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CHAPTER - III

PLAN AND PROCEDURE

3.1 Introduction

In the context of background presented in Chapter - I and the review of related literature presented in Chapter - II the need of undertaking the present study is clearly established. In this chapter an attempt is made to outline the plan and procedure of the study.

3.2 Title of the Study

'An inquiry into the factors influencing the learning strategies of IXth Standard Students.'

3.3 Operational definition of the term Learning Strategies

The concept of 'Strategy' though widely utilized, is highly ambiguous and the precise definition is lacking. According to Cognitive psychologists it is under the domain of cognitive tasks, whereas according to learning theorists it is related with the entire learning tasks. According to Greeno (1978), the term strategy is used as substitute for planning and manipulation of goals.

Tobias (1982), defined learning strategies as Macro-processes, that is, reviewing material, comprehension, monitoring, active reading and note taking that complement the more microprocesses of intelligence and more general thinking

skills.

Schmeck R. (1982), regards learning strategy as a pattern of information processing activities used to prepare for an anticipated test of memory.

Dansereau (1985), distinguishes between primary strategies that is memory and comprehension and support strategies like attention and concentration.

According to Mayor R.E. (1988), Learning strategies can be defined as behaviours of a learner that are intended to influence how the learner processes information. For example, underlining of key ideas in a passage, outlining of ideas in a lecture or trying to put some newly learned information into one's own words.

In present study the term strategy is used in broad sense. it includes those techniques which are useful to the students for their learning. It focuses the views of Tobias and Mayor, that is, reviewing the material, taking down some important points etc. It includes memory and comprehension strategies which are useful in processing information and attention and concentration strategies that are useful to maintain proper state of mind. These are in the line of the views of Dansereau. It contains the supportive techniques like study aids that are useful to the students to learn and remember new information. Learning strategies here mean a set

of procedures adopting best study methods like time budget,planning of activities,regular work schedule, practice and drill exercises, systematic work etc.

Thus in short the learning strategies adopted in the present study is the planning of learning tasks to achieve the goal. The strategies are considered here as the set of processes that can be used by the learners during the learning process that is in encoding processing,acquisition and retrieval of new knowledge.

3.4 Objectives

The present investigation aims at studying the influence of sex,types of school,levels of academic achievement, learning orientation, mother's education, father's education, mother's occupation,father's occupation,family's income, participation in co-curricular activities, types of family and tuition classes on learning strategies of students. To be more specific the following objectives were formulated.

1. To study the influence of sex,types of schools and levels of academic achievement on learning strategies.
2. To know the impact of mother's education, father's education,mother's occupation, father's occupation family income, co-curricular activities ,types of family and tuition classes on learning strategies.
3. To study the relationship between learning-orientation and learning strategies.

4. To make a detailed study of two students having good learning strategies and two students having poor learning strategies.

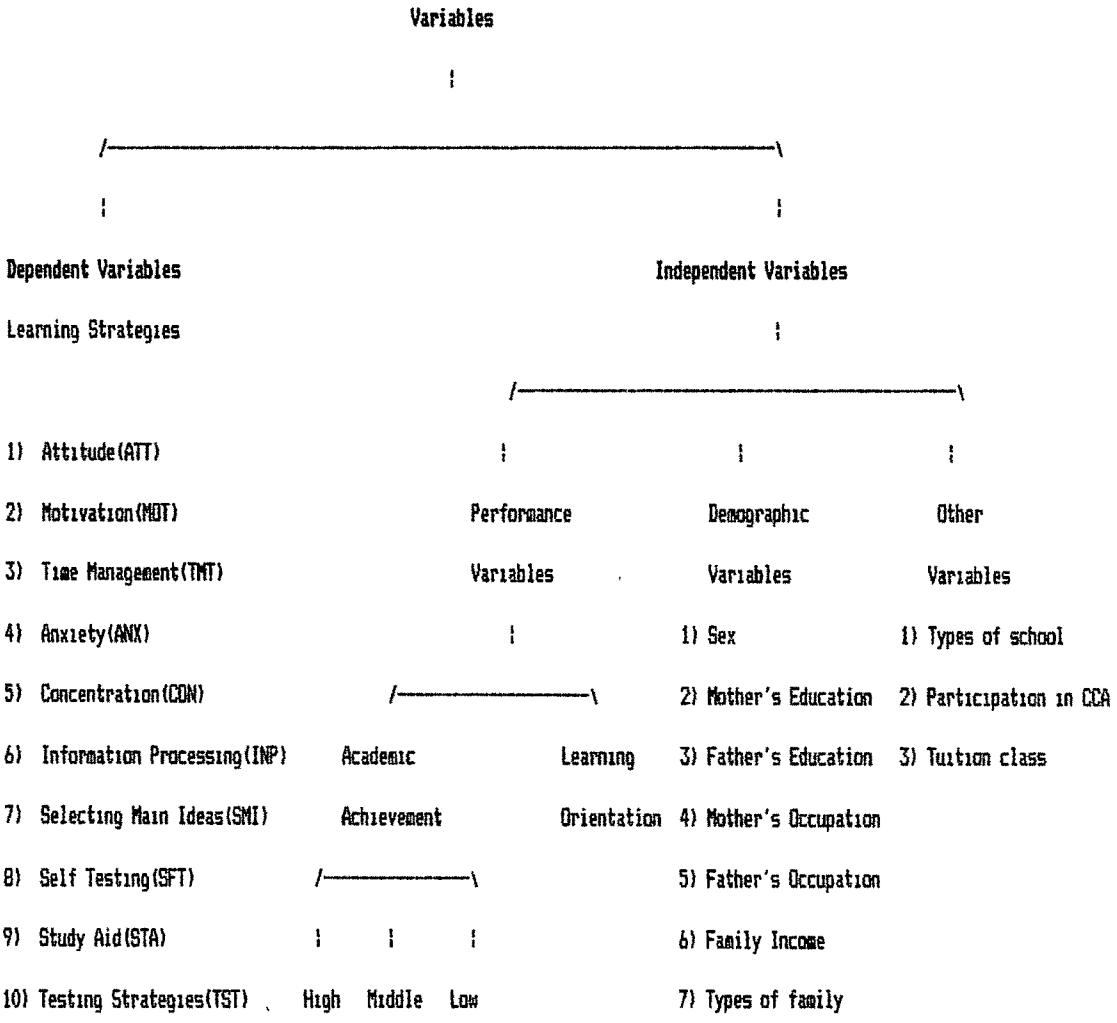
3.5 Variables

The present research focuses around the learning and study strategies.

The influence on learning strategies has been studied in the light of a set of independent variables which are divided into three groups : Performance variables,Demographic variables and other variables.

Figure 2

Chart of Different variables



It is observed in figure 1 that there are ten scales of learning strategies. Each one is different from the others and yet shares one common property of being a learning and study strategy.The independent variables are classified into three categories. In all 13 independent variables are studied in order to examine their influence on dependent variable.

3.6 Hypotheses

Keeping in mind the objectives and the variables under study the following hypotheses are formulated.

1) Sex will have no significant effect on attitude.
2) Types of School will have no significant effect on attitude.
3) Levels of academic achievement will have no significant effect on attitude.
4) Sex and types of School jointly will have no significant effect on attitude.
5) Sex and levels of academic achievement jointly will have no significant effect on attitude.
6) Types of School and levels of academic achievement jointly will have no effect on attitude.
7) Sex,types of School and levels of academic achievement jointly will have no significant effect on attitude.
8) Sex will have no significant effect on motivation.
9) Types of School will have no significant effect on motivation.

10) Levels of academic achievement will have no significant effect on motivation.

11) Sex and types of school jointly will have no significant effect on motivation.

12) Sex and levels of academic achievement jointly will have no significant effect on motivation.

13) Types of School and levels of academic achievement jointly will have no significant effect on motivation.

14) Sex,types of School and levels of academic achievement jointly will have no significant effect on motivation.

15) Sex will have no significant effect on time management.

16) Types of school will have no significant effect on time management.

17) Levels of academic achievement will have no significant effect on time management.

18) Sex and types of school jointly will have no significant effect on time management.

19) Sex and levels of academic achievement jointly will have no significant effect on time management.

20) Types of school and levels of academic achievement jointly will have no significant effect on time management.

21) Sex, types of school and levels of academic achievement jointly will have no significant effect on time management.

22) Sex will have no significant effect on anxiety.

23) Types of school will have no significant effect on anxiety.

24) Levels of academic achievement will have no significant effect on anxiety.

25) Sex and types of school jointly will have no significant effect on anxiety.

26) Sex and levels of academic achievement jointly will have no significant effect on anxiety.

27) Types of school and levels of academic achievement jointly will have no significant effect on anxiety.

28) Sex, types of school and levels of academic achievement jointly will have no significant effect on anxiety.

29) Sex will have no significant effect on concentration.

30) Levels of school will have no significant effect on concentration.

31) Levels of academic achievement will have no significant effect on concentration.

32) Sex and types of school jointly will have no significant effect on concentration.

33) Sex and levels of academic achievement jointly will have no significant effect on concentration.

34) Types of school and levels of academic achievement jointly will have no significant effect on concentration.

35) Sex, types of school and levels of academic achievement jointly will have no significant effect on concentration.

36) Sex will have no significant effect on information processing.

37) Types of school will have no significant effect on information processing.

38) Levels of academic achievement will have no significant effect on information processing.

39) Sex and types of school jointly will have no significant effect on information processing.

40) Sex and levels of academic achievement jointly will have no significant effect on information processing.

41) Types of school and levels of academic achievement jointly will have no significant effect on information processing.

42) Sex, types of school and levels of academic achievement jointly will have no significant effect on information processing.

43) Sex will have no significant effect on selecting main ideas.

44) Types of school will have no significant effect on selecting main ideas.

45) Levels of academic achievement will have no significant on selecting main ideas.

46) Sex and types of school jointly will have no significant effect on selecting main ideas.

47) Sex and levels of academic achievement jointly will have no significant effect on selecting main ideas.

48) Types of school and levels of academic achievement jointly will have no significant effect on selecting main ideas.

49) Sex,types of school and levels of academic achievement jointly will have not significant effect on selecting main ideas.

50) Sex will have no significant effect on self-testing strategies.

51) Types of school will have no significant effect on self-testing strategies.

52) Levels of academic achievement will have no significant effect on self-testing strategies.

53) Sex and types of school jointly will have no significant effect on self-testing strategies.

54) Sex and levels of academic achievement jointly will have no significant effect on self-testing strategies.

55) Types of school and levels of academic achievement jointly will have no significant effect on self-testing strategies.

56) Sex,types of school and levels of academic achievement jointly will have no significant effect on

self-testing strategies.

57) Sex will have no significant effect on of study aids.

58) Types of school will have no significant effect on study aids.

59) Levels of academic achievement will have no significant effect on study aids.

60) Sex and types of school jointly will have no significant effect on study aids.

61) Sex and levels of academic achievement jointly will have no significant effect on study aids.

62) Types of school and levels of academic achievement jointly will have no significant effect on study aids.

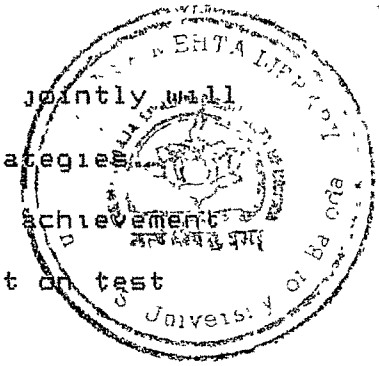
63) Sex,types of school and levels of academic achievement jointly will have no significant effect on study aids.

64) Sex will have no significant effect on test strategies.

65) Types of school will have no significant effect on test strategies.

66) Levels of academic achievement will have no significant effect on test strategies.

67) Sex and types of school jointly will have no significant effect on test strategies.



68) Sex and levels of academic achievement jointly will have no significant effect on test strategies.

69) Types of school and levels of academic achievement jointly will have no significant effect on test strategies.

70) Sex,types of school and levels of academic achievement jointly will have no significant effect on test strategies.

71) Sex will have no significant effect on total learning strategies.

72) Types of school will have no significant effect on total learning strategies.

73) Levels of academic achievement will have no significant effect on total Learning strategies.

74) Sex and types of school jointly will have no significant effect on total Learning strategies.

75) Sex and levels of academic achievement jointly will have no significant effect on total Learning strategies.

76) Types of school and levels of academic achievement jointly will have no significant effect on total Learning strategies.

77) Sex,types of school and levels of academic achievement jointly will have no significant effect on total Learning strategies.

78) Mother's education will have no significant effect on total learning strategies.

A. Mother's education will have no significant effect on attitude.

B. Mother's education will have no significant effect on motivation.

C. Mother's education will have no significant effect on time management.

D. Mother's education will have no significant effect on anxiety.

E. Mother's education will have no significant effect on concentration.

F. Mother's education will have no significant effect information processing.

G. Mother's education will have no significant effect on selecting main ideas.

H. Mother's education will have no significant effect on study aids.

I. Mother's education will have no significant effect on self testing technique.

J. Mother's education will have no significant effect on test strategies.

79) Father's education will have no significant effect on total learning strategies.

A. Father's education will have no significant effect on attitude.

B. Father's education will have no significant effect on motivation.

C. Father's education will have no significant effect on time management.

D. Father's education will have no significant effect on anxiety.

E. Father's education will have no significant effect on concentration.

F. Father's education will have no significant effect on Information processing.

G. Father's education will have no significant effect on selecting main ideas.

H. Father's education will have no significant effect on study aids.

I. Father's education will have no significant effect on self testing technique.

J. Father's education will have no significant effect on testing strategies.

80) Mother's occupation will have no significant effect on total learning strategies.

A. Mother's occupation will have no significant effect on attitude.

B. Mother's occupation will have no significant effect on motivation.

C. Mother's occupation will have no significant effect on time management.

D. Mother's occupation will have no significant effect on anxiety.

E. Mother's occupation will have no significant effect

on concentration.

F. Mother's occupation will have no significant effect on information processing.

G. Mother's occupation will have no significant effect on selecting main ideas.

H. Mother's occupation will have no significant effect on study aids.

I. Mother's occupation will have no significant effect effect on self testing technique.

J. Mother's occupation will have no significant effect on test strategies.

81) Father's occupation will have no significant effect on total learning strategies.

A. Father's occupation will have no significant effect on attitude.

B. Father's occupation will have no significant effect on motivation.

C. Father's occupation will have no significant effect on time management.

D. Father's occupation will have no significant effect on anxiety.

E. Father's occupation will have no significant effect on concentration.

F. Father's occupation will have no significant effect on information processing.

G. Father's occupation will have no significant effect on selecting main ideas.

H. Father's occupation will have no significant effect on study aids.

I. Father's occupation will have no significant effect effect on self testing technique.

J. Father's occupation will have no significant effect on test strategies.

82) Family income will have no significant effect on total learning strategies.

A. Family income will have no significant effect on attitude.

B. Family income will have no significant effect on motivation.

C. Family income will have no significant effect on time management.

D. Family income will have no significant effect on anxiety.

E. Family income will have no significant effect on concentration.

F. Family income will have no significant effect on information processing.

G. Family income will have no significant effect on selecting main ideas.

H. Family income will have no significant effect on study aids.

I. Family income will have no significant effect on self testing technique.

J. Family income will have no significant effect on test strategies.

83) Types of family will have no significant effect on total learning strategies.

A. Types of family will have no significant effect on attitude.

B. Types of family will have no significant effect on motivation.

C. Types of family will have no significant effect on time management.

D. Types of family will have no significant effect on anxiety.

E. Types of family will have no significant effect on concentration.

F. Types of family will have no significant effect on information processing.

G. Types of family will have no significant effect on selecting main ideas.

H. Types of family will have no significant effect on study aids.

I. Types of family will have no significant effect on self testing technique.

J. Types of family will have no significant effect on test strategies.

84) Co-curricular activities will have no significant effect on total learning process.

A. Co-curricular activities will have no significant effect on attitude.

B. Co-curricular activities will have no significant effect on motivation.

C. Co-curricular activities will have no significant effect on time management.

D. Co-curricular activities will have no significant effect on anxiety.

E. Co-curricular activities will have no significant effect on concentration.

F. Co-curricular activities will have no significant effect on information processing.

G. Co-curricular activities will have no significant effect on selecting main ideas.

H. Co-curricular activities will have no significant effect on study aids.

I. Co-curricular activities will have no significant effect on self testing technique.

J. Co-curricular activities will have no significant effect on test strategies.

85) Tuition classes will have no significant effect on total learning strategies.

A. Tuition classes will have no significant effect on on attitude.

B. Tuition classes will have no significant effect on motivation.

C. Tuition classes will have no significant effect on time management.

D. Tuition classes will have no significant effect on

anxiety.

E. Tuition classes will have no significant effect on concentration.

F. Tuition classes will have no significant effect on information processing.

G. Tuition classes will have no significant effect on selecting main ideas.

H. Tuition classes will have no significant effect on study aids.

I. Tuition classes will have no significant effect on self testing technique.

J. Tuition classes will have no significant effect on test strategies.

86) Learning Orientation will have no significant relationship with learning strategies.

3.7 Selection of the Sample

(a) School

Population in the present study comprised of all the secondary schools of Baroda city. The Secondary schools in the Baroda city are having Gujarati,English,Hindi,Marathi and Sindhi mediums of instruction.

For the purpose of the present study the Gujarati medium schools were selected. Some of the Gujarati medium schools have joined Anami group and some are Independent.

Anami group schools :

Anami group of secondary schools established in 1942. For about 20 years the activities were limited to schools in Kheda district only. Then in late sixties gradually this group schools spreaded over other districts like Baroda,Panchmahal, Ahmedabad and Sabarkantha.

Today about 208 schools including the schools in Ahmedabad and Baroda city have joined this group. These Schools are informed about modern developments in educational technique. To update the staff of all these schools in new modern techniques,seminars and workshops are organized time to time. All schools under anami group are given common guidelines for smooth functioning.

The main and very important functional unit of this group of schools is their own examination board for all the Periodical as well as annual examinations upto standard IX. Questions are invited from subject teachers of all schools. Question bank is prepared in all the subjects. Question papers are drawn from the pool of question bank and examination is conducted in all the schools simultaneously.

The outstanding performance of students and teachers are identified,recognized and appreciated in general body meeting by awarding Prizes and Certificates.

Independent Schools

There are the schools who have not joined anami group schools. Out of these schools several schools have their own groups within city. And certain schools which do not have any identification with any of such associations are named here as Independent schools.These schools are totally on their own in all respects.

For the present study four anami group schools and four independent schools were selected randomly.Thus it was purposive random selection of the sample from the population of the schools.

(b) Student

From the eight selected schools at random IXth standard students were considered for the purpose of the study. These students were selected keeping in mind the following categories:

1) High Achievers - The students who passed with 60% or above marks in both VIIth and VIIIth standards.
2) Middle Achievers- The students who obtained marks between 40% and 60% in both VIIth and VIIIth standards.
3) Low Achievers- The students who passed with promotion in both VIIth and VIIIth standards.

Each school had two or three divisions of standard IX, hence students were selected from all divisions keeping in mind the above mentioned three categories.

The total sample consisted of 900 students with the break up as follows:

Table 1

Sample Distribution

N=900

	Anami group Schools				Independent Schools			
	High	Middle	Low	Total	High	Middle	Low	Total
Boys	90	84	76	250	89	85	106	280
Girls	60	66	74	200	61	65	44	170
	150	150	150	450	150	150	150	450

As shown in Table 1, 150 high achievers,150 middle achievers and 150 low achievers from anami group schools and from independent schools were selected for the purpose of the study. Out of 450 students from anami group schools 250 were boys and 200 were girls and out of 450 from independent schools 280 were boys and 170 were girls.

Table 2

Distribution of the sample in terms of other variables

1. Mother's Education

Education	Frequency	Percentage
Illiterate	114	12.6
Primary Edu.	224	24.9
Secondary Edu.	387	43.1
University Edu.	175	19.4
Total	900	100.0

2. Father's Education

Education	Frequency	Percentage
Illiterate	79	87.7
Primary Edu.	173	19.2
Secondary Edu.	314	34.9
University Edu.	334	37.2
Total	900	100.0

3. Mother's Occupation

Occupation	Frequency	Percentage
House wives	699	77.7
Service	125	13.9
Business	76	8.4
Total	900	100.0

4. Father's Occupation

Occupation	Frequency	Percentage
Service	602	66.9
Business	298	33.1
Total	900	100.0

5. Family Total Monthly Income

Income Group	Frequency	Percentage
High(Rs.5001 and above)	126	14.1
Middle(Rs.2001 to 5000)	530	58.8
Low (upto Rs.2000)	244	27.1
Total	900	100.0

6. Types of Family

Types of Family	Frequency	Percentage
Nuclear	747	83.0
Joint	153	17.0
Total	900	100.0

7. Co-Curricular Activities

	Frequency	Percentage
Not involving in CCA	684	76.0
Involving in CCA	216	24.0
Total	900	100.0

8. Tuition Classes

Attending	Frequency	Percentage
No	268	29.8
Yes	632	70.2
Total	900	100.0

3.8 Tools

The following tools were used for the purpose of the present study.

1) Personal data form.

2) Learning And Study Strategies Inventory (LASSI)

3) Student's Learning Orientation Profile (SLOP).

1) Personal data form

One of the objectives of the investigation is to study the effect of mother's education,father's education,mother's occupation,father's occupation,types of family,family income,etc. on learning strategies. In order to collect these information personal data form (Appendix -1) was used.

2. Learning And Study Strategies Inventory (LASSI)

LASSI was used to study the learning strategies of students.This inventory has its origin in USA. The inventory is developed by Claire. E. Weinstein, David R Palmer, Ann.C.Schtue (1982), at University of Texas at Austin. Nine years of research development and testing led to creation of this statistically valid and reliable tool for the diagnosis of study skills. The learning and study strategies inventory (LASSI) diagnoses student's learning and study strategies on ten scales - Attitude,Motivation,Time management,Anxiety,Concentration,Information processing,Selecting main ideas,Study aids,Self testing and Test strategies.

The scale wise reliability was found out by the constructors of the tool.

Table 3

Scale wise Test-retest Co-efficient of Co-relations

Component Scale	Test-Retest.
Attitude	0.75
Motivation	0.84
Time Management	0.85
Anxiety	0.83
Concentration	0.85
Information processing	0.72
Selecting Main Ideas	0.78
Self Testing	0.78
Study aids	0.75
Test strategies	0.81

Table 3 shows that the value of test-retest reliability Co-efficients vary from 0.72 to 0.85. This indicates that each scale is highly reliable.

A Brief Description of Ten Scales of LASSI

1) Attitude Scale (ATT)

Attitude, the first scale, contains items addressing attitude and interest in school. How clear are students about their own educational goals ? Is school important or worthwhile to them ?

2) Motivation Scale (MOT)

This scale contains items on student's diligence, self discipline, and willingness to work hard.Do they stay up-to-date in class assignments ? Do students easily lose interest in their class ?

3) Time Management Scale (TMT)

Items on this scale address students use of time management principle for academic tasks. Are they well organised ? Do they anticipate scheduling problems ?

4) Anxiety Scale (ANX)

Items on this scale address the degree to which students worry about their performance. Do students worry so much that it is hard for them to concentrate ? Are they easily discouraged about grades ?

5) Concentration Scale (CON)

Items on this scale address students' ability to pay close attention to academic tasks.Are they easily distracted? Can they direct their attention to school tasks ?

6) Information Processing Scale (INP)

Items on this scale includes the use of mental imagery,verbal elaboration,comprehension monitoring and reasoning.

7) Selecting Main Ideas Scale (SMI)

Items on this scale address students' ability to pick out important information for further study. Can they focus on the key points in a lecture ? Can they decide what to underline in a text book ?

8) Self Testing Scale (SFT)

Items on this scale address reviewing and preparing for classes and tests. Most of the items deal with some aspect of comprehension monitoring. Do the students review before a test ? Do they stop periodically while reading to review the content ?

9) Study Aid Scale (STA)

Items on this scale address the degree to which students create or support techniques or materials to help them learn and remember new information. Do they perform practice exercises ? Do they create or use organisational aids ?

10) Test Strategies Scale (TST)

Items on this scale address students' approach to preparing for and taking examinations. Do they prepare appro-

priately ? Do they try to integrate material from different sources ?

Table 3 shows that LASSI is highly reliable but as it was standardised in American situation and culture it was necessary to follow the procedure of adopting it to Indian setting before it was used in present study.

The original tool was consisted of 77 items. On the basis of experts opinion the items like" I don't care if I finish school as long as I find a husband/wife" were deleted from the original tool. Three such items were deleted because they were not applicable to Indian culture.

Deleting 3 items,74 items remain. Out of these attitude scale contained 6 items,motivation 7,selecting main ideas 5,and remaining each scale contained 8 items.

These 74 items were translated into Gujarati. LASSI in English and its Gujarati versions of the 74 items was administered to a group of 15 students of IXth standard,who were well verse in written and comprehending English and Gujarati languages with a view to find relationship between both the versions. The co-efficient of correlation was 0.86 which indicates that Gujarati version of the inventory is quite right.

During the process of administration of the tool following points were kept in mind.

1. Time taken by students to complete the inventory particularly by the first and last students.
2. Words,Phrases not understood by the students.
3. Difficult items for the students to comprehend.
4. Any clarification,specification required in instructions to be followed by the students.

On an average the time taken by the students was about 20 minutes to complete the inventory. They did not find any item difficult to follow. The Gujarati version of the LASSI consisting of 74 items(Appendix 2) was then administered on 30 IXth standard students.After an interval of 15 days the same inventory was administered again on the same students. The co-efficient of correlation between the two sets of scores was found out. Thus the reliability of the test was established by test-retest method. The reliability co-efficient was 0.78. This indicates that the inventory is highly reliable.

Scoring

While responding the items on LASSI,the students had to indicate the answer by putting tick mark under any one of the five categories:

Never,seldom,some times,often,always.

The scoring of the item was from 1 to 5 in case of a positive item while in case of the negative items the scoring was reverse.i.e. from 5 to 1. The score of each item was added to get the scale wise total score and also to get the grand total score. Higher score indicates good learning strategies.

3. Student's Learning Orientation Profile (SLOP)

The students learning orientation profile was prepared in collaborative project of six countries namely Japan, Malaysia,U.I.,Nigeria, Srilanka and India.From India Dr. (Mrs.)Jayalakshmi Indireson was the researcher.

This instrument provides a measure of the student's learning orientation which can be used to understand the factors affecting student's learning.

This profile has seven scales with eight items in each scale. The items are in the Likert format on a four point scale with the response categories strongly agree,agree and disagree and strongly disagree.

The profile was validated in Indian situation and reliability was established by split-half method and scale wise correlations were also found out.

Table 4

Scale wise Reliability Co-efficient

Scale	Value
1. Personal Development Orientation for learning	.804
2. Assessment Domination in learning	.622
3. Intrinsic Orientation in job getting and learning	.632
4. Apathy in learning	.586
5. Involvement in learning	.743
6. Extrinsic Orientation	.702
7. Significant other Orientation	.609

The above table shows that all the scales are highly reliable.

Brief-description of the scales

Scale - 1 Personal Development Orientation for Learning (PEDOL)

The items in this scale refer to various aspects of personal development like self-discipline,ability to persevere, organise one's thoughts etc. The students seem to perceive the beneficial impact of classroom learning and examinations on character development.

Scale- 2 Assessment Domination in Learning (ADOL)

The items in this scale refer to aspects like

'Studying just to pass exam.''Study only those topics prescribed in the syllabus for the exam.' bringing out the domination of examination.

Scale - 3 Intrinsic Orientation in Job getting and Learning (INJOL)

The items in this scale indicate that the students perceive learning as a pleasurable experience and express a desire to find a job which also would give him intrinsic satisfaction.

Scale - 4 Apathy in Learning (APAL)

The items in this scale indicate apathy in learning. All items in this scale are negatively worded, hence higher score indicate lower apathy.

Scale - 5 Involvement in Learning (INVOL)

The items in this scale are in contrast to the items of apathy in learning.The items indicate involvement in learning.

Scale - 6 Extrinsic Orientation in Learning (EXOL)

The items in this scale give a clear indication of future perspective with the extrinsic motivation as the domineering instrumental value in learning.

Scale - 7 Significant other Orientation in Learning(SIGOL)

The items in this scale indicate that importance given to others is significant for learning.

Scoring

The student's learning orientation profile is a four point scale from strongly agree to strongly disagree. The scoring of the items is from 4 to 1 for the positive items and 1 to 4 for the negative items. The score of each item was added to get the total score of each scale as well as of the whole profile. Higher the score,the better is the orientation.(Appendix C)

3.9 Procedure of Data collection

First of all,the principals of all the schools were contacted personally by the investigator in order to take the permission to carry out the research activities including administration of the tools.

The list of all the students studying in the Std IXth of each division was collected. Then the previous two years (Std.VIIth and VIIIth) annual results were taken down of all the students. On the basis of their results in VIIth and

VIIIth std. and keeping in mind the criteria already discussed earlier in present chapter high,middle and low achievers were selected.

First, these students were given bio-data form consisting name, mother's education,father's education,etc. to be filled in.

Secondly, LASSI, was administered to all the 900 students and then SLOP was administered. At the time of administration of all these tools the students were orally oriented and prepared mentally to respond to the tools. The students were ensured regarding confidentiality of the data and were told that the data will be used for research purpose only and thus all attempts were made to establish rapport and to motivate them.The clear cut instructions,regarding how to answer to each items was also given. The students have to read each items carefully and think, to what extent the particular item is applicable to them and show their answer by putting tick mark in the column under appropriate category. Time taken by them to complete both the tools was about 30 minutes.

3.10 Statistical Techniques used for the data analysis

Keeping in mind the objectives and the nature of variables the following statistical techniques were used.

1. Analysis of Variance.
2. Co-efficient of Correlation.

1. Analysis of Variance

Analysis of variance is an extension of 't' test. The 't' test is used to study the differences of two groups at a time.This means,the effect of only one independent variable can be studied at a time whereas in analysis of variance the effects of more than two independent variables can be studied. Besides the main effects there is a scope of studying the interaction effects in analysis of variance. It shows the results in the form of 'F' ratio. F furnishes over-all tests of the significance of the difference among means. A significant of F does not tell us which one group is different from which other group. At least one is reliably different from some others. If F is not significant there is no reason for further testing as none of the mean differences will be significant.But if F is significant and there are more than two groups, Tucky's gap test can be applied to examine the inter group mean differences.

In present study also when F ratio was found significant,tucky's gap test was used in order to find out the inter group mean differences.

2) Co-efficient of correlation

The coefficient of correlation can be used from two points of views. In the first place to know whether there is any relationship between the two variables and in the second place to know the degree of relationship between the two variables. The value of coefficient of correlation helps us to know whether two variables are closely related to each other or they are independent of each other and thereby it helps us to know whether there is an impact of one variable on the other.