CHAPTER-3

METHODOLOGY

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This chapter deals with the methods and methodology for conducting the study. The researcher has to follow a particular systematic procedure that gives direction to him for solving a particular problem. This chapter helps the researcher to become clear in the way of using the methods, tools and techniques, sampling and the population. The details about the plan and procedure are given as follows

1. Research design

2. Population of the study

3. Sample of the study

4. Variables of the study

5. Selection / Construction of the tools

6. Administration of the tools

7. Scoring procedure

8. Statistical techniques used

3.1 Research design

The research design of the study helps the researcher in collecting, analyzing and interpreting the data (Creswell, 2011). The research design stands for the advanced planning of the collection of data and the use of statistical techniques for analyzing the data keeping the objectives of the study into consideration. It is a type of blueprint for collecting, analyzing and interpreting the data (Kothari, 2004). A research design is considered valid when it decreases the biases and increases the reliability of the collected and analyzed data (Kothari, 2004). The present study is quantitative and

descriptive cum survey design has been adopted. This method was used for determining the present existing conditions. This type of design describes the population, situation and phenomenon that is being studied. It answers the what, when, how and where type questions rather than the why type questions. Understanding the problem is the first step of any research. Descriptive survey design uses surveys to gather data about the problem under investigation. In the present study, teachers and principals working in the schools of high and low performance in district Anantnag and Kulgam of Jammu and Kashmir constitute the population. The sample of the present study was taken from the schools of high and low performance from these two districts. The researcher used the questionnaires on the various variables of the study and collected the data through survey by employing the questionnaires of the study.

3.2 Population of the study

In scientific terms the population is defined as a group of persons belonging to a particular species. This means that the population is a group of persons having the same or similar characteristics. The present study focused on leadership practices, school culture and professional capital of the schools showing high and low performance. In this context, the researcher has taken the data from the teachers and principals working in the schools showing high and low performance in order to see what type of leadership practices, school culture and professional capital were adopted by these schools and to study the difference between them. The population of the present study consists of teachers and principals working in the high and low performing senior secondary schools of Anantnag and Kulgam districts in the Kashmir division of Jammu and Kashmir union territory. In the present study, only the schools of high and low performance of districts Anantnag and Kulgam were taken into consideration. The

performance of the schools was determined by checking the 2018 to 2020 results of class 11th and 12th from the gazettes of the respective years provided by the "Jammu and Kashmir Board of School Education". The researcher prepared the list of the schools showing high and low performance on the basis of the last three years result of 11th and 12th class respectively .The schools showing consistently high academic performance in at least three or more than three annual results of 11th and 12th class (the researcher obtained six result sheets of every school, three each for 11th and 12th class respectively) were considered as high performing schools and the schools showing consistent low academic performance three times or more were considered as low performing schools. In this criterion, the researcher selected 21 schools from the two districts with 6 schools from district Anantnag and 15 schools from district Kulgam. Among the six schools of district Anantnag, four schools were high performing and two schools were low performing. Among the fifteen schools of district Kulgam, eight schools were high performing and seven schools were low performing. The total number of schools in Jammu and Kashmir is 28000 including government and recognized private schools. Out of these, 23000 are government schools and 5000 are recognized private schools. The number of teachers working in the government schools of Jammu and Kashmir is 107445 (Jammu and Kashmir SCERT, 2021). The number of teachers who are working in the government schools of Kashmir division of Jammu and Kashmir is 65000. In the Anantnag district, the total number of teachers working in the government schools is 7977 and in the Kulgam district, the total number of teachers working in the government schools is 3492 (Jammu and Kashmir SCERT, 2021). The number of teachers who are working in the high and low performing schools of district Anantnag and Kulgam is 405.

Table 3.1

Population of the Study

District	S.No	Name of the School	Teachers			Principals		
			Male	Female	Total	Male	Female	Total
High performing schools								
Anantanag	01	Government Girls Model Higher Secondary School Anantnag	25	09	**34**		01	
	02	Government Higher Secondary School Pahalgam	15	05	**20**	01		
	03	Government Higher Secondary School Hakura	13		**13**	01		
	04	Government Higher Secondary School Marhama	14	05	**19**	01		
Kulgam	05	Government Girls Higher Secondary School Kulgam	18	07	**25**	01		
	06	Government Boys Higher Secondary School Kulgam	16	10	**26**	01		
	07	Government Higher Secondary School Ashmuji	14	02	**16**	01		
	08	Government Higher Secondary School Nehama	13	02	**15**	01		
	09	Government Higher Secondary School K BPora	17		**17**	01		
	10	Government Boys Higher Secondary School Arreh	17	03	**20**	01		
	11	Government Boys Higher Secondary School Yaripora	16	04	**20**	01		
	12	Government Higher Secondary School Frisal	16	03	**19**	01		
Low Performing Schools								
Anantanag	13	Government HigherSeconary School Kharpora	13		**13**	01		
	14	Government Girls Higher Secondary School Verinag	16	04	**20**	01		
Kulgam	15	Government Higher Secondary School D K Marg	14	02	**16**	01		
	16	Government Higher Secondary School Chowgam	17	03	**20**	01		
	17	Government Higher Secondary School Malwan	13	02	**15**	01		
	18	Government Higher Secondary School RazlooKund	14	04	**18**	01		
	19	Government Higher Secondary School Monad Gufan	17	02	**19**	01		
	20	Government Higher Secondary School Quimoh	16	05	**21**	01		
	21	Government Higher Secomndary School D H Pora	15	04	**19**	01		
		Total	329	76	**405**	20	1	**21**

3.3 Sample of the study

The researcher selected sample from the south Kashmir region of the Kashmir division of Jammu and Kashmir Union Territory. The south Kashmir region consists of four districts as Anantnag, Pulwama, Kulgam and Shopian. The districts which were selected by the researcher are Kulgam and Anantnag from the south Kashmir region of Kashmir division. The researcher used simple random sampling for the selection of the districts. The researcher has used purposive sampling for the selection of the schools showing high and low performance. The sample in this study was selected by simple random sampling technique. The sample of the study consisted of 300 respondents. Among the sample of 300 respondents, 279 were teachers and 21 were principals. Among the 279 teachers, 156 teachers were taken from the schools showing high performance and 123 teachers were taken from the schools showing low performance. The percentage of the teachers included in the sample is 68.88 % of the total population. Among the 21 Principals, 12 principals were taken from the high performing schools and 9 principals were taken from low performing schools.

Figure 3.1

Sample of the Study
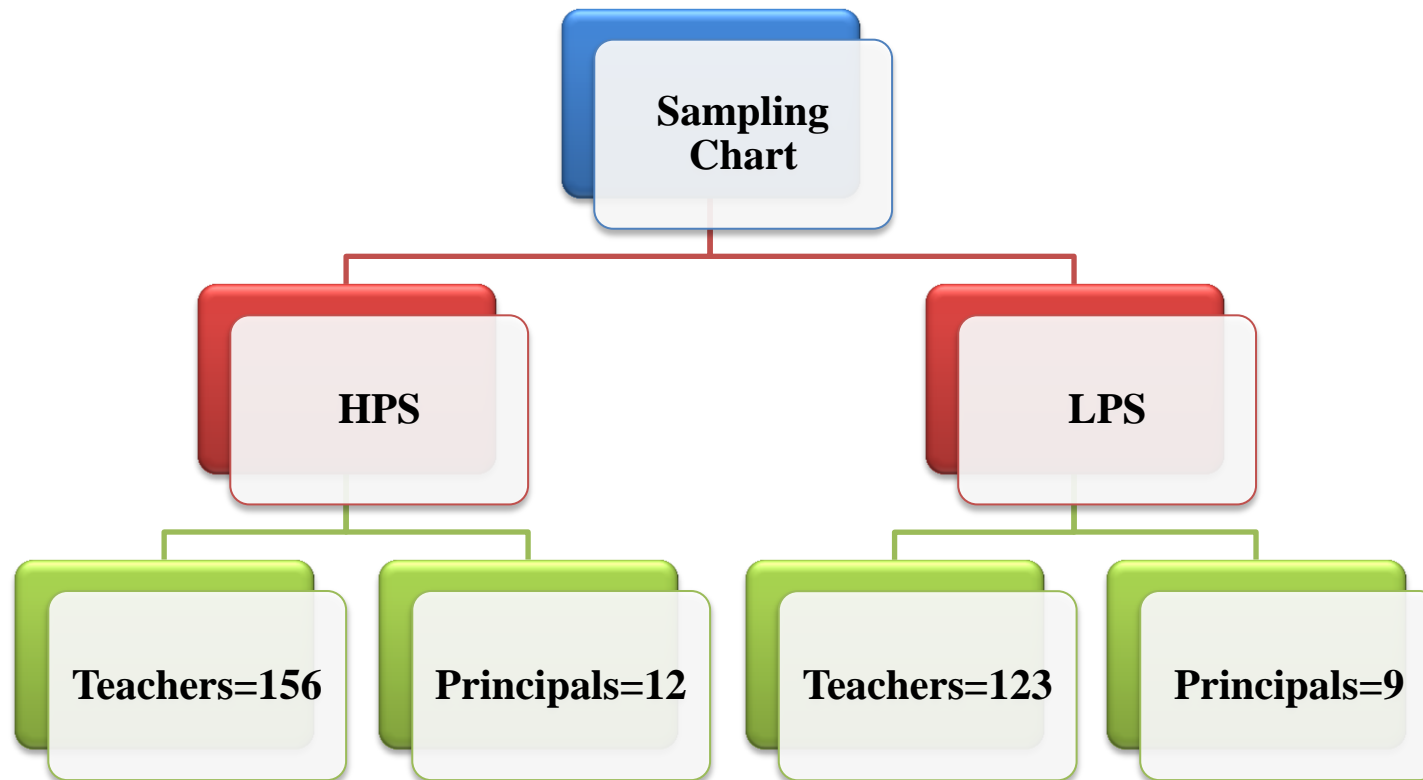
Note. HPS is the short form of High Performing Schools & LPS is the short form of Low Performing Schools

Table: 3.2

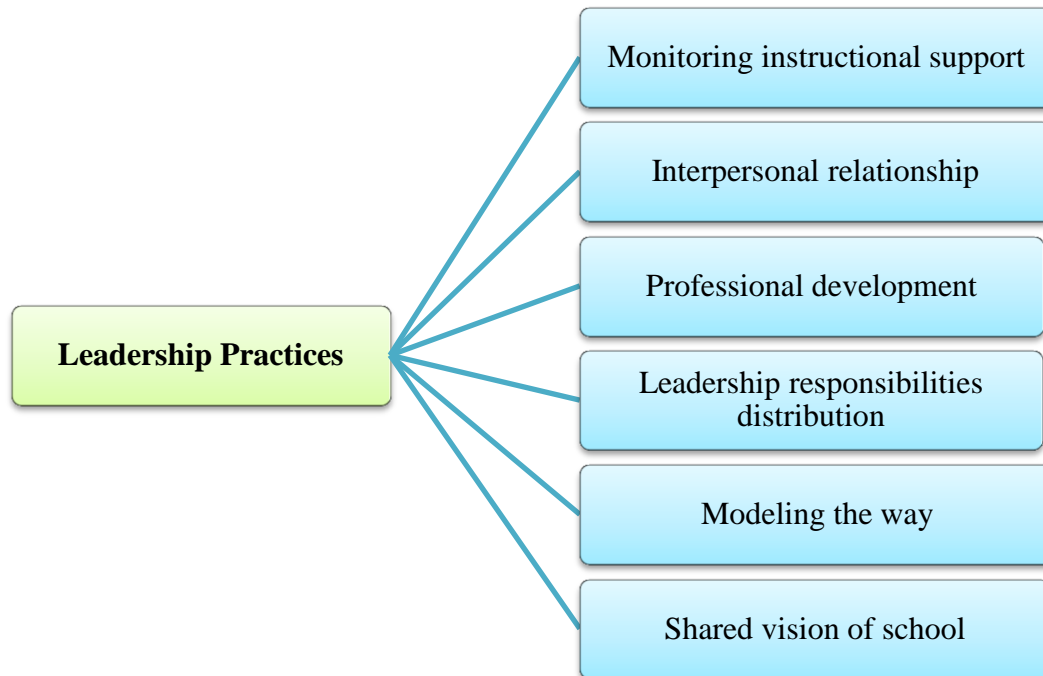*Sample Collected from High and Low Performing Schools*

| District	S. No	Name of the School	Teachers			Principals		
			Male	Female	Total	Male	Female	Total
High performing schools								
	01	Government Girls Model Higher Secondary School Anantnag	11	06	**17**		01	
Anantnag	02	Government Higher Secondary School Pahalgam	11	02	**13**	01		
	03	Government Higher Secondary School Hakura	08		**08**	01		
	04	Government Higher Secondary School Marhama	11	04	**15**	01		
	05	Government Girls Higher Secondary School Kulgam	11	05	**16**	01		
	06	Government Boys Higher Secondary School Kulgam	09	06	**15**	01		
	07	Government Higher Secondary School Ashmuji	10	01	**11**	01		
Kulgam	08	Government Higher Secondary School Nehama	08	01	**09**	01		
	09	Government Higher Secondary School K B Pora	11		**11**	01		
	10	Government Boys Higher Secondary School Arreh	11	02	**13**	01		
	11	Government Boys Higher Secondary School Yaripora	11	04	**15**	01		
	12	Government Higher Secondary School Frisal	11	02	**13**	01		
Low Performing Schools								
Anantnag	13	Government HigherSeconary School Kharpora	09		**09**	01		
	14	Government Girls Higher Secondary School Verinag	11	04	**15**	01		
	15	Government Higher Secondary School D K Marg	12	02	**14**	01		
	16	Government Higher Secondary School Chowgam	11	03	**14**	01		
	17	Government Higher Secondary School Malwan	12		**12**	01		
Kulgam	18	Government Higher Secondary School RazlooKund	11	04	**15**	01		
	19	Government Higher Secondary School Monad Gufan	13	02	**15**	01		
	20	Government Higher Secondary School Quimoh	09	05	**14**	01		
	21	Government Higher Secondary School D H Pora	11	04	**15**	01		
		Total	222	57	**279**	20	1	**21**

3.4 Variables of the study

A variable is one that can have various quantitative values, it means value can change from time to time. Different studies have different types of variables such as dependent variable, independent variable, intervening variable, controlling variable etc. A variable whose effect is seen on the dependent variable is known as independent variable and the one on which effect of independent variable is seen is known as dependent variable. In this study, school leadership practices constituted the independent variable while as the professional capital and school culture constituted the dependent variables of the study.
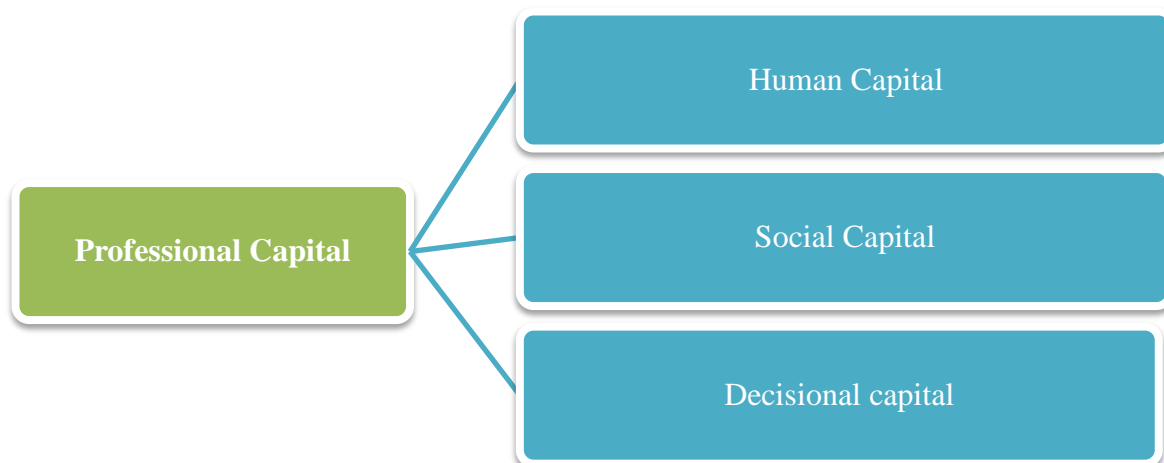
3.4.1 School Leadership Practices

Leadership Practices are the combination of various techniques which the leader uses for achieving the expected outcomes. It may alsobe defined as the way of pursuing some work or the course of action adopted by leader. The leadership practicesconsidered in the present study are depicted in the figure 3.2.

Figure 3.2

Dimensions of Leadership Practices

```
                                    ┌─────────────────────────────────┐
                                    │ Monitoring instructional support │
                                    └─────────────────────────────────┘
                                    ┌─────────────────────────────────┐
                                    │    Interpersonal relationship    │
                                    └─────────────────────────────────┘
                                    ┌─────────────────────────────────┐
  ┌──────────────────────┐         │    Professional development      │
  │ Leadership Practices │ ───────  └─────────────────────────────────┘
  └──────────────────────┘         ┌─────────────────────────────────┐
                                    │   Leadership responsibilities    │
                                    │          distribution            │
                                    └─────────────────────────────────┘
                                    ┌─────────────────────────────────┐
                                    │        Modeling the way          │
                                    └─────────────────────────────────┘
                                    ┌─────────────────────────────────┐
                                    │      Shared vision of school     │
                                    └─────────────────────────────────┘
```

3.4.2 School Culture

School Culture is a type of environment created in an educational institution. The stream of values, beliefs, norms, beliefs, rituals and traditions built up in a school over time are identified as it's school culture. It is defined as the shared ideas, values, beliefs and assumptionsthat give an institution its identity and standard for acceptablebehaviour. In the present study, the dimensions of school culture given by Grunert and Valentine (1998) are being used to study school culture. The dimensions are as follows:

Figure 3.3

Dimensions of School Culture
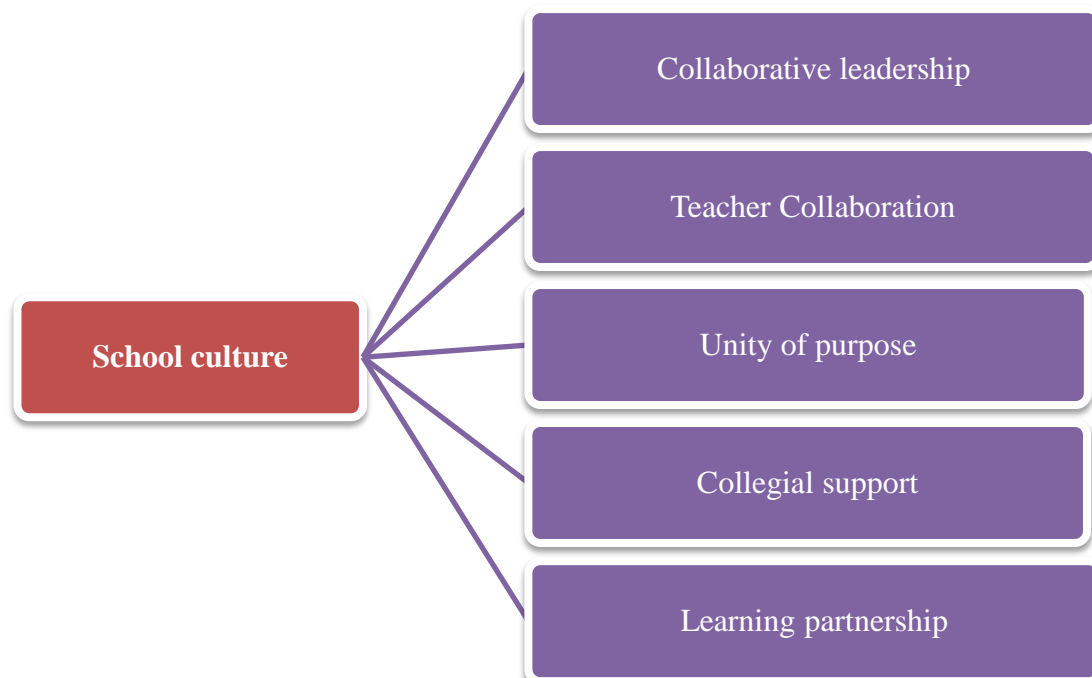
3.4.3 Professional capital

The present study adopts the definition of professional capital given by Hargreaves & Fullan (2012) in their book, "Professional Capital: Transforming Teaching in every school". In accordance with the study of Hargreaves & Fullan (2012), professional capital constitutes of three types of capital-social, human, and decisional capital. Human capital includes the capacity or the talent within the individual. Social capital includes the interaction power within the groups. Decisional capital includes thepower or capability of taking the decisions. Therefore, professional capital is said to be a talent that is invested, accumulated and distributed to yield continuous growth and strong returns.

Figure 3.4

Dimensions of Professional Capital

```
                                    ┌──────────────────────┐
                                    │    Human Capital      │
                                    └──────────────────────┘
┌──────────────────────┐           ┌──────────────────────┐
│ Professional Capital │───────────│    Social Capital     │
└──────────────────────┘           └──────────────────────┘
                                    ┌──────────────────────┐
                                    │   Decisional capital  │
                                    └──────────────────────┘
```

3.4.4 High Performing Schools

In the present study, the schools showing consistent high academic performance three or more times during the year 2018 to 2020 were considered as high performing schools.

3.4.5 Low Performing Schools

In this study, the schools showing consistent low academic performance for three or more times during the year 2018 to 2020 were considered as low performing schools.

3.5 Selection of the tools

This is an important step while conducting a research as the selection of the reliable and valid tools helps in obtaining good data for better results. Precisely, a good tool helps in avoiding garbage in and garbage out situation. The questionnaire on the leadership practices was developed by the researcher himself. The questionnaire on School Culture is the adapted version of School Culture Survey by Grunert and Valentine

(1998). The third Questionnaire is on the variable Professional Capital developed by Hargreaves and Fullan (2012).

The tools used for the collection of data are as follows:

1. Leadership Practices Questionnaire (Self Made)

2. School Culture Survey (Grunert and Valentine 1998 -Adapted version)

3. Professional Capital (Hargreaves and Fullan; 2012)

3.6 Construction of questionnaire for leadership practices

The steps of the construction of the leadership practices questionnaire are given as under:

❖ **Planning**

In this phase, the researcher has done planning of developing a questionnaire on leadership practices. The researcher constructed a tool for leadership practices based on five-point likert scale. The researcher started with identification of the domains or dimensions of the questionnaire after doing the extensive review of the different sources of literature.

❖ **Item writing**

The planning phase was followed by item writing. In discussions with the supervisor and the concerned experts of the field, the researcher started with writing statements related to the dimensions of the questionnaire with the help of available literature. The researcher framed 100 items related to the different dimensions of the questionnaire.

❖ **Preliminary draft**

The preliminary draft of the questionnaire consisted of 100 items. After constructing the questionnaire, the draft was sent to the concerned experts for the suggestions and validation. The researcher incorporated the suggestions of experts in the questionnaire and accordingly, removed the vague and difficult items as suggested. After removing the vague and difficult items from the questionnaire, the final draft of the questionnaire consists of 53 items.

❖ **Pilot study**

The tool was administered to a sample of 70 respondents for conducting pilot study. Upon receiving the responses from the respondents, the researcher calculated the reliability by internal consistency method through Cronbach's Alpha by IBM SPSS windows version 21.

❖ **Item analysis**

For choosing the reliable items in the questionnaire, the researcher conducted analysis of the items from the data collected from 70 respondents. Out of the total 53 items in the questionnaire about 10 items were deleted and 43 were retained. In this study corrected item correlation method were used for doing the analysis of the items. The number of items deleted were showing low inter item correlation with value below .30. As per the experts of research, the range of inter item correlation should be between .30 and .70. The value of items below and above this range results in decreasing the internal consistency as the value of Cronbach's alpha decreases.

Table 3.3

Cronbach's Alpha Value

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.854	.892	53

Table 3.4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I-1	106.11	379.871	.554	.855
I-2	106.11	385.204	.460	.860
I-3	105.73	379.693	.496	.858
I-4	**106.16**	**378.569**	**.146**	**.854**
I-5	106.83	375.390	.643	.860
I-6	106.21	379.417	.486	.854
I-7	106.03	376.869	.567	.852
I-8	106.00	376.638	.485	.853
I-9	106.87	376.824	.570	.856
I-10	106.06	377.939	.516	.853
I-11	**105.17**	**381.622**	**.220**	**.854**
I-12	106.33	376.108	.631	.859
I-13	106.63	378.005	.690	.868

I-14	106.54	353.295	.641	.875
I-15	105.93	378.009	.687	.869
I-16	106.17	381.535	.444	.854
I-17	106.06	381.069	.484	.855
I-18	106.04	382.331	.502	.855
I-19	105.81	374.211	.526	.852
I-20	105.89	381.349	.496	.855
I-21	105.80	369.438	.708	.850
I-22	**105.66**	**369.011**	**.025**	**.850**
I-23	105.77	373.483	.581	.852
I-24	106.03	372.347	.628	.851
I-25	105.81	376.124	.636	.856
I-26	105.89	387.001	.674	.860
I-27	**105.16**	**377.120**	**.130**	**.855**
I-28	106.01	380.913	.497	.854
I-29	**105.04**	**380.447**	**.212**	**.856**
I-30	**105.61**	**382.704**	**.116**	**.856**
I-31	105.30	372.677	.583	.853
I-32	105.91	372.456	.632	.857
I-33	105.90	375.062	.674	.855
I-34	105.91	372.311	.610	.855
I-35	**106.06**	**384.026**	**.141**	**.855**
I-36	105.73	368.346	.598	.850
I-37	105.80	376.626	.620	.852

I-38	106.10	380.468	.650	.854
I-39	105.79	377.359	.622	.853
I-40	105.39	368.849	.659	.850
I-41	105.81	378.936	.376	.854
I-42	105.71	374.033	.512	.852
I-43	**105.94**	**382.866**	**.207**	**.855**
I-44	105.86	377.371	.531	.853
I-45	105.70	374.358	.650	.853
I-46	105.87	377.012	.613	.853
I-47	105.83	389.188	.448	.857
I-48	**105.87**	**387.418**	**.212**	**.857**
I-49	**105.83**	**381.651**	**.179**	**.855**
I-50	106.06	385.040	.587	.856
I-51	106.26	380.223	.546	.854
I-52	105.89	381.001	.600	.854
I-53	105.59	381.782	.596	.855

❖ **Reliability**

The reliability of a test means the consistency of getting the results over time. The reliability of the tool has been calculated by the researcher through internal consistency method. The reliability statistics were calculated by the Cronbach's Alpha coefficient method by using the SPSS IBM version 21. The Cronbach's Alpha value of the tool is .91 which shows a very good level of reliability as the

value greater than 0.6 shows high reliability. The details of the reliability statistics are shown in table 3.5 & 3.6 below.

Table 3.5

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.858	.912	43

Reliability of Dimensions

The reliability of the dimensions of the tool was also calculated by the researcher and the value of Chronbach's alpha lies within the values of acceptance range. The reliability statistics of the dimensions of the tool is shown in the table 3.6 below

Table 3.6

Dimension Wise Reliability

Dimensions	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
Monitoring instructional support	.606	.638	8
Interpersonal relationship	.524	.724	8
Professional development	.794	.824	6
Leadership responsibilities distribution	.625	.606	6
Modeling the way	.880	.877	11
Shared vision of school	.535	.603	4

❖ **Validity**

The tool was sent to the experts for establishing the validity. The copies of questionnaire along with the objectives of the study, description of the dimensions of the variable used in the questionnaire were sent to the experts for establishing the validity of the questionnaire. The experts thoroughly reviewed the items of the questionnaire and gave their opinion for establishing the validity of each item.

- **Content Validity**

It refers to the extent by which the content of the questionnaire measures what it is intended to measure. In order to test the content validity of the tool, the content must be related to the questionnaire or the domains or dimensions of the questionnaire. The content validity is mostly checked by asking the experts of the field to check the degree of closeness between the measurement and the content it purportedly measures (Springer, 2010). The validity of the questionnaire was ensured by modifying the items as per the suggestions of the experts of the field.

- **Face validity**

A test has face validity when its appearance shows that it measures what is supposed to measure. For checking the face validity, the researcher has taken help of the experts of the concerned field. Based on the suggestions of experts the vague and difficult terms were reframed and some of the overlapping items were removed.

❖ **Final draft**

The questionnaire in the final draft consists of 43 items. For the leadership practices questionnaire, five-point Likert Scale was adopted. The response of each item of the

questionnaire consisted of five options as: strongly agree, agree, neutral, disagree and strongly disagree. The scoring of the questionnaire is done by giving weightage 5 to strongly agree, 4 to agree, 3 to neutral, 2 to disagree and 1 to strongly disagree. The score of a single individual consisted of the sum of all the 43 items. The questionnaire has a lowest score of 43 and highest score of 256.

3.7 Description of the Leadership Practices Questionnaire

For assessing the practices of school leadership, the leadership practices questionnaire was employed. It consists of 43 items. The questionnaire was divided into six dimensions consisting of monitoring and instructional support, interpersonal relationship, professional development, leadership responsibilities distribution, modeling the way and shared vision of school. The number of items included under each dimension is shown in the table below

1. Monitoring and instructional support

It is the domain which involves monitoring the activities of school on a regular basis. It involved providing the necessary support and material to all the members of the staff for the efficient and smooth functioning of the school. It consisted of items from the serial number 1 to 8.

2. Interpersonal relationship

It shows the relationship between the leader and his subordinates and with other community members. It also displayed the type of communication which the leader have with his subordinates. This dimension consisted of items from serial number 9 to 16.

3. Personality development

It is a capacity building program for the teachers that can enhance their classroom environment and their teaching. It allows teachers to learn new teaching styles and also interact with the teachers for improving their teaching skills. This domain had six items from the serial number 17 to 22.

4. Leadership Responsibilities Distribution

It involved the sharing the responsibilities of leadership to all the staff members of the institution. It also equates with the shared, collective and extended leadership practices that has the capacity for bringing change and improvement. This dimension consisted of items from the serial number 23 to 28.

5. Modeling the way

In this domain of leadership practices, the leader acts as a role model for others to follow. The leader has various qualities such as maintaining punctuality, attendance and coming to school on time. It consisted of items from the serial number 29 to 39.

6. Shared vision of school

It involves the direction which the leader and his team members follow for achieving the goals of the institution. A successful leader must have a vision to achieve the goals of the institution. This dimension consisted of items from serial number 40 to 43.

Table 3.7

Domain Wise Items of Leadership Practices Questionnaire

Domain	Items	No. of items
Monitoring & Instructional Support	1, 2, 3, 4, 5, 6, 7 & 8	08
Interpersonal Relationship	9,10, 11, 12, 13, 14, 15 & 16	08
Professional Development	17,18,19, 20, 21 &22	06
Leadership Responsibilities Distribution	23, 24, 25, 26, 27 &28	06
Modeling the way	29, 30, 31, 32, 33, 34, 35, 36, 37, 38 &39	11
Shared vision of school	40, 41, 42 & 43	04
	Total	43

3.8 Construction of School Culture Survey

The construction of school culture survey is given under the following steps:

❖ **Planning**

In this phase, the researcher planned for developing a questionnaire on school culture. The researcher selected a widely used survey of school culture by Grunert and Valentine (1998). The survey had to be first adapted to the Indian conditions so the researcher sought permission for adaptation from the developers. After getting permission from the developers of the questionnaire and subsequently conducting thorough revisions of the items in the domains or dimensions of the questionnaire.

❖ **Item writing**

The researcher conducted discussions with the supervisor and the concerned experts of the field about the gaps in the items of the present survey in measuring the school culture of Indian schools. After the discussions, the researcher modified and reframed the existing items and added some new questions in the questionnaire to make the questionnaire suitable for Indian context.

❖ **Preliminary draft**

The preliminary draft of the questionnaire consisted of 60 items. After constructing the questionnaire, the draft was sent to the concerned experts for the suggestions and validation of the questionnaire for the Indian school context. The researcher, then, incorporated the suggestions of experts in the questionnaire and modified the items according to the suggestions received.

❖ **Pilot study**

After removing the vague and difficult items from the questionnaire, the final draft of the questionnaire consists of 32 items. The tool was then administered to a sample of 70 respondents for the pilot study. After receiving the responses from the respondents, reliability of the questionnaire was calculated by internal consistency method through Cronbachs alpha by the IBM SPSS version 21.

❖ **Item analysis**

For choosing the reliable items in the questionnaire the researcher conducted the analysis of items by collecting the data from 70 respondents by using the Cronbach's alpha value. Out of the total 32 items in the questionnaire 1 item was

deleted and 31 were retained. In this study corrected item correlation method were used for doing the analysis of the items. The item deleted in this questionnaire was showing low total inter item correlation below the value of .30. As per the experts of research the range of inter item correlation should be between .30 and .70. The value of items below and above this range results in decreasing the internal consistency as the value of Cronbach's alpha decreases.

Table 3.8

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.878	.877	32

Table 3.9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I -1	64.56	127.236	.498	.877
I-2	64.31	121.204	.549	.871
I -3	64.63	121.106	.529	.872
I-4	64.61	128.472	.646	.881
I-5	63.77	127.802	.678	.882
I-6	64.20	118.452	.582	.871
I-7	64.26	125.440	.679	.876
I-8	64.41	126.333	.685	.878

I-9	64.54	122.165	.691	.873
I-10	64.44	127.555	.640	.878
I-11	64.10	117.714	.704	.867
I-12	63.99	115.087	.699	.866
I-13	64.20	118.278	.579	.870
I-14	64.26	119.643	.599	.870
I-15	64.04	123.578	.618	.877
I-16	64.57	126.799	.632	.877
I-17	64.46	126.020	.627	.877
I-18	64.64	121.885	.626	.870
I-19	64.54	122.860	.506	.872
I-20	64.50	120.964	.512	.875
I-21	64.49	123.848	.605	.874
I-22	64.63	124.251	.666	.875
I-23	64.54	124.339	.539	.874
I-24	64.44	121.352	.586	.871
I-25	64.73	125.012	.561	.875
I-26	64.33	121.499	.647	.874
I-27	64.29	117.627	.676	.868
I-28	**64.21**	**121.620**	**.210**	**.873**
I-29	64.39	124.965	.577	.878
I-30	64.80	126.452	.639	.881
I-31	64.83	115.390	.697	.880
I-32	64.75	125.402	.574	.873

❖ **Reliability**

The reliability of the test means the consistency of getting the results. The reliability of the questionnaire was calculated by the internal consistency method. The reliability statistics was calculated by the Cronbach's Alpha coefficient method by using SPSS version 21. The reliability statistics in the table 3.10 shows a Cronbach's Alpha as.886 which shows a very good level of reliability as the value greater than 0.6 shows high reliability.

Table 3.10

Reliability Statistics of School Culture Survey

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
.878	.886	31

Reliability of Dimensions

The researcher also calculated the dimension wise reliability of the tool. The value of chronbachs alpha which shows the reliability of the questionnaire was found good. The reliability statistics of the dimensions of the tool is shown in the table 3.11

Table 3.11

Dimension Wise Reliability Statistics

Dimensions	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
Collaborative leadership	.697	.706	9
Teacher Collaboration	.802	.792	6
Unity of purpose	.710	.704	5
Collegial support	.719	.738	6
Learning partnership	.513	.480	5

❖ **Validity**

The tool was sent to the experts for establishing the validity. The copies of questionnaire along with the objectives of the study, description of the dimensions of the variable used in the questionnaire were sent to the experts for establishing the validity of the questionnaire. The experts thoroughly reviewed the items of the questionnaire and gave their opinion for establishing the validity of each item.

• **Content validity**

For establishing the validity of the questionnaire content validity method was used. Salkind (2010) has defined content validity as, "the extent to which the items on a test are fairly representative of the entire domain the test seeks to

measure". Keeping in view the identified dimensions and the objectives of the study, the experts in the field provided their suggestions related to various test items. As per the valuable opinions obtained from the experts, the items were accordingly modified.

❖ **Final draft**

The questionnaire in the final draft consists of 31 items. In this questionnaire, five point Likert Scale was adopted. Each item of the questionnaire consisted of five options: strongly agree, agree, neutral, disagree and strongly disagree. The scoring of the questionnaire was done giving the weightage 5 to strongly agree, 4 to agree, 3 to neutral, 2 to disagree and 1 to strongly disagree. The score of a single individual consisted of the sum of all the 31 items. The questionnaire has a lowest score of 31 and highest score of 155.

3.9 Description of the School culture survey

For assessing the school culture, the adapted version of the School Culture Survey by Grunert and Valentine (1998) was administered. The questionnaire consisted of 31 items. The dimensions of school culture survey are

1. **Collaborative Leadership**

The degree to which the heads maintain and establish collaborative association with the staff members of the school. It is based on the principle of sharing responsibility and information. This dimension consists of items from the serial number 1 to 9.

2. **Teacher Collaboration**

It refers to the degree of engagement of teachers in a constructive dialogue that further strengthens the mission of school. It means that teachers are the main agents for bringing change and guide the institution for development and improvement. This dimension included the items from serial number 10 to 15.

3. **Unity of purpose**

It refers to the extent to which the staff members of the school work towards the common mission. It means that everyone in the institution has the same aim or goal. It consisted of items from serial number 16 to 20.

4. **Collegial support**

It refers to the extent to which the staff members work together effectively. It consisted of items from serial number 21 to 27.

5. **Learning partnership**

The togetherness in working of students, teachers and parents for the benefit and welfare of the students. It consisted of items from serial number 28 to 31.

Table 3.12

Dimension Wise items of School Culture Survey

Dimension	Items	No. of items
Collaborative Leadership	1, 2, 3, 4, 5, 6, 7, 8& 9	09
Teacher Collaboration	10, 11, 12, 13, 14 & 15	06
Unity of purpose	16, 17, 18, 19 & 20	05
Collegial Support	21, 22, 23, 24, 25 & 26	06
Learning Partnership	27, 28, 29, 30 & 31	05
Total		31

3.10 Description of professional capital survey questionnaire

For measuring the professional capital, standardized questionnaire by Hargreaves and Fullan (2012) was employed. This questionnaire consists of three types of domains such as human, social and decisional capital. It consists of two questionnaires one is for the teachers and other is for the principals named as principal survey questionnaire and teacher survey questionnaire. In the principal survey questionnaire, there are 36 items with first 12 items belonging to human capital, second 12 items belong to social capital and third 12 items belong to decisional capital. The teacher survey questionnaire also consists of 36 items with first twelve items belonging to human capital, second twelve items belong to social capital and third twelve items belong to decisional capital.

1. **Human Capital**

It refers to the talent or the capacity within the individuals. This dimension consists of items from serial number 1 to 12.

2. Social Capital

It refers to the quality of interaction which the leader or teacher has with other members of the society. It consists of items from serial number 13 to 24.

3. Decisional Capital

It refers to the quality of making good decisions at any time. This domain includes the items from serial number 25 to 36.

Table 3.13

Dimension Wise Items of Teachers Professional Capital Survey Questionnaire

Domains	Items	No. Of items
Human Capital	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12	12
Social Capital	13,14, 15, 16, 17, 18, 19, 20, 21, 22, 23 & 24	12
Decisional Capital	25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 & 36	12
Total		36

Table 3.14

Dimension Wise Items of Principals Professional Capital Survey Questionnaire

Domains	Items	No. of Items
Human Capital	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12	12
Social Capital	13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 & 24	12
Decisional Capital	25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 & 36	12
Total		36

3.11 Scoring procedure

Each item of the questionnaire consisted of five options: strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree and strongly agree. The scoring of the questionnaire is done giving weightage 1 to strongly disagree, 2 somewhat disagree, 3 to neither agree nor disagree, 4 to somewhat agree and 5 to strongly disagree. The score of single individual consists of sum of all the 36 items. The questionnaire has a lowest score of 36 and highest score of 180.

Table 3.15

Reliability of the Teacher's Professional Capital Survey Questionnaire

Domains	Reliability	No of items
Human capital	0.84	12
Social capital	0.92	12
Decisional capital	0.76	12

Table 3.16

Reliability of the Principal's Professional Capital Survey Questionnaire

Domains	Reliability	No of items
Human capital	0.75	12
Social capital	0.87	12
Decisional capital	0.79	12

3.12 Administration of the tools

The researcher showed the authority letter of the University to the principals of concerned schools for getting the permission for data collection. After getting permission from the principals, the researcher discussed the importance of the study with the teachers and principals. The researcher motivated the respondents to fill the questionnaires and ensured them that the data will be used for the research purpose only and will be kept confidential. The researcher then distributed the questionnaires to the principals and teachers and informed about the process of attempting questionnaires and also cleared their queries and doubts during the filling of responses of the questionnaire.

3.13 Statistical techniques used

It is one of the necessary steps in the process of research. It is essential to use the appropriate statistical techniques for analysis of data otherwise it will be a futile exercise and will not give the required results. The statistical techniques used in this study for the analysis of data are as follows:

1. Correlation
2. Regression
3. t-test
4. Principal component Analysis