

## **Chapter III**

### **Research Methodology**

#### **3.0 Introduction**

Research methodology is an empirical science. It is a very important term used by almost all research studies. It helps how research is done logically and scientifically and it shows a genuine path to systematically solve the various research problems. The researcher has comprehensive knowledge about the research and various techniques which are used in the process of investigation. It has so many dimensions to constitute complete research which all are part of the research methodology. It provides the overall structure for the procedures that the researcher follows which includes research design, population of the study, sample and sample size, sampling technique, Tools used in the study, methods of data collection and statistical technique used for analysis and interpretation of data.

It has a broader concept and applicability than that of research methods, all research methods also are parts of it. The researcher kept in mind that research methodology is a plan with the central goal of solving the research problem. The researcher also needs to understand various technical assumptions and rules to use certain procedures in a particular research study. He/she also knows the applications of statistical and theoretical measures in a logical way making research a scientific outlook and real-life usefulness. Researcher grand's the rationale procedures of research methodology in reaching a scientific conclusion (Kothari & Garg, 2019).

#### **3.1 Research Design**

To effectively address the research problem, the research design is an overall strategy and framework of research methods and techniques. It chooses to integrate different study components coherently and logically. It also serves as a guide for the

data collection, measurement, and analysis processes. A successful research study depends on accurate, reliable, and unbiased insights. It has provided an impactful research design. The researcher employed a descriptive research design for the current investigation (Sekaran & Bougie, 2018).

The descriptive survey method is the most widely used and the most popular research design as indications of the dissertations', theses and research reports. It is designed to obtain precise information concerning fact-finding with the adequate interpretation of the present status of the phenomenon in its natural setting. There are a variety of descriptive research methods available, the nature of the objectives and questions needs to be answered and the researcher decides which method should be used. In the present study the researcher has used the descriptive research method. This method is used when the researcher wants to describe specific behaviour as it occurs in the environment. Descriptive survey research is 'data gathering'. The true meaning of the data collection should be reported from the point of view of the basic assumptions and objectives of the research study which is underway. The data can be obtained by descriptive survey, the only means through attitudes, opinions and suggestions for improvement of educational instructions and practices. This survey research collected data with the help of useful data gathering tools - questionnaires, rating scales, tests, checklists and schedules (Best, et al., 2017).

### **3.1.1 Population**

A more advanced research process is to select individuals or schools who are representative of the entire group of individuals or schools. Here representatives accurately reflect or represent and possess more common characteristics of the whole population. It refers to the group of people, items, and events under investigation which includes every individual. Population is properly defined so that there should

be no ambiguity whether the selected unit belongs to the population. If the population is not defined properly, the researcher will not be able to know which units have to be selected for the sample (Best, et al., 2017; Sekaran & Bougie, 2018).

The population of the present study comprises of all the government secondary school students studying in class (IX-X) studying in four districts of Sikkim. i.e. East Sikkim, West Sikkim, North Sikkim and South Sikkim.

**Table 3.1**

*District Wise Population of School students in Sikkim Based on Gender and class*

<b>District</b>	<b>Boys</b>	<b>Girls</b>	<b>Total (IX-X)</b>
North	495	614	1109
West	2550	3019	5569
South	2627	2921	5548
East	4233	4602	8835
<b>Sikkim</b>	<b>9905</b>	<b>11156</b>	<b>21061</b>

*Note. From UDISE 2017-18, in Annual Report, 2017-18*

Table 3.1 shows the population of government school students in Sikkim for all four districts and total. As evident from the table, 21061 students are studying in government schools of Sikkim in which number of boy's population of 9905 but table indicated that there are more girl's population 11156 than boy's population. East district has the highest number of students' population of 8835, indicating a large number of schools in Sikkim. West district has a student population of 5569, followed by the South district, which has 5548 students. On the other hand, out of all four districts North district has the least number of student populations is 8835. Although the largest district in terms of area, the upper reaches of the North Sikkim have extreme weather conditions, making human habitation difficult and consequently sparse educational institutions.

### 3.1.2 Sample

Most of the time, the population is so large that their study would be expensive in terms of money and time. Sampling is a process in which a small number of individuals, objects or events are selected and analysed to find out the results for the entire population selected. Sampling is a collection consisting of a part or subset of the objects or individuals of the population, the sample is selected for the purpose of representing the whole population. The researcher selects the sample from lists of individuals available and is called the target population. The researcher should follow some good characteristics of the sample:

- True representativeness of the population,
- Units of the sample should be independent and relevant,
- Adequate in the size for being reliable,
- Free from random sampling error,
- Free from error due to bias and voiding substituting the original sample for convenience (Koul, 2013; Creswell, 2019; Gay et al., 2019).

### 3.1.3 Sampling Technique

In order to select the sample from a given population it is necessary to have to complete, accurate, and up-to-date list of all the units in the population. The researcher used Stratified Random Sampling Technique for the present study. The representative samples of the present study consist of 600 secondary school students of class IX and X from 20 government schools of Sikkim (300 male and 300 female).

**Stratified random sampling** is the relevance of sub-groups within the sample and representativeness of the entire population. It is divided into various sub-groups called strata or stratum. It helped in selecting subjects from each sub-group known as stratified random sampling. This type of random sampling is the best approach when a

particular research goal is to compare the behaviour of participants from different sub-group of the population. It has two sub-categories a) proportional stratified sampling and b) equal-size or non-proportional stratified sampling (Creswell, 2019).The researcher likes to use equal size sampling, which is relevant to complete the present study. The efficiency of the stratified random sample depends upon the allocation of a sample size to strata. Along with simple random sampling, the samples from each sub-group have been randomly selected and divided into two or more treatment strata or groups. Stratification is particularly useful in opinion survey studies in which categories like 'strongly agree', 'agree', 'undecided', 'disagree', and 'strongly disagree' might be related to such factors as gender, educational performance, socioeconomic status, personality, anxiety, intelligence and so on. Equal size stratified sampling decisions are made either when some stratum or strata are too small or too large. It is more efficient than the simple random sampling because each important segment of the population is better represented, and more valuable. It is differentiated information which is obtained with respect to each group (Sekaran & Bougie, 2018; Gay et al., 2019).

**Table 3.2**

*Number of Subjects from Four Districts of different Government secondary and senior secondary school of Sikkim is given Beneath (N=600).*

Name of the Districts	S. No.	Name of the Schools	Gender		Number of Students
			Male	Female	
East	1.	Tadong Government Senior Secondary School	15	15	30
	2.	Government Secondary School (Majhitar)	15	15	30
	3.	Government Secondary School (Bordang)	15	15	30
	4.	Government Senior Secondary School (Singtam)	15	15	30
	5.	Government Senior Secondary School (Rangpo).	15	15	30
West	6.	Government Senior Secondary School (Soreng)	15	15	30
	7.	Government Senior Secondary School (Sombary)	15	15	30
	8.	Government Senior Secondary School (Chakung)	15	15	30
	9.	Government Senior Secondary School (Bariakhop)	15	15	30
	10.	Government Senior Secondary School (Dodak)	15	15	30
North	11.	Government Senior Secondary School (Mangan)	15	15	30
	12.	Tinghim Government Secondary School	15	15	30
	13.	Ringhim Government Secondary School	15	15	30
	14.	Government Secondary School (Singhik)	15	15	30
	15.	Mangshila Government Senior Secondary School	15	15	30
South	16.	Government Senior Secondary School (Damthang)	15	15	30
	17.	V.C.G.L. Government Senior Secondary School (Ravangla)	15	15	30
	18.	BermiokTokal Government Senior Secondary School	15	15	30
	19.	Government Senior Secondary School (Temi)	15	15	30
	20.	Government Senior Secondary School (Melli)	15	15	30
<b>Total</b>			<b>300</b>	<b>300</b>	<b>600</b>

The researcher has selected 20 government secondary and senior secondary schools of Sikkim for sample distribution. From each district researcher has taken five secondary and senior secondary schools, from one school researcher has selected class

IX and X students. After that researcher selected randomly 15 male and 15 female (30) students from class IX and X.

Researcher has taken to five schools from the East District of Sikkim namely - Tadong Government Senior Secondary School, Government Secondary School (Majhitar), Government Secondary School (Bordang), and Government Senior Secondary School (Rangpo). The District of West, five schools - Government Senior Secondary School (Sombary), Government Senior Secondary School (Sombary), Government Senior Secondary School (Chakung), Government Senior Secondary School (Bariakhop), and Government Senior Secondary School (Dodak). The District of North, five schools - Government Senior Secondary School (Mangan), Tinghim Government Secondary School, Ringhim Government Secondary School, Government Secondary School (Singhik), and Mangshila Government Senior Secondary School. The District of South, five schools - Government Senior Secondary School (Damthang), V.C.G.L. Government Senior Secondary School (Ravangla), BermiokTokal Government Senior Secondary School, Government Senior Secondary School (Temi) and Government Senior Secondary School (Melli); From each school 15 male and 15 female, 30 students; altogether 150 students were taken for the test simultaneously. Sum of sample from all four districts within 20 school students are (15 male \*15 female) =30 students; (20 schools\* each school 30 students = 600 students).

### **3.2 Tools Used for Data Collection**

A researcher requires many data gathering tools. Each tool is appropriate for the collection of certain type of information and evidences. Achievement in research relies upon the accessibility of tools and methods of adequate exactness to measure the marvels under research. The determination of research tools or questionnaires is

the basic step of any research which requests a profound understanding and point of view of all field of the research. For the present study standardized tools were used for all the variables. The standardized test is also having specific rules for gathering information and scoring procedures. It also has fixed set of items to be administered to the selected sample. For the present study the following tools were used.

**Table 3.3**

*List of Tools Used*

SL. No	Aspects of the Study	Name of Inventory, Test and Questionnaire	Developed by
1.	Personality Characteristics	Dimensional Personality Inventory (Revised)	Mahesh Bhargava (2012)
2.	Educational Aspirations	Level of Educational Aspiration Test	Dr. Yasmin Ghani Khan (2009)
3.	Self-concept	Self-Concept questionnaire	Dr. Raj Kumar Saraswat (2011)

### 3.3 Description of the Tool Used

#### 1. Dimensional Personality Inventory DPI-BM (Revised) – 2012 by Dr. Mahesh Bhargava.

- **Background of the tool**

*The present inventory was originally devised on the basis of observations of behaviour of different age group people but however the philosophy and guidelines of preparing this test is based on the lines of internationally acclaimed personality test- Minnesota multiphasic Personality Inventory (MMPI) by Hathaway and McKinley (1951) which is still the most researched instrument in the world specially for clinical*



use and more than 300 measures of personality area in different languages of all over the world are derived from it (Reynolds and Sundberg, 1976). In India, Sen (1966) and Joshi & Malik (1982) had developed their personality measures on the lines of M.M.P.I. Sen (1966) had developed his 'personality Trait Inventory' in English language with 120 items representing eight areas and this has been used in a number of researches, notably by Prasad et al., (1974), Rastogi et al., (1976), Verma et al., (1990a). However, the Hindi Translation of this PTI was made by Mohle (1966) and Verma et al., (1990b).

With this theoretical background, it was felt necessary to a construct a personality measure on the basis of dimensions and items which are very much suited to a common person. The test is devised with this uniqueness that it is applicable to normal person aging from 12+ to any age limit of either sexes, it is also suitable for neurotics and psychotic patients, women with menstrual distress and physically handicapped and disabled in any area of behaviour (Bhargava, 2012). The present inventory based on the trait theory model of Eysenck (1947), who thought that traits constitute the most important parts of personality, which refer to observed consistency of behaviour and action tendencies. General cues to the traits are what the person does, how he does it and how well he does it (Singh, 1998). Several traits together constitute a dimension of personality which helps us in making distinction among persons, considering this assumption, Therefore the present inventory was the need of the time.

### **Description of Dimensional Personality Inventory**

Initially 90 items were prepared for this inventory and they were administered on 100 adult healthy subjects. Item Analysis was done and items showing low internal consistency were dropped.

It consists 60 statements in simple (easy to understand even by low literates) Hindi/English. It measures six important personality dimensions. The areas of Dimensional Personality Inventory are described as below-

**(i) Activity-Passivity-** The person is Active energetic, enthusiastic, regular, persistent and busy with ability to concentrate for long duration of time, on the one hand and passive, dull, inactive, slow, and irregular n working, deviation with constructive output, delayed reactions in work, unwillingness to act on the other hand. Higher score on this dimension shows Activity trait of one's personality whereas lower score tends the passiveness of an individual (Item No. 1 to 10).

**(ii) Enthusiastic-Non-Enthusiastic-** Enthusiastic trait indicates the tendency to be happy go lucky, warm hearted person, enjoying life, fond of being in company of others, social and outgoing, mixing easily in the company of others, witty, loves enthusiastic and courageous work, open hearted, ability to move persons for various functions. This is indicated by the cyclothymiacs temperament and higher score indicates the greater tendency. On the other hand, lower score indicates Non-Enthusiastic trend by expressing re-curvedness, shyness, inhibited, cold, keeping aloof, feeling difficulty to contact other people, slow spoken, non-participation in various functions and is also known as schizothyme personality. (Item No. 11 to 20).

**(iii) Assertive-Submissive-** It indicates the assertiveness of an individual as person is strait forward in all dealings of life, bold, having traits f leadership, likes to act as a main role player, independent nature, non-convincing with other's ideas, dominant, whereas in submissiveness, keeps his ideas to himself only, dare not to open his mouth, fearful to meet and exchange views with others, accepts subordination and acts as others say, hesitant to oppose other's views. High score

indicates the assertiveness trait of personality, whereas low score is near to submissiveness dimension.

**(iv) Suspicious-Trusting-** High score shows the paranoid tendency of the individual which is reflected in his suspicious nature about others, apprehensive, having no faith in others, blaming others for his failures and non-achievement, feeling misconception of people about himself and feels that others are jealous of him and want to harm him, whereas low score tends to trusting trait of personality which does not have any such paranoid tendency. This positive dimension of personality is characterized by free of jealous tendencies, accepting conditions, easy to get on with others, adaptable, cheerful, uncompetitive, a good team worker, an open and tolerant person and usually willing to take a chance with people, realizing own weakness and faults

**(v) Depressive-Non-Depressive-** High score on this personality trait indicates feeling of helplessness, hopelessness, worthlessness, depressed, unwanted, unloved, suicidal ideas, feeling of inferiority, highly frustrated, lack of self-confidence, sad on misdeeds and mistakes done in the past, jealous about others happiness, restless and full of tense. Whereas, low score tends to be non-depressive characterized by relaxedness, un-frustrated, composed and satisfied.

**(vi) Emotional Instability and Emotional Stability-** The high score on this personality trait indicates Emotional Instability where individual is affected by feelings, emotionally, is less stable, easily annoyed and upset, having low frustration tolerance for unsatisfactory conditions, highly anxious and worrying, fearful, sensitive, touchy, given to mood swings, depressed and sad whenever confronted with stressful situations, having neurotic symptoms like phobias, sleep disturbances and psychotic disorders. The low score is indicative of emotionally stable trait of

personality where person is full control over his emotional expressions, emotionally mature, stable, realistic about life situations, possessing ego strength, high level of adjustment with unsolved emotional problems.

**Table 3.4**

*Dimension wise distribution of items of Personality Characteristics Inventory*

SL. No	Dimension	Number of items
1	Activity-Passivity	10
2	Enthusiastic-Non-Enthusiastic	10
3	Assertive-Submissive	10
4	Suspicious-Trusting	10
5	Depressive-Non-Depressive	10
6	Emotional Instability and Emotional Stability	10
Total		60

### Scoring

The response is to be recorded on the basis of 3 response alternatives- Yes, Undecided and No. He has to decide which statement is true according to his temperament and behaviour. If it is true, he has to put a tick mark in cell below Yes alternative, if it is not true, then he has to put a tick mark in the cell below No alternative and if he is in the state of un- decidedness, he has to put a tick mark in the cell below Undecided alternative. Each **yes** response is to be scored as 2, undecided is to be as 1 whereas **no** and unmarked responses are to be scored as zero.

Yes	Undecided	No
2	1	0

All the six dimensional areas of personality are grouped as part I, II, III, IV, V, and VI, each containing 10 statements. Thus on each area of personality, score may range from 0 to 20 and thus may be calculated area-wise and total score of each part may be obtained at that place and then transferred to scoring table below each part against raw score column.

- **Score Sheet and Profile of Dimensional Personality Inventory**

After giving response to all 60 statements on Dimensional Personality Inventory should be taken back from the respondents and then test administrator or researcher should score the questions as per the scoring pattern- assigning 2 marks for Yes response, 1 mark for undecided and zero mark for no response. This is quite a simple process and then obtains the raw scores area wise and writes in the table of score sheet. After that each raw score should be translated in to z-Score, you are now in a position to prepare a Profile of the individual so that his status regarding various personality traits may be seen in a graphical manner. Then on the basis of z-Score, please put a tick mark on each dimension in accordance to the z-Score value, like a hypothetical case as presented here. This may be interpreted that this individual is characterized by activity oriented with moderate level of enthusiastic nature and have a trust among other members working with him. He is highly submissive therefore he occasionally behaves with weak feelings and upset on small matters, which also cause depression for a shorter period.

**Note:** It is important to learn for test users that they have to convert raw scores into any type of standard scores (z-Scores, stanine, sten, percentile, T-score, deviation score etc ; ) only in the individual case where they have to prepare individual profile.

### **Norms**

For the purpose of transforming obtained Raw Score for each personality trait and for each type of group, viz., Normal, Psychiatric Patients and Women with Menstrual Distress. Separate z-score Norms have been prepared and the same have been given.

### **Special Attention**

Norms for interpretation of the level of personality trait have been given in Tables 3.5 & 3.6.

Special attention be given that in Dimensional Personality Inventory, in the first three traits are on the upper side e.g., I Activity, II Enthusiasm, III Assertive, Whereas in traits IV, V & VI The Negative Traits, viz., Suspicious, Depressive & Emotional Instability are on the upper side.

**Table 3.5**

*Norms for interpretation of the level of personality traits. Traits - I, II, III*

*\*Activity-Passivity*

*\*Enthusiastic-Non-Enthusiastic*

*\*Assertive-Submissive*

SL. NO.	z- Score Range	Level of Trait	Traits
1.	+ 2.01 & above	<i>Extremely High</i>	<i>*Activity *Enthusiastic *Assertive</i>
2.	+1.26 to +2.00	<i>High</i>	<i>*Activity *Enthusiastic *Assertive</i>
3.	+0.50 to +1.25	<i>Above Average</i>	<i>*Activity *Enthusiastic *Assertive</i>
4.	- 0.50 to +0.50	<i>Average/Moderate</i>	<i>*Activity-Passivity *Enthusiastic *Assertive</i>
5.	-1.25 to -0.51	<i>Above Average</i>	<i>*Passivity *Non-Enthusiastic *Submissive</i>
6.	-2.00 to - 2.16	<i>High</i>	<i>*Passivity *Non-Enthusiastic *Submissive</i>
7.	-2.10 & below	<i>Extremely High</i>	<i>*Passivity *Non-Enthusiastic *Submissive</i>

**Table 3.6**

*Norms for interpretation of the level of personality traits. Traits - IV, V, VI*

*\*Suspicious-Trusting*

*\*Depressive-Non-Depressive*

*\*Emotional Instability and Emotional Stability*

SL. NO.	z- Score Range	Level of Trait	Traits
1.	+ 2.01 & above	<i>Extremely High</i>	<i>*Suspicious *Depressive *Emotional Instability</i>
2.	+1.26 to +2.00	<i>High</i>	<i>*Suspicious *Depressive *Emotional Instability</i>
3.	+0.50 to +1.25	<i>Above Average</i>	<i>*Suspicious *Depressive *Emotional Instability</i>
4.	- 0.50 to +0.50	<i>Average/Moderate</i>	<i>*Suspicious *Depressive *Emotional Instability</i>
5.	-1.25 to -0.51	<i>Above Average</i>	<i>*Trusting *Non-Depressive *Emotional Stability</i>
6.	-2.00 to - 2.16	<i>High</i>	<i>*Trusting *Non-Depressive *Emotional Stability</i>
7.	-2.10 & below	<i>Extremely High</i>	<i>*Trusting *Non-Depressive *Emotional Stability</i>

- **Reliability**

The reliability of DPI is determined by following methods:

(i) For the coefficient of stability DPI has been computed by employing Test-Retest method over a period of three weeks on a sample of 200 college going students (equally divided into male and female groups) and over a period of 15 days significant in all the cases as shown and ensure high reliability.

(ii) The Inventory has indicated the satisfactory reliability coefficient when split half method was used on various samples. Here all the reliability coefficients are significant and ensure the high reliability.

(iii) The inventory has also shown satisfactory reliability by using method of rational equivalence where inter-relationship of various personality traits have determined in 6\*6 inter-correlation matrixes. It is also known as internal consistency. It is assumed that all the times or sub-tests in a measuring instrument should be psychologically homogeneous (Bhargava, 2001). It shows inter-correlations between the various personality traits.

Based on a sample of 100 Male College going students, values are significant at .01 level. Thus, it yields the homogeneity of the various personality traits, hence ensure high reliability.

- **Validity**

In order to establish the validity of Dimensional Personality Inventory (DPI), the present Inventory is correlated with other measures of personality and allied concepts as external validating criteria -

(i) When different personality traits of DPI were correlated with the same personality traits of original English version of Sen's (1966) Personality Traits Inventory (PTI) on six factors out of eight. On a group of 80 subjects, the coefficient of correlations (r) obtained have been presented and all are significant at .01 level of significance.

(ii) When six dimensions of DPI were correlated with the Hindi Translation of Personality Trait Inventory of Sen's PTI which was done by Verma, Pershad and Mahajan (1990) on a sample of 80 subjects, the coefficient of correlation (r) obtained have been and they are significant at .01 level of significance.



(iii) When this inventory was correlated on a sample 80 students of undergraduate classes with the most appropriate 6 dimensions of Kapoor's (1970) Hindi Version of 16 P.F. Questionnaire From A the coefficient of correlations obtained are presented and all are significant at .01 level of significance.

## **2. Level of Educational Aspiration Test by Dr. Yasmin Ghani Khan (2009).**

- **Background of the test**

In an achievement-oriented culture like ours, a person is judged by what his achievements are. A person comes to expect something of him and he sets his goals for the quality, quantity and timing of achievement. The desire to excel over others or to achieve higher level of performance than the previous one is intensified in human beings. Will to achieve a higher goal is a natural biological and socio-psychological need as any other present in various species.

The need to achieve is the springboard of the achievement motive. This achievement motive comes into the picture when an individual knows that his performance will be evaluated as a success or failure. As for the origin and development of the achievement motive, it can be safely said that it is conditioned by one's early training, experience and subsequent learning. Later on, the experiences and learning based on circumstances and situations in the person's life may lead an individual to provide for a higher level of aspiration in his field of work (education).

Aspiration means a longing for and striving for some goal higher than oneself or one's present status, which differs from ambition, which is the eagerness or an ardent desire to achieve a particular honour or power. Ambition is a long-term achievement which is motivated by the result (outcome) itself and satisfaction is attained by recognition and applause by society: where as in the psychological motive

of aspiration, the motivation is improvement as it emphasizes something more than one's own present status regardless of social appreciation.

When Level of Aspiration is centred on the field of education we may refer to it as Level of Aspiration. It is considered as a concept, referring orientation towards educational goals spaced in a continuum of difficulty and social prestige and arranged in an educational hierarchy.

Four main points are distinguished in a typical sequence of events in a level of (Educational) Aspiration situation:

1. Last performance (Previous class result or marks in an informal class test)
2. setting of a level of aspiration for next performance (Expected result or marks in the next test).
3. New performance (Result or marks in the test).
4. Psychological reaction to the level of the last performance and that of the new goal is called 'Goal Discrepancy' whereas the difference between the goal level and that of the new performance is called 'attainment Discrepancy'. The more discrepancy and the lesser chance of attaining goal and wider the frustration that the individual will experience.

Broadly speaking, Aspirations could be classified into three categories:

(A) Positive and Negative Aspiration - Negative aspiration is trying to avoid any failure and maintain the present status while positive aspiration is oriented towards achieving success and improving one's present position.

(B) Immediate and Remote Aspiration - Goals achieved in short terms like class test results are termed immediate aspiration whereas futuristic goals like professions are remote aspirations.

(C) Realistic and Unrealistic Aspirations - When the goals set are achievable in terms of abilities and facilities available they are realistic in nature, or else unrealistic, for example, trying to become Superman. A realistic person always sets his goals on the basis of his past experience keeping in view his capabilities in doing the specified task.

An individual's aptitudes and abilities are not always specific enough to be identified during elementary schooling. Motivation is influenced by one's interests, in addition to abilities, which determined educational and vocational aspirations. In India often, decisions are taken by chance and public opinion rather than through self-evaluation and information on education.

Level of Educational Aspiration is calculated by the following formula:

$$\text{LOA} = (\text{Actual Attainment or Score in a test}) - (\text{Expected Attainment or Score})$$

- **Purpose of LEAT**

Educational Aspiration is one's will to excel in academics whereas Level of Educational Aspiration is the measure of this will. This test not only measures the level of Educational Aspiration but also helps in predicting the type of aspiration. This may be very useful for counsellors in guiding the students while they would be defining their ambitions and subsequently working to achieve them.

Level of Educational Aspiration Test (LEAT) was designed and standardized to cater the students of upper primary school in general and class VIII in particular who are completing eight years of free and compulsory education as stated in the directive principles of state policy.

The test plan consisted of 108 items initially testing the Level of Educational Aspiration. The test consisted of a collection of items about the students' attitudes

towards their won academic performance, the effect of the academic result on them, their parents' attitudes towards their education and the type of educational aspiration they nurtured.

Out of these 108 items, 30 items were retained after an experimental try-out followed by a careful scrutiny of each item and its expected response. Initially in, LEAT, questions were framed on areas like family morals, parent children relationship, subsequently for the final format the screened questions/statements were scattered to avoid any manipulation of thoughts while responding to the test in accordance to socially acceptable morals norms.

The final draft of LEAT contained 30 items dealing with various aspects that had a direct or indirect impact on the level of educational aspirations and achievement of the pupils. The items could be loosely classified into four groups as shown in table 3.7

**Table 3.7**

*Dimension wise distribution of items of LEAT*

Sr. No.	Aspects Tested	Item Numbers	Number of Items
A	Family Support	1, 3, 8, 10, 13, 18, 21	07
B	Pupil's Views	2, 4, 7, 11, 14, 16, 17, 26, 27,	10
C	Pupil's Efforts	28	08
D	Reality of Aspired Goals	5, 6, 15, 19, 20, 22, 24, 25 9, 12, 23, 29, 30	05
TOTAL			30

- **Reliability**
- **Test-Retest Reliability**

The LEAT was administered thrice on the try-out group of 147 students of whom only 126 took both the retests. The co-efficient of co-relation was calculated to

be significantly high. It was calculated to be 0.92 of the first retest conducted after 10 days of the test. The second retest conducted after a month of the first test and the co-efficient of co-relation was calculated to be 0.83. The co-efficient of correlation between the first retest and second retest was found to be 0.89.

- **Split-half Reliability**

The Scores of the pilot study were split into four parts according to the aspects of Level of Aspiration Described before, and the co-relation between the various aspects was calculated.

**Table 3.8**

*Shows the calculated value of co-efficient of co-relation between the various aspects in the experimental (standardization) sample*

<b>Sr. No.</b>	<b>Aspects Related</b>	<b>Co-efficient of Relationship</b>
1.	Pupil's Views v/s Family Support	0.88
2.	Family Support v/s Pupil's Effort	0.79
3.	Family Support v/s Reality of the Aspired	0.58
4.	Goal	0.56
5.	Pupil's Views v/s Pupil's Effort	0.54
6.	Pupils Effort v/s Reality of the Aspired Goal	0.43
	Pupil's Views v/s Reality of the Aspired Goal	

The calculated values of co-efficient of co-relation among the various aspects showed a positive co-relation.

The Split Half Reliability was calculated to be 0.88 and Test-Retest Reliability was calculated as 0.92. The instrument was validated against Dr. M. H. Singh and Dr. Govind Tiwari's Level of Aspiration Scale and the co-efficient of co-relation was found to be 0.66.

- **Validity**

Validity refers to what the test measures and how well it measures. A test is said to be valid only if its co-relation co-efficient is high.

- **Content Validity**

The evaluation of the content validity can vary, of course, depending up on the knowledge and skills of a person looking at an exercise. A mathematician would stress on principles of geometry and trigonometry whereas as a man of geography would stress on area and geographical boundaries.

Items of LEAT were prepared to measure the Level of Educational Aspiration of pupils, who are completing eight years of elementary schooling. These children in their early adolescence, are learning social norms and will in near future (after class tenth) be deciding their careers. They will also be setting educational goals for themselves hence the items of this test ought to be able to measure the attitude, effort and will to achieve of a pupil, in various education related activities so that the children may be able to aspire attainable goals rather than just leave all decisions of life to fate.

The first draft of LEAT with 108 questions was analysed item wise by two eminent teacher educators involved in educational research work, Two psychologists and five school teachers who had experience in educational research; and for the final test 30 items were retained.

- **Cross Validation**

After the experimental tryout on the class VIII students, the final test was administered on a fresh sample of 50 students of class VIII selected randomly from all over Bhopal City, in order to compute the cross validity. LEAT scores were correlated

with Dr. H. M. Singh and Dr.Govind Tiwari's Level of Aspiration Test scores of the same 50 students.

The co-efficient of co-relation was found to be 0.66 by Pearson's product moment correlation.

**Table 3.9**

*Scoring of the LEAT*

Question No.	Aspects of Question	Response (+1)	Question No.	Aspects of Question	Response (+1)
1	Family Support	YES	16	Pupils' Views	YES
2	Pupil's Views	NO	17	Pupils' Views	YES
3	Family Support	NO	18	Family Support	YES
4	Pupils'	YES	19	Pupils' Efforts	YES
5	Pupils' Views	NO	20	Pupils' Efforts	YES
6	Pupils' Efforts	YES	21	Family Support	YES
7	Pupils' Efforts	YES	22	Pupils' Efforts	NO
8	Pupils' Views	YES	23	Reality of	YES
9	Family Support	NO	24	Aspired Goal	YES
10	Reality of	YES	25	Pupils' Efforts	YES
11	Aspired Goal	YES	26	Pupils' Efforts	YES
12 D1	Family Support	-	27	Pupils' Views	YES
12 D2	Pupils' Views	NO	28	Pupils' Views	YES
13	Dummy Question	YES	29	Pupils' Views	YES
14	Reality of	NO	30	Reality of	YES
15	Aspired Goal	NO		Aspired Goal	

**Table 3.10***Scores and Interpretations of LEAT*

Sr. No.	Scores	Level Educational Aspiration	Interpretation
1.	Above 22	High	Highly Realistic (have well defined academic goals)
2.	15 to 22	Average	Realistic and Normal (are well adjustment and optimistic)
3.	Below 15	Low	Unrealistic (are carefree towards academic achievement)

### 3. Self - Concept Questionnaire (SCQ) by Dr. Raj Kumar Saraswat (2011)

- **Background of the questionnaire**

Self-concept is a dominant element in personality pattern; therefore, the measurement of self-concept becomes essential. Self-concept has been referred by Lowe (1961) as one's attitude towards self, and by Paderson (1965) as an organized configuration of perceptions, beliefs, feelings, attitudes and values which the individual views as a part of characteristics of him. Rogers (1951) defined self-concept as "An organized configuration of perceptions of the self which are admissible to awareness. It is compared of such elements as the perceptions of one's characteristics and abilities, the precepts and concepts of the self in relation to others and to the environment, the value qualities which are perceived as associated with experiences and objects, and the goals and ideals which are perceived as having positive or negative valence." Saraswat and Gaur (1981) described self-concept as "The self-concept is the individual's way of looking at himself. It also signifies his way of thinking, feeling and behaving."

Adolescence is a period of life with its own peculiar characteristics and problems. Hence for deep penetration into their perception their own physical, social,



temperamental, educational, moral and intellectual spheres of self-concept need to be explored. As such, an attempt has been made in this questionnaire for eliciting information regarding adolescent's perceptions and characteristics.

The self-concept inventory provides six separate dimensions of self-concept, viz., physical, social, intellectual, moral, educational, and temperamental Self-concept. It also gives a total self-concept score. The operational definitions of self-concept dimensions measured by this inventory are:

1. **Physical** - Individual's view of their body, health, physical appearance and strength.
2. **Social** - Individual's sense of worth in social interactions.
3. **Temperamental** - Individuals view of their prevailing emotional state or predominance of a particular kind of emotional reaction.
4. **Educational** - Individual's view of themselves in relation to school teachers and extracurricular activities.
5. **Moral** - Individual's estimation of their moral worth, right and wrong activities.
6. **Intellectual** - Individual's awareness of their intelligence and capacity of problem solving and judgments.

**Table 3.11**

*Dimension wise distribution of items of self-concept questionnaire*

Self-concept Dimensions	Code No.	Item Numbers
Physical	A	2, 3, 9, 20, 22, 27, 29, 31
Social	B	1, 8, 21, 37, 40, 43, 46, 48
Temperamental	C	4, 10, 14, 16, 19, 23, 24, 28
Educational	D	5, 13, 15, 17, 25, 26, 30, 32
Moral	E	6, 34, 35, 41, 42, 44, 45, 47
Intellectual	F	7, 11, 12, 18, 33, 36, 38, 39

The inventory contains 48 items. Each dimension contains eight items. Each item is provided with five alternatives. The respondent has to mark a tick ( ) on any one of the five responses given against that item.

- **Scoring Method:**

The respondent provided with five alternatives to give his responses ranging from most acceptable description of his self-concept. The alternatives or responses are arranged in such a way that the scoring system for all the items will remain the same i.e. 5, 4, 3, 2, 1 whether the items are positive or negative. If the respondent put tick mark for first alternative the score is 5, for second alternative the score is 4, for third alternative score is 3, for the fourth it is 2 and for the fifth and last alternative the score is one. The summated score of the entire forty-eight item provide the total self-concept score of an individual. A high score on this inventory indicates a higher self-concept, while a low score shows low self-concept. Transfer the score of each item on the front page against that item. Now add all the scores of eight items given in that column, this will give you score for that particular dimension of Self-concept.

Alternative No.	1	2	3	4	5
Score	5	4	3	2	1

- **Reliability**

Reliability of the inventory was found by test-retest method and it was found to be .91 for the total self-concept measure. Reliability coefficients of its various dimensions vary from .67 to .88. The following table shows the test-retest reliability for each dimension.

**Table 3.12***Test-Retest Reliability of the Self-concept Inventory*

Code No.	Self-concept Dimension	No. of Items	Reliability Coefficients
A	Physical	8	.77
B	Social	8	.83
C	Temperamental	8	.79
D	Educational	8	.88
E	Moral	8	.67
F	Intellectual	8	.79
Total Self-Concept		48	.91

**Validity**

Expert's opinions were obtained to establish the validity of the inventory. 100 items were given to 25 psychologists to classify the items to the category to which it belongs. Items of highest agreement and not less than 80% of agreement were selected. Thus the content and construct validity were established.

**Standardized and Norms:**

The Self-concept Questionnaire was standardized on 1000 students of 20 Higher Secondary school of Delhi pertaining to Delhi Administration and Central Schools. The students were from IXth and Xth classes ranging from 14 to 18 years of both the sexes.

**Table 3.13***Interpretation and Classification of Raw Scores for all Dimensions*

<b>Self-concept Dimension Score</b>	<b>Interpretation (Category)</b>
33 to 40	High Self-concept
25 to 32	Above Average Self-concept
17 to 24	Average Self-concept
9 to 16	Below Average Self-concept
Up to 8	Low Self-concept

**Table 3.14***Interpretation and Classification of Raw Scores for Total Self-Concept*

<b>Raw Score</b>	<b>Interpretation</b>
193 to 240	High Self-concept
145 to 192	Above Average Self-concept
97 to 144	Average Self-concept
49 to 96	Below Average Self-concept
1 to 48	Low Self-concept

### **3.4 Data collection procedure**

The procedure which the researcher adopted to collect the data was, at first the researcher prepared an application and took the signature of the supervisor and the Head of the department of Education to get permission from the Human Resource Development Department (HRDD) Government of Sikkim to visit the different Government secondary schools in four districts of Sikkim. After getting permission letter from HRDD the researcher visited all the government secondary schools selected as sample and seek permission of headmasters in all the schools to collect the information from the students. The researcher selected the students randomly from class IX and X. Then the researcher explained in short about the purpose of the study

to the students and also encouraged them to cooperate with him in administering the questionnaires of personality characteristics, educational aspirations and self-concept without disturbing their formal class periods. The researcher provided them sufficient time to fill the questionnaires properly. Finally, the researcher collected all the questionnaires which were filled by the students.

### **3.5 Statistical techniques used**

**In order to achieve the objectives of the study and to test the hypotheses the investigator has taken proper care in selecting the statistical techniques for data analysis. Percentage wise analysis, Mean, Median, Mode, Standard Deviation, 't' test, Pearson's Product Moment Coefficient Correlation were used to analyse the data using Excel. To check the normality of data SPSS was used.**

- To check whether the data is normally distributed SPSS was used.
- To check the levels of all the variables along with their dimensions **Percentage wise analysis is done based on the questionnaires.**
- **To test the hypotheses from 1 to 19 t-test was used to test the significance of mean difference between two groups.**
- **To test the hypotheses from 20 to 22 Pearson Product moment Correlation was used to find out the relationship between two variables.**