

## **Chapter - III**

# **Plan and Procedure of the Study**

## CHAPTER-III

### PLAN AND PROCEDURE OF THE STUDY

#### 3.0 Introduction

This fragment of research work enlightens an edge of planning and executing the whole process of research in a very systematic pattern. Doing research deprived of any intellectual plan and procedure lead into a vague results and ambiguity. Planning phase is one of the major and initial part that research scholars should take into contemplation while going to conduct any investigation. Hence, it apprise researcher's in advance about the different perspective and methods he needs to adopt in his study. No research process can be done in a flexible mode except following the appropriate strategy and procedure. It thoroughly enlightens the different paradigms of research that lead to the effective means, results and their consequences. Doing comprehensive review of related literature at the early stages help in designing the overall picture of successfully conducting the research study. It creatively insist researchers to think on all the parameters or aspects of the study so that they would become capable to identify all the flaws existing inside the study.

**Best and Kahn (2007)** stated that “Research is considered to be the more formal, systematic and intensive process of carrying on the scientific methods of analysis and involve more systematic structure of investigation, usually resulting in some sort of formal record of procedures and a report of result or conclusion”. Generally, it is seen that apposite planning assist researchers to proceed charmingly to achieve the objectives of study, whereas procedure refers to the utilization of suitable techniques for accomplishing that study. Research plan is “A comprehensive portrayal of a proposed study, it embraces a literature review that rationalizes the study, its hypotheses, depiction of the steps that will be followed in the study and information about the analysis of the collected data and it also guides for conducting any

research study very smoothly”. Plan and procedure of the current study has been presented in the following points:

1. Research method
2. Population
3. Sample
4. Variables under study
5. Tools used
6. Procedure for data collection
7. Scoring of the tools
8. Statistical techniques employed

### **3.1 Research Method**

None of the researches can meticulously be done until the appropriate methodology would be used. Methodology of any research work wholly and solely depends upon the nature of that study. Therefore, various segments of research methods have a titanic role in adorning the entire process of investigation. Improper and unsuitable methods or designs employed while conducting the research results in vague, imprecise and inaccurate findings. However, in the current study, research methodology part has been prepared to explicate the framed objectives, hypotheses and various techniques to fulfil the goals of current study. The intact process of research is carried out by adopting the perfect research design which has a significant importance in the research process.

Henceforth, in this study, descriptive research method has been adopted by the researcher. To explore the overall steps of the study, researcher has given an inclusive overview of the population, sample size and suitable techniques to select the sample, variables of the concerned study, research instruments used for the purpose of data collection, procedure for scoring the data as per the guidelines given in manual, and analysis of the compiled data.

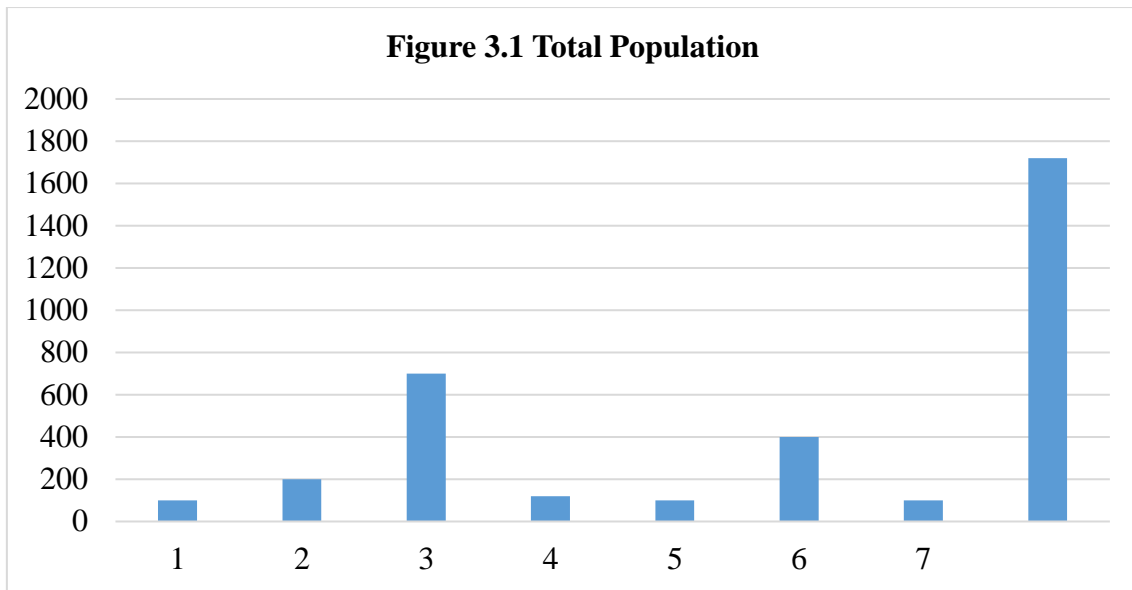
Research methodology is known as blue print of research and due to its broad landscape researcher makes an accurate strategy to fetch out the current study methodically. As per the nature of present study is concerned, descriptive survey method has been followed by the investigator. Methodology does not prompt for to find out the solution of the problem but also it attempts to explore different theoretical underpinnings to understand best practices and methods that can be utilized for a specific case.

### 3.2 Population

Usually the concept or notion of population in the field of research refers to the group of individuals, things, items etc. having same shared characteristics, attributes or features. Hence from the overall population a representative sample is being drawn to search out the correlation, differences, effect and other measurements. Literally, population comprises all the units having some common sharing's and that may be individuals, students, research scholars, particular landscape, specific cultural group etc. depends upon the nature, scope and rationale of the study. Keeping in consideration the scope and nature of the present investigation, all the universities and government colleges of education of Jammu & Kashmir Union Territory have been selected as the universe/population of the study. The details of the population are given in the Table 3.1 and Figure 3.1.

**Table 3.1 Population of the Study**

<b>S. No.</b>	<b>Name of the Institution</b>	<b>Total Population</b>
<b>1.</b>	Central University of Kashmir	100
<b>2.</b>	University of Kashmir	200
<b>3.</b>	Institute of Advanced Studies in Education, Srinagar	700
<b>4.</b>	Central University of Jammu	120
<b>5.</b>	Jammu University (Bhaderwah Campus)	100
<b>6.</b>	Government College of Education, Jammu	400
<b>7.</b>	Baba Ghulam Shah Badshah University, Rajouri	100
	<b>Total</b>	<b>1720</b>



### 3.3 Sample

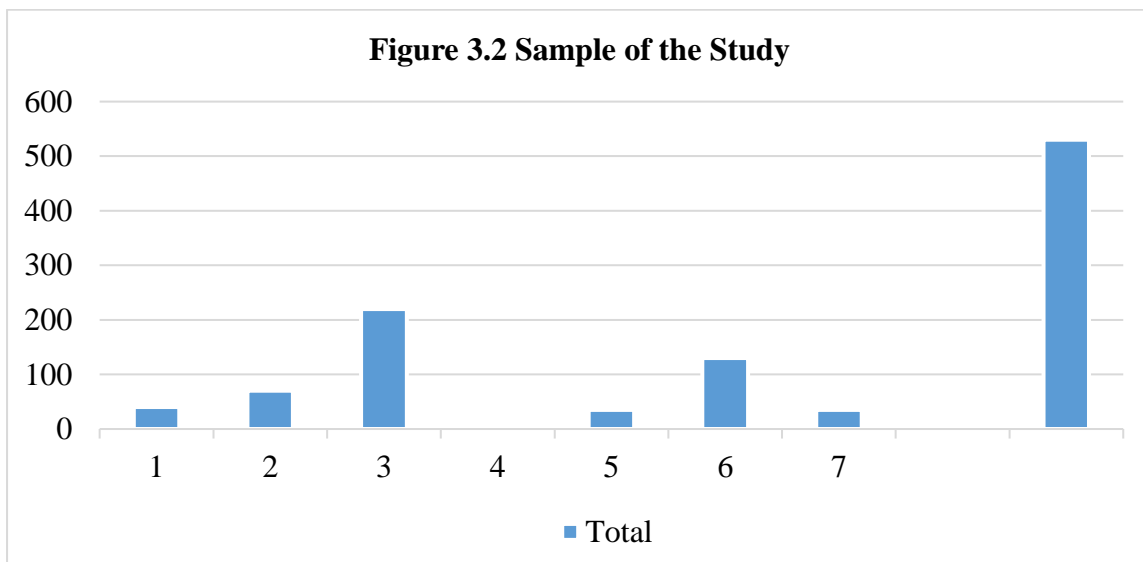
Sample is the core unit in research and the different paradigms of educational research are discussed at the highest level, the concept of sampling must not be forgotten to explore. It is one of the fundamental aspect that we use in research to epitomize the whole population. The significant data obtained from the sample or respondents is carefully analyzed through appropriate methods so that oversimplification of results can be done without ambiguity and vagueness. Sample becomes mandatory in all the statistical studies so that it would reflect the whole universe. Usually researcher requires a great potential and ability to follow the ethics and morals while selecting the sample for study. Consequently, sample taken under study should be good, honest, mature and motivated for giving responses so that results would be generalized efficiently. Sample is a smaller characteristic of the whole universe/population, that what it embodies is depicted by the total population.

Literally, in research there are two sampling techniques followed one is probability sampling and another is non-probability sampling technique. In the current research study researcher has employed simple random sampling technique for collecting the relevant data. During the research process investigator has prepared a complete list of Central/State

Universities and Government Colleges of Education offering B.Ed. programme in Jammu and Kashmir Union territory, where from researcher has randomly taken 530 prospective teachers as respondents for the existing study, though among them 244 were male and 286 were female prospective teachers. The selection of sample for the present study is given below in the Table 3.2 and Figure 3.2.

**Table 3.2: Sample of the Study**

Sl. No.	Name of the Institution	Selected Sample
1.	Central University of Kashmir	40
2.	University of Kashmir	70
3.	Institute of Advanced Studies, Srinagar	220
4.	Central University of Jammu	00
5.	Jammu University (Bhaderwah Campus)	35
6.	Government College of Education, Jammu	130
7.	Baba Ghulam Shah Badshah University, Rajouri	35
Total		<b>530</b>



### 3.4 Variables under Study

The classification of variables is given below:

- ❖ **Independent Variable:** Cognitive Styles

❖ **Dependent Variables:** Emotional Intelligence and Academic Achievement

### **3.5: Tools Used**

In this study self-prepared “Cognitive Styles Scale” and “Emotional Intelligence Scale” developed by Dr. Shubam Sarkar and Samrat Sarkar (2019) were employed.

#### **3.5.1 Selection of the Tools**

Typically, it is depicted that in order to conduct any research study, researcher always require some research tools or instrument for collecting the relevant data. These instruments help in collecting solid evidences regarding the problem identified earlier under study and explore certain new arenas about which the researcher was unfamiliar. In this research work, researcher has prepared a self-made scale and also used a standardized scale for collecting the data on the designated psychological variables;

#### **3.5.2 Self-Prepared “Cognitive Styles Scale”**

The researcher has explored all the relevant literature and research tools regarding the cognitive styles of prospective teachers but none of the cognitive styles scale or questionnaire was available since 2002 that could be used in the present study. Therefore, the researcher has decided to prepare a “Cognitive Styles Scale” for the present study.

##### **3.5.2.1 Development of the Tool**

Adopting research tool is an ideal approach to measure the attributes or characteristics of subjects at the specific variable. Nevertheless, construction of the research tool is an intelligent effort in the field of research that proceeds through various judgmental stages. Tool development requires objectives that you want to address, target respondents, appropriate method to reach the respondents, appropriate content of the statements, language of the statements, standard of the content, accuracy and authenticity of items and lucid wording of the statements.

Initially, the researcher has thoroughly reviewed various articles, papers, e-papers, standardized inventories of cognitive styles and thinking styles to identify the dimensions that need to be addressed. However, the researcher had prepared 80 items from five dimensions- “Systematic Style, Intuitive Style, Integrated Style, Undifferentiated Style and Split Style”, whereas 66 statements were positive and 14 statements were negative in nature and the number of items were varying from dimension to dimension. After the stage of preparing statements, the underdeveloped scale was sent to subject experts of that specific field across the country, whereas the experts have commented with their valuable suggestions and modifications needed to boost the quality of scale. Afterwards, getting the compilation of expert comments, researcher has modified the statements of the scale as per the guidelines given by subject experts. Undoubtedly, language of the statements have a marvelous role in determining the effectiveness of scale and its validation. Obviously, researcher has consulted the language expert to check the language mistakes just like, tenses, articles, conjunctions, spellings and for various other grammatical corrections.

Meanwhile, researcher has gone with the first and small try out of the scale and this pilot study was done on 38 prospective teachers of Department of Teacher Education, Central University of Haryana. The data was collected and scoring was done by keeping in consideration the positive and negative items of the scale. Comprehensively, the data was analyzed by using Cronbach's Alpha, reliability statistics, mean, standard deviation, and inter item correlation through SPSS 22.0 software. Reliability statistics of the first and small try out. Eventually, Cronbach's Alpha was .818 and the total reliability of the scale was .877 which is in between the range of good and excellent as per thumb rule (**Sharma, 2016**). The same is given in the following tables:



**Table No. 3.3: Reliability Statistics of the First Tryout**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.818	.877	80

Mean and sd. were also calculated item wise here in the table 3.4 along with the number of respondents under small tryout of the study.

**Table No. 3.4: Item Statistics of the First Tryout**

Item No.	Mean	Std. Deviation	N
Q1	4.24	.542	38
Q2	3.11	1.110	38
Q3	4.61	.679	38
Q4	4.39	.916	38
Q5	4.32	.739	38
Q6	4.29	.867	38
Q7	4.58	.552	38
Q8	4.32	.809	38
Q9	4.42	.599	38
Q10	3.39	1.001	38
Q11	4.16	.916	38
Q12	3.32	1.042	38
Q13	4.34	.627	38
Q14	4.47	.762	38
Q15	4.34	.708	38
Q16	4.58	.552	38
Q17	4.32	.525	38
Q18	3.03	1.219	38
Q19	3.55	.978	38
Q20	3.82	1.010	38
Q21	2.82	1.373	38
Q22	4.24	.943	38
Q23	4.00	.838	38
Q24	4.13	.665	38
Q25	3.95	.837	38
Q26	4.50	.647	38
Q27	2.82	1.449	38
Q28	3.21	1.119	38
Q29	3.47	.830	38
Q30	4.13	.741	38
Q31	4.16	.855	38
Q32	2.95	1.184	38
Q33	4.13	.623	38
Q34	4.13	.811	38
Q35	4.11	.727	38
Q36	4.29	.732	38
Q37	4.32	.620	38
Q38	4.42	.642	38
Q39	4.13	.935	38
Q40	4.47	.603	38
Q41	4.55	.555	38
Q42	4.24	.852	38
Q43	3.05	1.251	38
Q44	4.63	.541	38
Q45	4.39	.638	38
Q46	4.08	.784	38
Q47	4.58	.500	38
Q48	4.47	.557	38
Q49	2.89	1.158	38
Q50	4.21	.741	38
Q51	3.03	1.241	38
Q52	4.34	.781	38
Q53	4.34	.847	38
Q54	2.24	1.149	38
Q55	2.08	1.124	38
Q56	3.82	1.036	38
Q57	4.18	.766	38
Q58	4.08	.749	38
Q59	3.87	.777	38
Q60	3.32	1.141	38
Q61	3.37	1.025	38
Q62	2.63	.819	38
Q63	4.11	.764	38
Q64	4.16	.823	38
Q65	3.66	1.122	38
Q66	3.24	.998	38
Q67	2.76	1.125	38
Q68	4.05	.985	38
Q69	2.26	.891	38
Q70	4.03	.753	38
Q71	4.58	.642	38
Q72	4.32	.662	38
Q73	4.37	.714	38
Q74	3.32	1.210	38
Q75	3.84	.916	38
Q76	4.00	1.065	38
Q77	2.29	1.137	38
Q78	4.24	.542	38
Q79	4.21	.777	38
Q80	4.03	1.150	38

Corrected item with total correlation was also done in order to select the items from the scale whose inter-item correlation values lie in between 3 to 7 as per thumb rule (Sharma, 2016 and Gliem & Gliem, 2003) for second (large) try out.

**Table No. 3.5: Corrected Item-Total Correlation of First Tryout**

Item No.	Scale Mean	Scale Variance	Corrected Item with Total Correlation	Cronbach's Alpha
Q1	303.55	322.957	.411	.817
Q2	304.68	314.600	-.293	.814
Q3	303.18	323.614	.134	.817
Q4	303.39	308.516	.559	.809
Q5	303.47	316.743	.383	.813
Q6	303.50	319.284	.236	.816
Q7	303.21	319.522	.182	.814
Q8	303.47	320.094	.528	.816
Q9	303.37	316.780	.480	.813
Q10	304.39	326.570	-.006	.821
Q11	303.63	319.212	.523	.816
Q12	304.47	317.337	.241	.816
Q13	303.45	315.119	.532	.812
Q14	303.32	316.438	.382	.813
Q15	303.45	314.416	.495	.812
Q16	303.21	321.792	.366	.816
Q17	303.47	322.959	.218	.816
Q18	304.76	338.996	-.292	.829
Q19	304.24	323.591	.080	.819
Q20	303.97	323.324	.083	.819
Q21	304.97	321.270	.085	.821
Q22	303.55	324.578	.056	.819
Q23	303.79	315.144	.387	.813
Q24	303.66	317.528	.396	.814
Q25	303.84	319.650	.234	.816
Q26	303.29	315.454	.500	.812
Q27	304.97	326.999	-.033	.825
Q28	304.58	319.061	.176	.817
Q29	304.32	318.979	.260	.815
Q30	303.66	315.042	.447	.812
Q31	303.63	311.104	.515	.810
Q32	304.84	336.947	-.253	.828
Q33	303.66	320.231	.303	.815
Q34	303.66	309.366	.608	.809
Q35	303.68	316.006	.419	.813
Q36	303.50	317.716	.349	.814

Q37	303.47	315.770	.509	.812
Q38	303.37	315.266	.512	.812
Q39	303.66	310.772	.477	.811
Q40	303.32	313.789	.618	.811
Q41	303.24	319.915	.259	.815
Q42	303.55	309.335	.277	.809
Q43	304.74	336.794	-.240	.828
Q44	303.16	318.407	.448	.814
Q45	303.39	317.597	.411	.814
Q46	303.71	311.184	.562	.810
Q47	303.21	315.468	.655	.812
Q48	303.32	318.006	.455	.814
Q49	304.89	334.529	-.201	.826
Q50	303.58	317.818	.340	.814
Q51	304.76	331.807	-.132	.826
Q52	303.45	320.254	.232	.816
Q53	303.45	315.497	.370	.813
Q54	305.55	316.308	.538	.816
Q55	305.71	328.049	-.048	.823
Q56	303.97	335.432	-.241	.826
Q57	303.61	313.813	.478	.812
Q58	303.71	318.265	.319	.814
Q59	303.92	316.507	.371	.814
Q60	304.47	334.256	.396	.826
Q61	304.42	326.467	-.004	.821
Q62	305.16	336.677	-.332	.826
Q63	303.68	316.330	.385	.813
Q64	303.63	311.969	.506	.811
Q65	304.13	325.252	.021	.821
Q66	304.55	319.551	.191	.817
Q67	305.03	321.648	.110	.819
Q68	303.74	306.523	.576	.808
Q69	305.53	333.121	.402	.824
Q70	303.76	314.078	.476	.812
Q71	303.21	318.063	.388	.814
Q72	303.47	314.743	.219	.812
Q73	303.42	317.385	.372	.814
Q74	304.47	328.526	-.060	.823
Q75	305.95	342.159	.461	.829
Q76	303.79	309.900	.435	.811
Q77	305.50	330.635	.310	.824
Q78	303.55	319.876	.371	.815
Q79	303.58	310.413	.597	.810
Q80	303.76	301.861	.405	.806

Furthermore, 32 items were removed from the scale in small tryout because they had corrected item correlation values less than 3 or more than 7 as shown in the above item total statistics table. Initially, there were 14 negative items in the scale, but after doing the first analysis none of the statement or item remained negative for the large try out. Instead of first and small tryout researcher has gone with the second and large tryout in which Cognitive Styles Scale had contained only 48 items from all the five dimensions and hence they have been managed according to the difficulty value. In order to develop the self-made scale 100 prospective teachers of Department of Teacher Education, Central University of Haryana were again selected as the respondents for this pilot study. Researcher has collected the relevant data and prepared excel sheet to analyze the data through SPSS 22.0. The outcome of the analysis are mentioned below in the tables:

**Table No. 3.6: Reliability Statistics of the Second Tryout**

<b>Cronbach's Alpha</b>	<b>Cronbach's Alpha Based on Standardized Items</b>	<b>No. of Items</b>
.863	.937	48

The above analysis demonstrated that Cronbach's alpha was .863 and reliability of all the items included in scale was .937 which is considered as an excellent as per thumb rule (Sharma, 2016). Mean and standard deviation has also been calculated item wise here in the table 3.7 along with the number of respondents taken in the large tryout.

**Table No. 3.7: Item Statistics of the Large Tryout**

<b>Item No.</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>N</b>
VAR00001	4.57	.756	100
VAR00002	4.23	.750	100
VAR00003	4.42	.741	100
VAR00004	4.36	.759	100
VAR00005	4.13	.960	100
VAR00006	4.26	.928	100
VAR00007	4.12	.924	100
VAR00008	4.18	.881	100
VAR00009	4.04	.931	100
VAR00010	4.08	.918	100
VAR00011	4.04	1.154	100
VAR00012	4.23	.839	100
VAR00013	4.11	.942	100
VAR00014	4.18	.947	100
VAR00015	4.05	.869	100
VAR00016	4.00	.804	100
VAR00017	3.98	.964	100
VAR00018	3.86	1.083	100
VAR00019	4.22	.860	100
VAR00020	4.15	.892	100
VAR00021	4.32	.851	100
VAR00022	4.06	.789	100
VAR00023	4.03	.834	100
VAR00024	4.52	5.082	100
VAR00025	3.98	.995	100
VAR00026	4.00	.932	100
VAR00027	4.02	.943	100
VAR00028	4.13	.861	100
VAR00029	4.00	.899	100
VAR00030	3.96	.963	100
VAR00031	4.02	.932	100
VAR00032	3.91	1.036	100
VAR00033	4.25	2.966	100
VAR00034	4.03	.870	100
VAR00035	4.12	3.189	100
VAR00036	4.42	2.992	100
VAR00037	4.12	.868	100
VAR00038	4.07	.913	100
VAR00039	3.90	.948	100
VAR00040	4.16	.861	100
VAR00041	4.07	.946	100
VAR00042	4.15	.936	100
VAR00043	3.90	1.078	100
VAR00044	3.07	1.373	100
VAR00045	3.48	1.193	100
VAR00046	3.48	1.306	100
VAR00047	3.43	1.380	100
VAR00048	3.72	1.379	100

The corrected items with total correlation analysis of the large try out is given below in the table 3.8.

**Table No. 3.8: Corrected Items-Total Correlation**

Item No.	Scale Mean	Scale Variance	Corrected Item-Total Correlation	Cronbach's Alpha
VAR00001	384.49	2234.111	.578	.718
VAR00002	384.83	2235.072	.569	.718
VAR00003	384.64	2233.162	.604	.718
VAR00004	384.70	2229.424	.642	.717
VAR00005	384.93	2226.894	.532	.717
VAR00006	384.80	2222.343	.603	.717
VAR00007	384.94	2232.380	.490	.718
VAR00008	384.88	2235.824	.473	.718
VAR00009	385.02	2217.232	.660	.716
VAR00010	384.98	2237.535	.433	.719
VAR00011	385.02	2249.777	.227	.720
VAR00012	384.83	2246.486	.362	.720
VAR00013	384.95	2221.523	.604	.716
VAR00014	384.88	2224.470	.567	.717
VAR00015	385.01	2225.949	.101	.717
VAR00016	385.06	2220.522	.624	.716
VAR00017	385.08	2231.549	.478	.718
VAR00018	385.20	2216.222	.575	.716
VAR00019	384.84	2243.105	.395	.719
VAR00020	384.91	2221.881	.634	.716
VAR00021	384.74	2239.831	.240	.719
VAR00022	385.00	2232.747	.572	.718
VAR00023	385.03	2233.161	.534	.718
VAR00024	384.54	2109.766	.321	.712
VAR00025	385.08	2217.994	.608	.716
VAR00026	385.06	2234.885	.457	.718
VAR00027	385.04	2231.392	.491	.718
VAR00028	384.93	2229.460	.564	.717
VAR00029	385.06	2227.996	.556	.717
VAR00030	385.10	2230.657	.288	.718
VAR00031	385.04	2236.705	.436	.719
VAR00032	385.15	2214.412	.621	.716
VAR00033	384.81	2204.519	.525	.718
VAR00034	385.03	2228.454	.570	.717
VAR00035	384.94	2185.128	.271	.716
VAR00036	384.64	2270.576	-.012	.727
VAR00037	384.94	2235.431	.485	.718
VAR00038	384.99	2226.071	.570	.717
VAR00039	385.16	2225.651	.553	.717
VAR00040	384.90	2227.263	.590	.717
VAR00041	384.99	2222.980	.285	.717
VAR00042	384.91	2237.557	.424	.719
VAR00043	385.16	2249.348	.449	.720
VAR00044	385.99	2266.879	.555	.723
VAR00045	385.58	2261.115	.419	.722
VAR00046	385.58	2259.660	.118	.722
VAR00047	385.63	2247.225	.405	.720
VAR00048	385.34	2274.429	-.003	.724

Researcher has again done corrected item total correlation in order to select the items from the scale for final data collection. Items, whose inter-item correlation values lie in between 3 to 7 as per thumb rule (Sharma, 2016 and Gliem & Gliem, 2003) were found 39 statements/items only and these statements from all the five dimensions of “Cognitive Styles Scale” have been selected for the final data collection of study. The dimension-wise dispersal of the designated items are given below in the table no. 3.9:

**Table No. 3.9: Dimension-wise dispersal of the Designated Items**

S. No.	Dimensions	Serial wise item no.	Total items
1	Systematic Style	1, 2, 3 ,4 ,5 ,6 ,7	07
2	Intuitive Style	8, 9, 10, 11, 12, 13, 14, 15, 16	09
3	Integrated Style	17, 18, 19, 20, 21, 22, 23, 24	08
4	Undifferentiated Style	25, 26, 27, 28, 29,30, 31	07
5	Split Style	32, 33, 34, 35, 36, 37, 38, 39	08
		Total	39

### 3.5.2.2 Scoring System

Scoring procedure of the scale has been mentioned here in the table below.

**Table 3.10: Scoring System**

Nature of items	Always	Often	Sometimes	Rarely	Never
Positive	5	4	3	2	1

The minimum and maximum range of the score is 39 to 195.

### 3.5.2.3 Reliability of the Scale

Reliability is nothing but consistency of scores in various trails for the same test. It refers to the degree to which repeated test, experiment or other measuring apparatus avail the

same results again and again within the same conditions. In this study, test-retest reliability method was adopted to see the consistency of scores of the two repeated trials of cognitive styles scale.

#### **3.5.2.4 Validation of the Scale**

According to Ghauri and Gronhaug (2005), “Validity explains how well the collected data covers the actual area of investigation”. Comprehensively, in the field of research validity means that if you have constructed a scale, questionnaire, checklist, schedule etc. then you need to realize that is your research tool really measures the same for which it was intended to measure. So if the research tool measures the same for which it was constructed and intended to measure that test or scale is considered valid. Validity essentially means “Measure what is intended to be measured” (Field, 2005). There are few main types of validity that are mandatory to be evaluated during tool development:

- **Content Validity:** Content validity has been defined as “The degree to which items in an instrument reflect the content universe to which the instrument will be generalized” (Straub, Boudreau et al. 2004). While developing a new question it becomes necessary to apply content validity so that we can know whether the content of the statements specify the area or characteristics that you want to measure. Here, all the statements were evaluated in the under developed scale in order to exclude the undesirable ones and retain the rest one’s. After a wide literature review, researcher have sent self-prepared scale to subject specific experts who have given their judgment regarding the authenticity of content and its validation.
- **Face Validity:** It usually refers to the surface of the questionnaire or scale where it is assumed that whether a test/scale/questionnaire does appear to measure the same for which it was constructed to measure. This type of validity thoroughly display the structure of the scale and its relevance to the concepts for that it has been developed to



measure. Obviously in the existing study, face validity of the “cognitive styles scale” shows a clear picture that it has measured the same for what it was purported to measure.

### **3.5.3 Emotional Intelligence Scale**

Goleman (1995, 1998); Mayer & Salovey (1993, 1995) avowed that emotional intelligence is a multidimensional paradigm. They defined emotional intelligence (EI) as the capacity to comprehend one's own emotions as well as of others and to take appropriate action in response to this understanding. During the early existence of the term, a great psychologist Daniel Goleman propagated the concept of emotional intelligence in his work “Emotional Intelligence: Why it can Matter more than IQ”. He was inspired by the work of Salovey and Mayer prompted him to contribute his above work in 1995. According to them, EI has a different roles in different perspective and establish a good platform for developing individuality. EI has been referred as an ability to think, behave and act in a sympathetic manner. This innovative concept has been described by Goleman as “Emotional intelligence consists of abilities, being able to motivate oneself, to persist in the face of frustration, control impulses and to regulate moods and to keep distress from swamping abilities to think, empathize and to hope”. In the ongoing scenarios of current world, emotional intelligence and EQ has a pivotal contribution, significance, importance and application in business, sports, educational institutions, personality development, world of work and even in the academic performance of students as well. The noteworthy contribution of emotional intelligence in developing social relationships, social skills, communication skills and developing the heartiest feelings for others can never be eliminated. Cheriness and Goleman (2001) described that EI as “The abilities to recognize and regulate emotions in ourselves and in others”. EI endeavor to receive emotions, assimilate emotion related feelings and empathy so that received information's could be understood and managed effectively. EI has a marvelous role in coping the organizational behaviour and changes, motivate workers at workplaces for their better performance and in developing the

capability to among individuals to know the emotional impact of change on ourselves and others. In the current study, 'Emotional Intelligence Scale' developed and standardized by Dr. Subhash Sarkar & Samrat Sarkar (2019) was used and it has been categorized into five dimensions that are explained here:

- **Self-Awareness (SA):** 'Self-awareness' is the quality of recognizing one's emotions and their effects, guide an individual to become more acceptable and socially networked which are the key factors for success in modern society and hence helps an individual to monitor the actions and try to rectify them if required.
- **Self-Regulation (SR):** Emotional self –regulation embraces not only damping down distress; it also means intentionally eliciting an emotion, even an unpleasant one, having higher level of self-regulation thus means that an individual does not down under the negative emotional feelings and become depressed, angry, frustrated; rather he or she converts feeling into a more positive one by justifying the cause and effect relationship existing in the situation.
- **Motivation (M):** There are three motivational competencies and they are "achievement drive, commitment and initiative optimism". Achievement drive-it has been determined to boost or meet a standard of excellence. Commitment- it is the acceptance of organizations or groups ideas and goals. Initiative and optimism- activate people to grasp the prospects and allow them to take hindrances and problems in development.
- **Empathy (E):** it represents the basic skills of social competency and includes- understanding others, service orientation, developing others, leveraging diversity, and political awareness.
- **Social Skill (SS):** It is the ability to handle another person's emotions, managing relationship, inspiring others and inducing desired responses from them. This

dimension ha several competencies such as influence, communication, conflict management, and leadership.

### 3.5.3.1 Final Draft of the Scale

On the basis of the item analysis showing in the table, the items that have been selected for the final draft of the emotional intelligence test are below. The items specified in the bold form are negative in the scale.

**Table 3.11: Dimension-wise distribution of the Selected Items**

Sr. No.	Dimensions	Serial wise Item no.	Total Items
1.	Self-Awareness	1, 2, 3, 4, <b>5, 6</b> , 7, 8	08
2.	Self-Regulation	9, 10, 11, 12, <b>13, 14</b> , 15, 16	08
3.	Motivation	17, 18, 19, 20, 21, 22, 23, 24	08
4.	Empathy	25, 26, 27, 28, 28, 30, 31, 32	08
5.	Social Skills	33, 34, 35, 36, <b>37</b> , 38, 39, <b>40</b>	08
Total			40

### 3.5.3.2 Scoring System

Scoring procedure of scale has been give here in the Table 3.12.

**Table 3.12: Scoring System**

Nature of items	Always	Often	Sometimes	Rarely	Never
Positive	5	4	3	2	1
Negative	1	2	3	4	5

The minimum and maximum range of the score is 40 to 200. The reliability statistics of this test was done by employing Split-half (odd-even) method and with a view to male & female. The coefficients of correlations are given in the table 3.13.

**Table 3.13: Reliability of the Scale**

<b>Sample</b>	<b>N</b>	<b>R (Split-half)</b>	<b>Significance Level</b>
Male	100	0.80	0.1
Female	100	0.83	0.1

### **3.5.3.3 Validity of the Scale**

The validity of this emotional intelligence test has been estimated by item analysis of the first draft, by finding out the 't'- differences between the mean of the high scoring group (30%) and low scoring group (30%) and on the basis of this item elimination and final selection of the items was done.

### **3.6 Data for Academic Achievement**

During the process of data collection of the existing study researcher have instructed the respondents to write down their academic marks of their last semester or exam. The mentioned academic scores obtained by the prospective teachers have been considered their academic achievement and in the latter moments this academic achievement was converted in to percentage while excel of the scores have been prepared.

### **3.7 Administration of the Tools**

One of the mystery behind successful research is how the researcher approached his research, how he contacted with the higher authorities for integration, support and permission, how he has come in contact with the respondents, how he has explored the purpose of his research in front of them how he has motivated the participants for their responses, to what extent he has established a virtuous rapport with them and what was the effective strategy in instructing respondents of the study. Answer of all these questions comprehensively met with the success of data collection and research process in whole.

Initially researcher has visited all the universities and colleges of education where he has contacted with Head of the Department/Dean and Principals of the respective institution to

convey them about the purpose of researcher's visit. Researcher has kept his words before HOD/Dean and Principals and showed them authority letter of the department to avail the permission for data collection. After certain interaction with them researcher have been permitted for data collection and started to meet with the respondents. After that researcher has discussed a lot about the purpose, objectives and methodologies of research study with participants and acquainted them with its principles and consequences. For the internal satisfaction of respondents researcher has instructed them in a very systematic way and have given the assurance that their general information and responses will only be used for research purpose. Hence, by making a strong and good rapport with the respondents researcher has successfully collected the relevant data without any internal or external threats.

### **3.8 Scoring Procedure**

Scoring of the items/statements of scale/questionnaire is one of the essential part of research that allows us to set a variable score for each option. Existing study followed a five point scoring procedure, where positive items have been scored from 5-1 and negative items have been scored in reverse as per the guidelines of the manual. Here, the marks have been given to all the respondents according to their response at particular statement. Similar approach was adopted for all the respondents to sum up their total scores from various dimensions of cognitive styles and emotional intelligence and hence academic achievement of all the prospective teachers have been converted into percentage.

### **3.9 Statistical Techniques Employed**

Particularly in quantitative research statistics has a decisive role in hypothesis testing or analyzing the data. Until we apply the appropriate statistical techniques to test the hypothesis, our research would not be applicable to produce significant results. Statistical methods are pertinent to all the fields of research and extremely assists in facilitating the

process of conducting research. So, while enlightening the importance of statistics, researchers always require one or another statistical technique to find out the results of his/her study.

Similarly, keeping in view the fabulous role of statistical methods in research, researcher has employed, Frequencies, Percentage, Mean, Standard Deviation (Sd), Pearson's Correlation Coefficient ( $r$ ), T-test, ANOVA and Regression Analysis as a statistical measures in the existing study.