CHAPTER-3

METHODS OF DATA COLLECTION AND PLAN PROCEDURE

3.0 INTRODUCTION

Methodology has to be the most important aspect towards any study. Methods are most importance in a research process. They describe the various steps of the plan of attack to be adopted in solving a research problem. In short, by method we mean systematic approach towards a particular phenomenon. Methodology used in any investigation in fact determines its testing. In research, there are numerous methods, and procedures to be applied such as Historical Method, Experimental Method, Survey Method, Descriptive Method and Case study Method. Out of these methods, the survey method was selected which was most appropriate to the project under investigation. The present study aims to study the teacher effectiveness of secondary school teachers in relation to emotional intelligence, competence, and creativity. Once the problem has been selected and identified, the next step is the collection of data. The collection of data is of paramount importance in the conduct of research. The nature of data depends mostly upon the type of tool of technique used by researches for collecting these data. It is necessary to adopt or evolve systematic procedure to collect essential data. Relevant data, adequate in quality and quantify should be collected. They should be sufficiently reliable and valid.

Research design is the blue print of the procedures that enable the research to test hypothesis by reaching valid conclusions about the relationship between dependent and independent variables. It is a plan structure and strategy of research prepared to obtain answer to research questions and to control variances. Before doing the various studies on the present thesis the researcher has fixed the topic and area because it provide the entire draft of the scheme of the research staring from writing the hypothesis their operational implications to the final analysis of the data. The structural of the research is more specific as it provides the outline, the scheme the paradigm of the operation of the variables. It presents a series of guide posts to enable the researcher to progress in the right direction it gives an outline of the
structure and process of the research program. Without such a plan of study no scientific study is possible

Research design is a strategy that is more specific than plan which included methods to be followed in collecting and analyzing data. Hence it means that how the research objectives will be reached and how the problems encountered in the research will be tackled. It is the overall operational pattern of the project that stipulates what information is to be collected from which sources by what procedure. If it is good design it will ensure that the information obtained is relevant to research questions and that it would research by objective and economical procedure. Therefore the researcher has prepared a design of her research.

Plan and procedure constitute a significant part of research. No research project can be undertaken without proper thinking and planning. The plan is an overall scheme or programme of research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implications to the final analysis of data (Kerlinger, 1973). A well thought out plan of action in advance, followed by a systematic execution brings out fruitful results. This helps the researcher to proceed directly without confusing with the concomitant events. Research is not a haphazard task but it required proceeding with a definite direction done with definite intention of taking a specific problem and trying to find a solution of the problem in a scientific manner. In any scientific investigation, the accuracy of results depends upon the accuracy and reliability of the data. The sanctity of data is the sheet anchor of any research project as it is the data to which research owes its success. In a research study, the investigator has to describe the techniques used of collection of data for the investigation. The reliability and validity of the tools used and the method adopted in drawing out the sample of the study is required to be discussed. Also the researcher has to explain the procedure of administering the tools and their scoring. Finally it also includes determining the techniques as to how the data will be analysed and conclusions reached at.

This chapter is confined to the description of the plan and procedure.

3.1 STATEMENT OF THE PROBLEM

“A study of Secondary School Teachers of effectiveness in relation to emotional intelligence, competency and creativity”
3.2 DEFINITIONS OF THE TERM USED

Definition of key terms means expounding and elaborating on the higher order concepts which have been presented in the statement of the problem. This is done to clarify the various aspects of the problem and the basic premises from which the problem has emerged.

3.2.a Secondary School

Secondary education which is a link between the primary education and the university education, plays a vital role in any programmers of education for national development. It provides teachers for primary education, prepare pupil for the universities and other institution of higher learning. Besides there is a vast majority of students who complete their education at this stage. Student who goes for higher education cannot take full advantage of the university education. Unless they have received sound education at the secondary stage. Hence, secondary education being the terminal point must of the higher quality secondary education forms vital stage in the educational edifice. It is the connecting link between the elementary and tertiary education and a stepping-stone or a passport of higher education. In the present study, a secondary school stands for an educational institution duly recognized by any Board of Secondary Education and meant for imparting instruction from VIII level to X level.

3.2.b Teacher Effectiveness

In the present study teacher effectiveness has been define/measured in terms of Teaching skills (ability of teacher to use various core and subject specific teaching skills, methods and strategies for structuring lessons, evaluation tools and techniques for assessing the performance of the students etc), Professional characteristics (how well a teacher display more frequently the self image, values, traits or the way the teacher habitually approaches situations etc) and Classroom management (ability of teacher to use knowledge, skills and behaviours to create and manage an effective learning environment in the classroom). Teacher can be considered as a pivot of educational process. He has the greatest responsibility on his/her shoulders in building the nation. The teaching is the fundamental duty of a teacher and it has to be made effective in order to make a successful teacher. ‘Successful’ and ‘Effective’- these two terms may be used a synonymously in the context of good teaching. Mursell has
therefore aptly observed, “Successful teaching is teaching that bring about effective learning.” In the absence of learning teaching is just talking.

“So, it is not the teaching, but the effective teaching which is considered influential. Successful teaching must create a congenial atmosphere in the classroom for mutual interaction between the teachers and students an effective teacher may be understood as “One who helps in the development of basic skills, understandings, proper work habits and desirable attitudes, value judgment and adequate personal adjustment of the student.” Teaching is largely an occupation in which teachers function both within their classroom and a s a member of the larger school organization, something that has been identified for teachers as a dual allegiance to both the school and students. Models of teaching place different emphasis on the relationship between students, teacher, and the school administration. Central to these conceptions are question of the types of decisions that teachers make in the classroom, the nature of their knowledge base, and finally, the degree of control that the administration has over the teaching task.

All emphasize “interpersonal transactions and states which teachers realize with their students.” While the work of teaching is complex, there is no consensus on what constitutes “best” teaching, but rather multiple and sometime conflicting strategies reflecting broad curricular and instructional debates as well as the beliefs and values of the individual teacher. Further, differences between the age, academic level, and needs of students mean that teaching requires different skills and knowledge in different contexts. These multiple contexts underscore that effective teaching is not fixed, but rather reflects the particular organizational environment and student needs. In the dictionary of education teacher effectiveness as the ability and interaction between the physical, intellectual and psychological interests of the students, content efficiency of the teachers and the social needs. We define effectiveness as the degree to which workers produce outcomes related to the objectives of their organizations. Walls (1999) summarized the most prevalent recommendations from the teaching-effectiveness research literature and described under four headings i.e. the ‘four aces of teaching.’ They are the strongest links between that teachers can do and the learning that students achieve. The four Aces represent a consolidated way of thinking about the “process” of teaching as it influences the “product” (student learning). They may be thought of a titlists for
leaning. Student learning is better, faster and/or more long lasting when teachers are able to play the Four Ace. The Four Aces of Effective Teaching are Outcomes, Clarity, Engagement and Enthusiasm.

The first Ace of Effective Teaching concerns the utilization of an outcomes-based instructional orientation. Outcomes enable students to focus their attention on clear learning goals. These outcomes inform students of where they are going and how they will get there. Outcomes also provide the teacher with a framework for designing and delivering the course content. Furthermore, outcomes enable teachers to assess students learning as a measure of their own instructional effectiveness. More effective teachers use designated outcomes as a basis for the establishment of curricular alignment. Curricular alignment is the degree to which the employed instructional methods and assessment techniques enable the student to acquire and/or demonstrate the desired learning. The second Ace of Effective Teaching involves the clarity of instruction. More effective teachers typically provide students with highly explicit directions and explanations concerning the course organization and content. When delivering instruction, nothing should be left to chance. If students are not meeting your expectations, your methods of delivery may lack the required degree of clarity. When a teacher tells, shows, and makes the message available from alternate perspectives to alternate senses, that teacher is engaged in effective instructional practice.

Additionally, the course should be structured in a way that affords students the opportunity to make connections between the new material that is being presented and the concepts that they have already learned. This instructional strategy is referred to as curricular scaffolding. When a teacher helps students connect new information with what they already know, the teacher is assisting these students in accurate organization of information. The third Ace of Effective Teaching is engagement. This principle suggests that students learn by doing. The formal lecture represents an archaic model defined by instructor as deliverer and student as receiver. This model exemplifies one-way communications and perpetuates an incomplete model of education. Accordingly, teachers must create a dynamic, educational environment that affords students the opportunity to practice every concept that they are learning. More effective teachers utilize instructional strategies that engage students repeatedly throughout the entire lesson. This engagement should begin early in the lesson and
continue throughout the lesson introduction, body, and closure. As a general rule, a teacher should limit a lecture to no more than thirty minutes before employing a learning activity that actively engage all students. Furthermore, these engagement activities are intended to facilitate the development of the knowledge, skills and attitudes that will enable the student to accomplish the previously identified lesson outcomes. This type of curricular alignment is a critical component of an effective, students-centered learning environment. The fourth Ace of Effective Teaching is enthusiasm. As straightforward as it may seem, “if you hate to teach it, your students will hate to learn it.” Conversely, if you love to teach it, your students may very well love to learn it. Enthusiasm is contagious.

More effective teacher plays high level of enthusiasm that reflects their professional patience and confidence. These characteristics are derived from the individual teacher’s subject matter knowledge and instructional experience. Teacher can begin to establish a positive learning environment by showing their passion for the subject matter, using student names, reinforcing student participation during class, and being active in moving among the students. The most critical component for fostering classroom enthusiasm, however, is students success. Accordingly, it is the teacher’s responsibility to establish a classroom environment that shows for a high degree of student achievement. Ultimately, high levels of student achievement serve as a powerful motivator for both student and teacher. Teacher effectiveness is an amalgamation of both cognitive and non-cognitive attributes like academic qualification and distinctions, clarity of thought an expression, fluency, teaching strategy, charisma, and experience and socio personal interaction. Teaching is an important task a teacher does in the classroom. Effectiveness in teaching doesn’t relate to teacher’s age and teaching experience. One can become an effective teacher irrespective of his age and experience. An effective teacher not only knows the subject matter he intends his students to learn but also know the misconceptions his students bring to the classrooms, which will interfere with the learning of subject matter. Only the question is not what methods or procedures are employed, or whether they are old fashioned or modern, time tested or experimental, conventional or progressive, all such considerations may be important, but none of them is ultimate for they have to do with means, not ends.

The ultimate criteria for success in treading are results. These results must be
long lasting and should be useful in child’s life. The effects of teaching must influence the pupil’s behaviour, his personality, his values and attitudes. The result of teaching should affect his thinking and mould his character. Effective teaching must ensure maximization of learning experiences. It aims at achieving optimum objectives of teachings. Besides other factors like well-planned curricula, suitable infrastructural facilities etc. effectiveness of teaching can be achieved with the help of skillful teachers. Teaching and learning are the two aspects of same coin, and education implies the study of teaching skills and practices. Teaching to be effective must be handled by effective teachers. I the destiny of a nation is being shaped in the classroom, teacher is the architect of destiny. Teacher effectiveness is related to the outcomes that reflect the achievement of students and the objectives of education.

A good teacher conducts various researches related to different problems of classroom teaching-learning situations and tries to find suitable solutions for them. He has a definite conception of desirable attainments on the part of the students, estimates the actual attainment and compares the actual with the desired elements.

### 3.2.c Emotional Intelligence

Emotional intelligence may be defined as an ability to understand the one’s own emotions as well as emotions of others and act appropriately based on these emotions. Mayer and Salovey (1993) defined as emotional intelligence as the ability to monitor one’s own and other’s feelings and emotions to discriminate among them and to use this information to guide one’s thinking and action. In the present study, Emotional Intelligence has been conceived and measured in terms of self-awareness, empathy, self-motivation, emotional stability, managing relation, integrity, value orientation, commitment and altruistic behavior.

The nature of human intellect has fascinated scholars for centuries. Plato, Aristotle, Itard and Esquirol have formed the foundation for modern explorations of intelligence for the past 200 years. Over the last few decades the study of intelligence has proved to be the strongest claims of basic and applied psychology. It has been used extensively for selection, training, evaluation and diagnosis in clinical, industrial, defense and education settings. However, the present researchers are dissatisfied with the fact that general intelligence is correlated very poorly in predicting the life success and adaption of the individual to his or her environment.
Recent advances in conceptualizing intelligence have adapted as novel perspective, which has focused on the distinction between cognition and affect. The attention of the researchers in the field is now gathering around the concepts like social intelligence, emotional intelligence and spiritual intelligence etc. Research to understand the unexplainable factors associated with life success has moved towards looking into new theoretical constructs and soon may stumbled upon the notion of social intelligence explained way back in 1920s, by E.L. Thorndike.

Further, it appears that emotional intelligence influences day-to-day problem solving in school, communities, business and organizations. At the individual level, it predicts communications skills, morality, leadership, problem solving capacity and aesthetics. It is noteworthy at this juncture that over the last one decade the notion of emotional intelligence has become a scientific construct for understanding implications of behavior and adaptation of the individual to this environment.

Concentrating on the concept of emotional intelligence.

**The Characteristics of Emotional Intelligence are**

i) It is a non-cognitive and non-physical capacity of the organisms.

ii) It is an internal or psychological process, which motivates the organism to perform its activities properly.

iii) It is natural.

iv) It energies the organism to accomplish the required task.

v) It develops only in early childhood. It develops throughout life.

### 3.2.d Teacher Competence

Teacher competence means the right way of conveying set of knowledge, skills and application to the students by understanding and applying the child psychology and realizing the needs and demands of the parents as well as community. The right way does not include mere acquisition of content and transactional strategies rather than it includes multi dimensional activities in and outside the classroom.

For the present study, teacher competence has been measured on five core dimensions viz., subject competency (mastery over the subject, ability in detecting problems in the subject and efforts for remedial teaching), Transactional Competency (communication process, methods and strategy and developments and uses of
teaching-learning materials), Evaluation Competency (selecting different kinds of evaluation tools and using different kinds of evolution tools), Managerial Competency (managing, organizing and monitoring resources) and Extensional Competency (working with parents and working with the community). Application of well coordinated and intermingled approach to knowledge to contently re-visits the instructions as they plan implementation. The instructors/teachers consider a broad and integrated set of knowledge and techniques, which planning to revise these aspect of the competence of a teachers so, to competence what expected of a teacher understanding about using technical advancement should be answered in the context of the different sets of knowledge and skills that effective teachers possess.

The research in teacher’s knowledge, skills and standards suggests that teacher change with the passage of time and develop skills like planning, designing, assessment techniques, helping students reflective teaching, professional commitment, assessment technique, effective feedback and application of knowledge, what they have gained to improve instruction, to understand a competent teacher, we have to see to what extend they apply an integrated knowledge that they have in planning and implementing their teaching and revise the contents of their lesson. The other aspect of teaching competency is ability in technological aids, which suggests that the teacher must poses knowledge and skill about proficiency in teaching aids. This suggests that effective teacher are able to learn planning an designing of lesson as well as the strategies to be adopted in teaching:

i) They should be thus traced in facilitating teaching and professional were committee to acquiring knowledge throughout their life.

ii) They should further be able to guide their students by properly designate course of studies.

iii) They should be able to currently use student’s output and provide him with correct feedback and how to make use of this in improving their teaching.

iv) An instructor must be able to adequately manage the classroom.

v) Know the ways and means to motivate the students.

vi) The instructor must be able to understand as to how the students learn and improve besides knowing the content of the education method that they are teaching. One of the attribute of effective teaching related to the social context
of the community, the variance in the students and the positive attributes and the deficiencies in the children.

3.2. e Teacher Creativity

The Almighty God, the creator of the universe, is the supreme-mind who possesses the finest creative abilities. He has created all of us and all that is revealed in nature. We are evaluated to be called his creation. Good education, proper care and provision of opportunists for creative expression inspire, stimulate and sharpen the creative mind and it is in this sphere, that parents, society and teachers make a significant contribution. They are required to help the children in nourishing and utilizing their creative abilities to the utmost. The educational process, therefore, should be aimed at developing creative abilities among children. This can be achieved by acquainting the teachers and parents with the real meaning of the creating process and the ways and means of developing and nurturing creativity.

The concept of teacher creativity. It discusses wheatear or not creativity within the classroom is an innate ability and a natural outcome of specific personality styles, of is instead a set of guiding principles and procedures that can be analyzed, quantified, duplicated, and then taught to other.

Role of teacher in promoting creativity among children:-

i) Creating an encouraging climate

ii) Encouraging creativity in many medias

iii) Encouraging variety of approach

iv) Encourage activeness and flexibility

v) Encouraging self-trust

vi) Encouraging to study master pieces

vii) Thinking over consequences

viii) Being a creative achievement

ix) Rewarding creative achievement

x) Organisation of curriculum concepts

xi) A Creative resources of community

xii) Use of special techniques for fostering creativity
3.3 OBJECTIVES OF THE STUDY

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, we may think of after identifying and clarifying the problem, the researcher makes a formal statement of the problem and the research objectives. This delineates the type of information that should be collected and provides framework for the scope of the study or the research project.

The answer to question such “as to what extend did the new remedial program achieve its objectives?” are typical research objectives. In this sense the statement of the problem is a research question. The best expression of research objectives is a well formed testable research hypothesis and a hypothesis is a statement that can be refuted or supported by empirical data.

The researcher has following main objectives of the study:

i) To investigate the Secondary School Teachers Effectiveness, Emotional Intelligence, Competence and Creativity.

ii) To find out the “Secondary School Teachers relationship between Teacher Effectiveness and Emotional Intelligence.

iii) To find out the Secondary School Teacher relationship between Teacher Effectiveness and Teacher Competence.

iv) To find out the Secondary School Teacher relationship between Teacher Effectiveness and Teacher Creativity.

v) To study the Secondary School Teacher Effectiveness with different levels of emotional intelligence.

vi) To study the Secondary School Teacher Effectiveness with different levels of Teacher Competence.

vii) To study the Secondary School Teacher Effectiveness with different levels of Teacher Creativity.

3.4 HYPOTHESES OF THE STUDY

A hypothesis is nothing but intelligence guess or a possible answer of the problem. It is a tentative solution of the problem. Action hypothesis describe a
relationship between proposed actions an anticipated consequence. This step of hypothesis formulation is most important in research, because it gives direction to the researcher. It helps in collecting evidence to solve or choose an alternative way to solve the problem.

Hypothesis is precisely defined as a tentative or working proposition suggested as a solution to a problem and the theory as final hypothesis which is defensibly supported by all the evidence. It is a statement temporarily accepted as true in the light of what is at the time known about the phenomenon, and it is employed as a basis for action in the search for a new truth. It can be put to test or determine its validity it may prove to be correct or incorrect. At the start of any investigation the hypothesis is stimulation to critical thought and offers insight into the confusion of the phenomenon. At the end it has to be accepted or rejected in the light of the findings. In between these stages it furnishes the work with the sign posts for the progress of investigation. When the hypothesis is fully established, it may take the form of facts principles of theories. Hypothesis reflected the research worker’s guess as to the probable outcomes of the experiments.

**Keeping this problem in her mind the researcher makes following hypothesis**

i) There has been no significance difference between the teacher effectiveness and emotional intelligence.

ii) There has been no significance difference between the teacher effectiveness and teacher competency.

iii) There has been no significance difference between the teacher effectiveness and creativity.

iv) There has been no significance difference between the teacher effectiveness, emotional intelligence, competency and creativity.

### 3.5 DELIMITATION OF THE STUDY

This research has been following delimitations:-

i) The study has been confined to the secondary level of education in two districts of Karnal, Panchkula.

ii) The study has been delimited to Eight, Ninth and Tenth class students only.
iii) The study has been delimited for government schools and private schools only.

iv) Further, the study has been restricted to the teachers from concerned schools only.

v) The study has been intended to cover only 40 secondary schools, 400 teachers and 800 students.

3.6 SAMPLE OF THE STUDY

The primary purpose of research is to discover principles that have universal application, but to study a whole population to arrive at generalization would be impracticable, if not impossible. In order to make its practicability, the process of sampling plays a key role in the whole research work. Sampling, therefore, is the process of selecting a few (a sample) from a bigger group (the sampling population) to become the basis for estimating or predicting prevalence of an unknown piece of information, situation or outcome regarding the bigger group. As sample is the miniature part of the population, it does not only save time, energy and money of the investigator but it also helps him to study the problem in hand intensively. Moreover, study of some phenomena from the population would lead to the collection of mass of data whose analysis would be slow and tedious. The analysis of large quantity of data may involve a number of errors which would make the study useless. The adequacy of sample depends upon our knowledge of the population as well as the method used in drawing the sample and the fairness in the sample can be secured by giving every member of the population a specifiable chance of appearing in it. The accuracy of representation depend upon the size of the sample not by the number of the members but number of independent selection made them. The size and procedure of selecting a sample for determining the validity of any research study: a detailed description of these has been given in the present chapter. The investigator has tried as far as possible to take all possible care to ensure that the sample of the research study becomes a true representative of the population under study.

i) In the present study, all the secondary school teachers and students in Karnal, Panchkula will be constituted the population.

ii) After selection of these two districts, 20 secondary schools from each district and secondary schools in total from two districts selected by
using simple random sampling technique.

iii) Initially, from each school, researcher has taken ten teachers and twenty students randomly by following the lottery method and in total 400 teachers and 800 students will be listed from 40 schools.

**TABLE NO. 3.1:- Details of Sampling**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>NAME OF DISTRICT</th>
<th>NO. OF TEACHERS</th>
<th>NO. OF STUDENTS</th>
<th>NO. OF SCHOOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>KARNAL</td>
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<td>400</td>
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</tr>
<tr>
<td>2.</td>
<td>PANCHKULA</td>
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<td>400</td>
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<td>TOTAL</td>
<td></td>
<td>400</td>
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<td>40</td>
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**TABLE NO. 3.2:- Details Sampling of Students in Karnal District Schools**

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<th>NO. OF STUDENTS</th>
<th>NO. OF SCHOOLS</th>
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<td>BOY’S</td>
<td>GIRL’S</td>
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<td>200</td>
<td>200</td>
</tr>
<tr>
<td>TOTAL</td>
<td>200</td>
<td>200</td>
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</table>

**TABLE NO. 3.3:- Details Sampling of Teachers in Karnal District Schools**

<table>
<thead>
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<th>S.N.</th>
<th>NO. OF TEACHERS</th>
<th>NO. OF SCHOOLS</th>
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<tr>
<td></td>
<td>MALE</td>
<td>FEMALE</td>
</tr>
<tr>
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<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100</td>
<td>100</td>
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</table>
TABLE NO. 3.4: Details Sampling of Students in Panchkula District Schools

<table>
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<th>NO. OF SCHOOLS</th>
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<td>BOY’S</td>
<td>GIRL’S</td>
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<td>200</td>
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<tr>
<td>TOTAL</td>
<td>200</td>
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</table>

TABLE NO. 3.5: Details Sampling of Teachers In Panchkula District Schools

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<th>S.N.</th>
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<th>NO. OF SCHOOLS</th>
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<tr>
<td></td>
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<td>FEMALE</td>
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<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
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TABLE NO. 3.6 Names and numbers of Secondary Schools from where data were Collected

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Schools</th>
<th>No. of Teachers</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>KARNAL (DISTRICT)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>GHS KARNAL (PREM NAGAR)</td>
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<td>2</td>
<td>GHS CHAURA</td>
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<td>3</td>
<td>GHS KALROAN</td>
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<tr>
<td>4</td>
<td>GHS GUDHA</td>
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</tr>
<tr>
<td>5</td>
<td>GHS KAIMLA</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>6</td>
<td>GGHS KARNAL (URBAN ESTATE)</td>
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</tr>
<tr>
<td>7</td>
<td>GGHS KUNJPURA</td>
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<tr>
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<td>GHS RAIPUR JATTAN</td>
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<td>20</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Name of the Schools</td>
<td>No. of Teachers</td>
<td>No. of Students</td>
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<tr>
<td>9</td>
<td>GHS STAUNDI</td>
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<tr>
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<td>GHS UCHA SMANA</td>
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<td>L.T.T.M. PUB. SCHOOL GHARAUNDA</td>
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<td>ADARSH HIGH SCHOOL GHARAUNDA</td>
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<td>14</td>
<td>KHALSA MODERN SCHOOL PREM NAGAR KARNAL</td>
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<td>GURU NANAK MODEL HIGH SCHOOL NILOKHERI</td>
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<tr>
<td>20</td>
<td>VIJETA PUBLIC SR SEC SCHOOL SEC-6 KARNAL</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>200</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

**Sr. No.** **Name of the Schools** **No. of Teachers** **No. of Students**

**PANCHKULA (DISTRICT)**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Schools</th>
<th>No. of Teachers</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GHS MANAK TABRA</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>GHS KHATAULI</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>GGHS RAIPUR RANI</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>4</td>
<td>GHS RAMPUR THADION</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>
3.7 METHODS OF THE STUDY

It is necessary to adopt a systematic procedure to collect the necessary data, which stimulates the researcher’s insight to test the hypotheses of the study under investigation. There are several methods of conducting research. Selection of research method is determined by the nature of the problem. It is an obvious fact that the
present study is an ex-post facto type of study involving descriptive survey method. The variables involved in this study are Teacher effectiveness (dependent variable), Emotional Intelligence, Teacher competence and Teacher creativity (independent variables). The variables involved in this study cannot be studied in any artificial setting. Hence, the investigator considered and selected the descriptive survey method of research as the most appropriate one for conducting the present study. It is an ex-post facto type of research effort. Ex-post facto research is systematic empirical inquiry in which the scientific does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulability.

Inferences about relations among variables are made, without direct intervention from concomitant variation of independent variables. Gay (1987) stated that ex-post facto research is that research in which the researcher attempts to determine the cause, or reason, for existing differences in the behavior or status of groups of individuals. Such research is referred to as ex-post facto, since both the effect and the alleged cause have already occurred and is studied by the researcher in retrospect. Further, descriptive research describes and interprets the existing conditions. The main purposes of the descriptive method of research may be stated as follows:

i) To secure evidence concerning existing situation and current conditions.

ii) To identify standard or norms with which to compare present conditions in order to plan the next step.

Best (1983) considered descriptive research studies as non-experimental because they deal with the relationship between non-manipulative variables in a natural, rather than artificial setting. Since the condition already exist, the researcher thus selects the variable for any analysis of their relationships and draws the valid general conclusions from the relationship discovered. The present study employing descriptive survey method endeavors to study the teacher effectiveness in relation to emotional intelligence, competence and creativity of secondary school teachers.

Keeping in view the purpose of the study and its relational nature, the correlates and differentials have been planned to be investigated. In co relational study, unlike observation, involves the manipulation of specific variables chosen from
the area of research interest. Manipulation a variable means arranging for the appearance of different quantities or different values of the variable. In co-relational research, the manipulation is always accomplished by some sort of selection procedure. Thus an attempt is being made to understand the relationship between Teacher effectiveness and emotional intelligence, and Teacher effectiveness and teacher competence and Teacher effectiveness and teacher creativity by adopting the co relational approach. Some necessary precautions as discussed under have been taken to draw valid inferences with such an approach.

In any correlation between the two variables it is only the degree of associations that is revealed. The difficulty becomes apparent when negative correlations are yielded. In such a situation the co-efficient does not explain whether the score on X are in reverse direction i.e. decreasing while scores on Y are increasing or vice-versa. In order to obtain a clear cut information about the specific change in a variable under comparison, care has been taken to obtain teacher effectiveness differentials by testing significance of differences between the mean values on the variables of interest at three levels of Emotional intelligence. Teacher competence and Teacher creativity. Usually, in extreme group analysis, only two extreme group (high-low) are adopted which may lead to false generalizations unless there is a sound justification to assume linearity of relationships. In order r to avoid dangers of such untested assumption, the ‘moderate’ in the present context has also been include in the extreme groups’ analysis. The value of mean score in each of the three groups will provide clear information about the increase, decrease, or constancy of changes in that variable vis-a-vis the given level of the second variable. This helps in obtaining information regarding actual changes in the variable under study.

A two-phase study was, therefore, planned for the present investigation. At the first phase the degree of association among the Teacher effectiveness and Emotional intelligence/Teacher competence/ teacher creativity variables within the total sample is to be obtained. In order to study the association in depth, correlation are to be investigated at three levels of emotional intelligence teacher competence, and teacher creativity viz. ‘high’ ‘moderate’ and ‘low’ groups.

At the second stage of analysis, an attempt is to be made to make up some of the deficiencies of co- relational studies in which they give no ideas regarding causation. This will be possible by studying the differences in teacher effectiveness
variables at three levels of emotional intelligence, teacher competence and teacher creativity. This grouping of teacher was done by applying the criteria i.e., Mean, SD to constitute the ‘Extreme’ Group on emotional intelligence and teacher competence and teacher creativity.

(i) **Introduction about the group study**

Coefficients of correlation are to be obtained between emotional intelligence scores and teacher effectiveness scores and between teacher competence scores and teacher effectiveness scores, teacher creativity scores and teacher effectiveness score to find out their relationship in the sample as a whole. It is expected to provide the general trend of relationships.

(ii) **Extreme groups study**

The total sample is to be further divided into three groups to obtain a comparative picture of teacher effectiveness at three levels of emotional intelligence and teacher competence and teacher creativity or to see the effect of emotional intelligence, teacher competence and teacher creativity on teacher effectiveness. The following criteria are to be used for the classification of groups.

**The ‘high’ group**

Teachers scoring Mean+ SD on each dimension of emotional intelligence, teacher competence and teacher creativity are to be considered as ‘high’ group.

**The ‘moderate’ group**

Teacher scoring between two limits i.e. between Mean+½ SD and Mean-½ SD limits on each dimension of emotional intelligence, teacher competence and teacher creativity are to be termed as ‘Moderate’ group.

**The ‘low’ group**

Teacher scoring Mean½SD on each dimension of emotional intelligence, teacher competence and teacher creativity are to be defined as ‘Low’ group.

After forming the three groups viz. ‘high’, ‘moderate’ and ‘low’, the associations and differences in teacher effectiveness variable in these three groups are to be worked out in order to study the teacher effectiveness susceptibility to emotional intelligence, teacher competence, and teacher creativity.
## 3.8 SETTING OF THE STUDY

The researcher makes a plan of his study before he undertakes his research work. This will enable researcher to save time and resource. Technique is to research what method is to teaching or in a sense what logic is to thinking for the measurement of certain personality traits various instruments have been advised in recent years.

There are several techniques and methods of studying the teacher effectiveness in research, the researcher trying to collect factual data by which facts can be judged applying different types of statistical techniques. The investigator uses one or more methods in his work only to find out the facts of the study.

First of all we select the problem. Selection of a problem is not an easy work. In the area of research we saw many problems. But chosen of the problem is very difficult for a researcher. In this research we take a very common problem we face in our classroom in the daily life’s schedule we define its terms already used in this research. Coefficients of correlation are to be obtained between emotional Intelligence scores and teacher effectiveness scores and between teacher competences scores and teacher effectiveness scores teacher creativity scores and teacher effectiveness scores to find out their relationship in the sample as a whole. It expected to provide the general trend of relationships. The high group, the moderate group, and the low group makes to associations and differences in between the teacher effectiveness, emotional intelligence, teacher competence, and teacher creativity and take the sample of 400 teachers and 800 students from 2 District (Karnal and Panchkula) by randomly technique method. The present study is an ex-post facto type of study involving descriptive survey method. The variables involved in this study are Teacher effectiveness (dependent variable), Emotional Intelligence, Teacher competence, and Teacher creativity (independent variables). Such research is referred to as ex-post facto, since both the effect and the alleged cause have already occurred and is studied by the researcher in retrospect. Further, descriptive research describes and interprets the existing conditions. The tools were developed for justify the results.

## 3.9 TOOLS OF THE STUDY

In order to collect data from the selected samples, following tools has been used among these, four tools i.e., teacher effectiveness scale, emotional intelligence scale, teacher competence scale and teacher creativity scale has been adapted and
developed respectively by the researcher himself.

i) Teacher Effectiveness Scale: by self the researcher.

ii) Emotionally Intelligence Scale: by self the researcher.

iii) Teacher Competence Scale: by self the researcher.

iv) Teacher Creativity Scale: by self the researcher.

3.10 DATA COLLECTION

After selecting and finalizing the tools for data collection, the researcher visited the schools under investigation personally for taking prior permission from the Headmasters/Headmistress of the schools for collecting the necessary data. Subsequently, the investigator discussed in detail about his investigation with heads of the respective schools and sought the permission from them for collecting the necessary data and the subjects (Teacher and Students) were explained about the nature and purpose of the study.

In the first phase, good rapport with the teachers of concerned schools was established to do the assignment carefully. Before assigning the task, instructions of each test used in the study were made clear. The principals were also explained the same and were administered the tool administrative behaviour scale. The procedure of filling the scale was made clear to all of them. The investigator collected all the inventories and thanked all of them including the principal for their cooperation. The same procedure was followed in all the schools. The inventories thus collected were scored as for the prescribed procedure and the data obtained were recorded for analysis and interpretation.

In order to giving responses to the questions free and frankly, honestly and sincerely, they made aware there are no right or wrong answers to these questions and their professional carrer would not be affected as it was only an exercise for research purpose and their responses would be kept strictly confidential. Finally, keeping in view the objectives of the study, Emotional Intelligence Test and Questionnaire for Measuring Teacher Competencies, and Teacher creativity were administered on the teachers individually. In order to free them from boredom, they were given sufficient time interval between tests. Thus, the test were administered under proper testing conditions. Each session of testing, ended with a vote of thanks to the teachers concerned.
In the second phase, before administration of the test, necessary steps were followed and appropriate precautions were taken for each school. After being satisfied with the arrangement, the investigator instructed the students of concerned schools and fabricated the confidence to give his free and frank opinion about the effectiveness of teachers of his school by rating the teacher effectiveness scale carefully. They were also informed that their academic career would not be affected as it was only an exercise for research purpose and their responses would keep strictly confidential. Hence they should be free and frank, honest and sincere in attempting the questions.

3.11 DATA ANALYSIS AND INTERPRETATION

It took more than eight months, to collect the data through above mentioned tools. Data collected was analyzed quantitatively as well as qualitatively. As data was collected through multiple sources. The technique of triangulation was adopted to analyze the data from various standpoints, to place the findings in right perspective. Descriptive statistical tools were also applied in data analysis. Data collected through questionnaire, was analyzed at three levels. General Information regarding teaches was presented in the form of tables of questionnaires was analyzed by taking frequency occurrence and percentages four point scale. Data collected from the teacher was analyzed on four points rating scale the data collected from techniques and ranking method to get results. Similarly data collected through questionnaire on four point scale was also analyzed qualitatively.

i) In the first phase, co-efficient of correlation is calculated to find out the relationship between the groups of different variables under study.

ii) In the second phase, critical ratio (t-test) will be employed to find out the significant difference between the groups of different variables under study.

3.12 PLAN PROCEDURE

Procedure is most important thing in research methodology. Without plan and procedure we cannot reach any conclusion. After selecting and finalizing the tools for data collection, the researcher visited the schools under investigation personally for the taking prior permission from the Headmasters/ Headmistress of the schools for collecting the necessary data. Subsequently, the investigator discussed in detail about his investigation with heads of the respective schools and sought the permission from
them for collecting the necessary data and the subjects (Teaches and Students) were explained about the nature and purpose of the study.

In the first phase, good rapport with the teachers of concerned schools was established to do the assignment carefully. Before assigning the task, instructions of each test used in the study were made clear. In order to giving responses to the questions free and frankly, honestly and sincerely, they made aware there are no right or wrong answers to these questions and their professional career would not be affected as it was only an exercise for research purpose and their responses would be kept strictly confidential. Finally, keeping in view the objectives of the study, Emotional Intelligence Test and Questionnaire for measuring Teacher Competencies and the questionnaire for measuring teacher creativity were administered on the teachers individually. In order to free them from boredom, they were given sufficient time interval between tests. Thus, the tests were administered under proper testing conditions. Each session to testing, ended with a vote of thanks to the teachers concerned.

In the second phase, before administration of the test, necessary steps were followed and appropriate precautions were taken for each school. After being satisfied with the arrangement, the investigator instructed the students of concerned schools and fabricated the confidence to give his free and frank opinion about the effectiveness of teachers of his school by rating the teacher effectiveness scale carefully. They were also informed that their academic career would not be affected as it was only an exercise for research purpose and their responses would keep strictly confidential. Hence they should be free and frank, honest and sincere in attempting the questions.

3.12.a Scoring Procedure

After collecting data from the sample teachers, and students with the help of the selected tools, collected data was scored in the following manner.

3.12.b Teacher Effectiveness Scale (TES)

The test is four-point likert type scale. This scale has statements with four choices against each statement. These are Never (N), Some Times (ST), Many Times (MT) and Always (A). The score ranging from 1 to 4. The minimum score of the questionnaire is 50 and the maximum score of the questionnaire is 200.
TABLE NO. 3.7 Scoring procedure for Teachers Effectiveness Scale

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>No of Choices</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Never</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Some Times</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Many Times</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Always</td>
<td>4</td>
</tr>
</tbody>
</table>

3.12.c Emotional Intelligence Scale (EIS)

The test is four-point like type questionnaire. This questionnaire has statements with four possible choices against each statement. These are strongly agree (SA), agree (A), neutral (N), disagree (DA). The score ranging from 1 to 4. The minimum score of the questionnaire is 35 and the maximum score of the questionnaire is 140. The scoring of the questionnaire was done according to the scoring key as given in table 3.8.

TABLE NO. 3.8 Scoring Procedure for Emotional Intelligence Scale

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>No of Choices</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Neutral</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Agree</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Strongly Agree</td>
<td>4</td>
</tr>
</tbody>
</table>

3.12.d Teacher Competence Scale (TCS)

The test is four-point likert type questionnaire. This questionnaire has statements with four possible choices against each statement, such as: Nothing, Some Times, Many Times and Always. The score ranging from 1 to 4. The minimum score of the questionnaire is 50 and the maximum score of the questionnaire is 200. There
are 50 items in this questionnaire. The scoring of the questionnaire was done according to the scoring key as given in table 3.9.

**TABLE NO. 3.9 Scoring Procedure for Teacher Competence Scale**

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>No of Choices</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nothing</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Some Times</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Many Times</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Always</td>
<td>4</td>
</tr>
</tbody>
</table>

**3.12.e Teacher Creativity Scale (TCS)**

The test is four-point likert type questionnaire. This questionnaire has statements with four possible choices against each statement, such as: Nothing, Some Times, Many Times and Always. The score ranging from 1 to 4. The minimum score of the questionnaire is 40 and the maximum score of the questionnaire is 160. There are 40 items in this questionnaire. The scoring of the questionnaire was done according to the scoring key as given in table 3.10.

**TABLE NO. 3.10 Scoring Procedure for Teacher Creativity Scale**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>No of Choices</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nothing</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Some Times</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Many Times</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>Always</td>
<td>4</td>
</tr>
</tbody>
</table>

**3.13 STATISTICAL TECHNIQUES**

Statistics is that science in which facts are collected in the form of figure with a certain aim in view. Then these facts or dates are so classified that an event may be followed properly. It classifies and arranges the data and tries to explain the event
may be followed properly. It classifies and arranges the data and tries to explain the
events by arranging them in a methodical manner.

W.A. Sutcliffe has defined status in the following words “statistics comprise the
collection tabulation, presentation an analysis of aggregate facts collected in a
methodical manner without bias and related to pre-determined purpose”. The modern
educational are of the view that almost all the characteristics of the child’s personality
can be measured in figures and statics. In the present study the investigator has used
the following statistical techniques: Data collected through questionnaire was
tabulated and analyzed through statistical treatment Chi- square test ($\chi^2$). It is a non-
parametric test of significance, appropriate when the data is in the form of frequency
counts. It compares proportions actually observed in a study with proportions
expected to see if they are significantly different. For statistical treatment chi-square
was applied using the following formula:

fo = Frequency observed
fe = Frequency expected
df = Degree of freedom

\[
\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}
\]

Mean

It is most popular and widely used measure for representing the entire data by
one value is what most laymen call an average and what the statisticians call the
arithmetic mean. Its value is obtained by adding together all the items and by dividing
this total with the number of items.

\[
\text{Mean (M)} = \frac{\sum x}{N}
\]

Where,

M = Mean.
N= Number of personality attributes under study.
\( \sum x \)= sum of total number of observations in different personality traits.

**Standard Deviation**

The standard deviation concept was introduced by Karl person in 1823. It is a special form of average deviation from the mean standard deviation is the square root of the sum of the squares of the individual deviations from the mean divided by the number of items. In other words, the standard deviation is the root-mean square of the deviations from the arithmetic mean.

The standard deviation measures the absolute dispersion the greater the standard deviation, for the greater will be the magnitude of the deviations of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series a large standard deviation means just the opposite.

Standard deviation of any distribution shows the dispersion of the scattered scores in that distribution along with mean, here in the present study the standard deviation was calculated by using the following data.

\[
\sqrt{\frac{\sum d^2}{N}}
\]

Where,

\[ S.D. = \text{Standard Deviation} \]
\[ \sum = \text{Sum of all (total)} \]
\[ d = \text{Deviation of particular observation from mean} \]
\[ d^2 = \text{square of deviations}. \]
\[ N = \text{Total No of observations in a table}. \]

**Correlation Coefficient**

The correlation coefficient was also used to determine the level of correlation between the teacher effectiveness, emotional intelligence, teacher competence and teacher creativity the hypothesis is that there is no significant difference between the teacher effectiveness, emotional intelligence teacher competence and teacher
creativity. The correlation coefficient is obtained with the help of the following formula:

\[ r_{xy} = \frac{\sum x.y}{\sqrt{\sum x^2 \cdot \sum y^2}} \]

Where,
- \( r_{xy} \) = correlation coefficient between variable X and variable Y
- \( x \) = deviation of variable X from its mean score.
- \( y \) = deviation of variable Y from its mean score.
- \( x^2 \) = square of deviations of variable X from its mean score.
- \( y^2 \) = square of deviations of variable Y from its mean score.
- \( \sum x.y \) = sum of product of deviations of variable X and variable Y from their respective mean scores.

**PERCENTAGE CALCULATION**

The observations are presented as percentage of total number of observations. The percentage method facilitates in decision making, class controlling, self awareness, self management, and class management and testing of hypothesis under study as it shows the effectiveness of teachers, emotional intelligence, competence and creativity. This method is a great tool to arrive at the solution and conclusion of the problem under study. The formula for computation of percentage is:

\[ \frac{\text{Observation of a particular object}}{\text{Total No. of observations i.e. } N} \times 100 \]

**3.14 CONCLUSION**

Methodology has to be the most important aspect towards any study. Methods are of utmost importance in a research process. They describe the various of the plan of attack to be adopted in solving a research problem. In short, by method we mean systematic approach towards a particular phenomenon. Methodology used in any investigation in fact determines its testing. The survey method was selected which was most appropriate to the project under investigation. The collection of data is of
paramount importance in the conduct of research. The nature of data depends mostly upon the type of tool of technique used by researches for collecting these data. It is necessary to adopt or evolve systematic procedures to collect essential data. Relevant data, adequate inequality and quantity should be collected. They should be sufficiently reliable and valid. Methodology has to be the most important aspect towards any study. Methods are of utmost importance in a research process. They describe the various steps of the plan of attack to be adopted in solving a research problem. In short, by method we mean systematic approach towards as particular phenomenon. Methodology used in any investigation in fact determines its testing. The collection of data is of paramount importance in the conduct of research. The nature of data depends mostly upon the type of tool of technique used by researches for collecting these data. It is necessary to adopt or evolve systematic procedures to collect essential data. Relevant data, adequate inequality and quantity should be collected. They should be sufficiently reliable and valid.