with repeated measure on the last factor i.e., 2X2X(2) was employed. There were two groups of underachiever Ss i.e., an Experimental Group (n=50) and a Control Group (n=50). These were further divided on the basis of gender i.e., 25 Boys and 25 Girls. In order to examine the effect of the study skills training programme, a pre-test and post-test assessment of study habits (delay avoidance & work methods), study attitudes (teacher approval & education acceptance) and academic achievement was conducted.
Chapter VII

Summary

Statistical Analysis

The following statistical methods were applied for analyzing the data.

a) Descriptive Analysis

b) RM-ANOVA [Analysis of Variance with Repeated Measure on the Last Factor (Edwards, 1968)].

Sample

A sample of 539 students of Standards-7th, 8th and 9th from a number of public schools in the city of Shimla, H.P. in the academic year 2006-07 was selected. These students aged from 12 to 15 years. First of all the Raven's Standard Progressive Matrices were administered to obtain their intelligence percentile points. Their academic achievement in the previous standard's final examination was also noted from school records.

In order to draw the final sample, the academic achievement scores of all the students were standardized to make them comparable among different standards and different schools. On the basis of these scores i.e., intelligence percentile points and standardized scores of academic achievement, a regression analysis was conducted wherein a regression line was drawn. This regression line assisted in dividing the students into two groups i.e., high achievers and underachievers. High achievers were the students who scored above the regression line, indicating that they made full use of their abilities. Underachievers were the students who fell under the regression line indicating that a gap existed between their ability and performance which is why they are not doing as well as they can. Herein, the underachievers were getting 50 to 55% in their academics. This constitutes mediocre achievement in terms of their very high intelligence. These underachievers' study habits (delay avoidance & work methods), study attitudes (teacher approval & education acceptance) were also assessed with the help of the Survey
of Study Habits and Attitudes (SSHA; Brown & Holtzman, 1967). The Ss whose scores on the SSHA was below \( \frac{1}{2} \) SD - Mean were selected. In this way 100 underachievers were finally selected comprising of 50 boys and 50 girls. They were further divided into an experimental group and a control group. Both these groups consisted of 25 boys and 25 girls each.

**Tools used**

**Academic Achievement**

The total percentage secured by students in their previous standard's annual examination was used as a measure of their academic achievement.

**Standard Progressive Matrices**

In the present study, intelligence was measured by means of the Raven's Standard Progressive Matrices (SPM; Raven, Court & Raven, 1977).

**Survey of Study Habits and Attitudes**

The Survey of Study Habits and Attitudes (SSHA, Form-H; Brown & Holtzman, 1967) was used in the present study to measure study habits and study attitudes of Ss. Following is a description of what the SSHA measured in the present study:

1. **Delay Avoidance (DA)**: A student’s promptness in completing academic assignments, a lack of procrastination, and a freedom from wasteful delays and distractions.

2. **Work Methods (WM)**: A student’s use of effective study procedures, efficiency in doing academic assignments, and practicing how-to-study skills.

3. **Teacher Approval (TA)**: A student’s opinion of teachers and their classroom behaviour and methods.

4. **Education Acceptance (EA)**: A student’s approval of educational objectives, practices and requirements.

**Training Programme:**

The training programme consisted of two sessions spanning the length of two days. Each session lasted 90 minutes. Day one
consisted of general introduction and session on Economy in Learning. In Economy in Learning the participants were taught to schedule their study time in such a manner that would enable them to attend to each of their subjects. They were trained to start with mathematics, which requires a lot of concentration. Then they were asked to go on to social studies as this subject is interesting and thus, would give them a period to rejuvenate after studying mathematics. Thereafter, they were guided to study science as this subject requires in-depth learning. Following science, they were persuaded to study languages which would cater to their creative side and will be something to look forward to after a bout with science.

Through the Part Learning and Distributed Learning Methods, which also were elements of Economy in Learning, the habit of dividing the course content into chunks that can be imbibed and studying it over a distributed period of time was inculcated. Economy in Learning techniques helped the participants to approach the task at hand in a planned and methodical manner rather than going at it headlong.

Day two consisted of session on improving problematic habits and attitudes through the Problem Solving Strategy, a form of Cognitive-Behaviour Therapy (Nezu et al., 1989). This part of the training programme was employed to acquaint the participants with effective study habits. They were taught to complete their assignments on time rather than waiting till the last minute and minimize wasting time. They were also coached to minimize disturbances by frankly telling their family members to avoid disturbing them by turning on the T.V., radio or music system. Moreover, they were also discouraged to switch these devices on while studying. They were encouraged to keep their study area orderly and businesslike. The habit of correcting errors that they had made on previous tests and examinations was fostered. For written assignments and tests, the participants were instructed to clearly
understand beforehand what was required of them. In addition, they were tutored to show neatness, give emphasis on grammar, spellings, definitions, diagrams, illustrations and formulas. They were taught how to take proper notes in the classroom. Whenever they would face any learning difficulty, they were encouraged to seek help from their teachers. For preparation of examinations the participants were taught to arrange facts to be presented in a proper order.

Another key aim of the Problem Solving Strategy was to do away with mental blocks that were proving detrimental in the educational process. In turn, more positive and adaptive study attitudes were cultivated. The participants were sensitized to the fact that their teachers were at times overburdened by their work. This was the reason that they may seem aloof, too fixed in their ways, bossy or not interested in the needs of their students. Through this approach the participants were persuaded to leave their prejudices for their teachers. They were also asked to give proper respect to their teachers as well as display appropriate and attentive behaviour in the classroom. This would in turn help them getting noticed as *attentive students* by their teachers. These participants were shown how their dislikes for certain subjects or an aspect of studies was causing them to fall behind. They were persuaded to be *actively involved* in their academics. The participants were told that their present grades did not demonstrate what they could really do. They were heartened to push on because they possessed the innate ability to excel in academics. Furthermore, they were encouraged to face difficult situations rather than running away from such situations. They were also told that there were limitless opportunities in terms of careers. According to their interests they could choose one. Thus, they must not lose heart but should be positive and anticipate a bright future ahead of them provided they practice appropriate scholastic behaviours and cleave to a *positive mind-set towards education*.
**Results and Discussions**

The first part of the study included the descriptive analysis of the selected variables i.e. delay avoidance (study habits), work methods (study habits), teacher approval (study attitudes), education acceptance (study attitudes) and academic achievement (See Tables - 5.1 to 5.6). Secondly, 2X2X(2) Repeated Measure ANOVA (Edwards, 1968) was computed to find out the effect of study skills training programme for both the experimental and control group in Pre- and post-testing sessions. RM-ANOVA for delay avoidance, work methods, teacher approval, education acceptance and academic achievement were computed separately (See Tables - 5.7, 5.11, 5.16, 5.20 & 5.24).

The main findings are as follows:

- **Delay Avoidance (Study Habits)**
  
  The experimental group did not show any improvement in delay avoidance as is depicted in Table – 5.1 of means. In RM-ANOVA, the main effect of group under Error-A, the interactions of group x gender under Error-A and gender x intervention under Error-B are significant (See Tables – 5.6 & 5.7 and Figures – 5.1 & 5.2). The rest of the F-ratios are not significant.

- **Work Methods (Study Habits)**
  
  As shown in Table – 5.2 of means, the experimental group has shown no enhancement in their work methods. From RM-ANOVA it is brought to light that the main effect of group under Error-A, interaction effect of group x gender under Error-A, the interaction effect of gender x intervention under Error-B and the three factor interaction under Error-B are significant (See Tables – 5.6 & 5.11 and Figures – 5.3, 5.4 & 5.5). The rest of the main effects and interactions are not significant.

- **Teacher Approval (Study Attitudes)**
  
  As depicted in Table – 5.3 of means, the experimental group did not show any improvements in the approval of their teachers.
The RM-ANOVA for teacher approval highlights that the main effect of gender under Error-A and the interaction effect of group x gender under Error-A are significant (See Tables – 5.6 & 5.16 and Figure – 5.6). Besides these all the other F-ratios are not significant.

- **Education Acceptance (Study Attitudes)**

A glance at Table – 5.4 of means reveals that the experimental group has not shown any gains in terms of their education acceptance scores. The RM-ANOVA reveals that the main effect of gender under Error-A and the interaction effect of group x gender under Error-A are significant (See Tables – 5.6 & 5.20 and Figure – 5.7). Apart from these all the rest of the main effects and interactions are not significant.

- **Academic Achievement**

Table – 5.5 of means illustrates that the experimental group has gained significantly and positively in academic achievement as compared to the control group. It is depicted from RM-ANOVA that the main effect of group under Error-A, the main effect of gender under Error-A, the main effect of intervention under Error-B, the interaction effect of group x intervention under Error-B as well as the three factor interaction under Error-B are significant (See Tables – 5.6 & 5.24 and Figures – 5.8 & 5.9). The rest of the interactions are not significant.

These results reveal that apparently the experimental group has not gained in the realm of study habits and study attitudes from the training programme as their scores on delay avoidance, work methods, teacher approval and education acceptance have remained the same from pre-testing to post-testing. However, an interesting phenomenon that is observed from these results is that the experimental group has gained in academic achievement significantly and positively, over and above the control group (See Table – 5.5). This gain would not have been possible without imbibing and applying the study skills imparted in the training
programme. Therefore it can be concluded that some invisible learning of effective study habits and adaptive study attitudes has taken place which has resulted in an increase in the scholastic attainment. These students seem not to externally confess this change in their scholastic habits and attitudes but it is expressed in their improved grades. Hence, the study skills training programme has proved to be efficacious for these underachieving students. The reason why these students have not explicitly confessed their changed habits and attitudes may be because they are not conscious that this change has taken place. Another reason may be that they are not able to express this change through the questions in the SSHA and are answering on the same lines as before. This may also be due to the causal attitude of the students as well as indirect peer pressure.

In terms of gender differences the results reveal that for delay avoidance scores boys and girls in pre-testing were almost similar but in post-testing the girls score has increased and the boys score has dropped. This reveals that as a result of the study skills training programme the girls have imbibed better delay avoidance. A similar case was found to be in work methods wherein, at pre-testing the scores of boys and girls was similar but in post-testing the girls have shown some improvement and boys have regressed a little. This also goes to show that the girls have benefited from the study skills training programme and this benefit is reflected in effective work methods. If we study the sex differences qualitatively through the interactions then it can be seen that boys have further slid and girls have improved, may be due to ego or peer pressure (See Tables - 5.10 & 5.14 and Figures - 5.2 & 5.4).

Girls on the whole had an initially higher score than boys in teacher approval, education acceptance and academic achievement which further improved at post-test. Although, the boys have gained in academic achievement from pre- to post-test as a result of the training programme, but the fact that the girls score was higher from
the start has inhibited the boys score to reach a level of significance. Nonetheless, the gain shown by girls at post-test in their academic achievement scores is not that much in comparison to the gain shown by boys. This may be due to the fact that girls have to put on a dual role. They have to study and on top of that they have to help out in household responsibilities. Besides, there could be some supplementary stressors that are holding them back from achieving even higher.

These results may have come this way due to the reason that girls in our country are coming out of their backstage roles which the culture had assigned to them. They are aggressively coming onto the centre stage of affairs and this process is starting early at school. That is why in the present study they imbibed better study habits (delay avoidance & work methods) as well as were scoring higher than boys in study attitudes (teacher approval & education acceptance) and academic achievement. It is concluded that the traditional educational disadvantage shown by females has largely disappeared and has been replaced by an emerging male disadvantage.

**Implications**

The present study will act as a guiding light to educational policy makers, teachers, students, parents and guidance and counseling workers to enable underachieving students to attain standards of excellence in life according to their intelligence level through study skills training programmes. By enhancing the study habits and study attitudes of underachieving students, educators can not only eliminate academic alienation among such students, but in turn, can also raise the level of academic performance and move towards a brighter future, as proved by the present study. Later, they can contribute positively towards nation building.

In sum, it may be concluded that there is a strong linkage between effective study skills (study habits and study attitudes) and
academic achievement. Thus, in order to minimize academic underachievement among students, there is an urgent need on the part of the institutions to make conscious and decisive efforts in the direction of enhancing the study skills by implementing study skills training programmes. This type of training programmes should be carried out by teachers who are efficient and firmly believe in the potential that each student possesses. This will ensure that the entire information is disseminated in such a way that the pupils become oriented towards the enhancement process.