3.1 THE METHOD:

The research methodology has the identical meaning of mapping strategy of research. It involves all the systematic procedures to carry on the research work in a scientific and valid manner. It provides the tools and techniques by which the research problem is administered to arrive at the final conclusions.

The main objective of the present study is to ascertain the contribution of work values and adjustment of principals to their administrative effectiveness at higher secondary level. For this purpose, all the research strategies and a number of related empirical studies were reviewed by the researcher to identify the most appropriate research method to draw valid general conclusions concerning the current status of phenomenon inherent in this present study and it is found that in most of the research studies of this kind, the survey method has been used for the purpose. So, on the basis of available research studies conducted so far in this area, the researcher arrive at the conclusion that to explain the phenomenon in terms of the conditions, relationship and effect that exist under investigation, only the normative survey method is the most pertinent to this present study.
3.2 THE POPULATION AND THE SAMPLE:

The primary purpose of an empirical study is to discover principles that have universal application, but to study a whole population for arriving at generalization would be impracticable. Fortunately, the process of sampling makes it possible to draw valid inference or generalization on the basis of careful observation of variables with in a relatively small proportion of the population.

The Population -

The population for the purpose of this study has been defined as the total number of principals of all the higher secondary schools of five educational districts, named Bastar, Durg, Kabirdham, Rajnandgaon and Surguja in Chhattisgarh state.

As 377 higher secondary schools of both non-tribal and tribal localities come under these districts, the population in this present study comprises 377 principals. Therefore, the result of the study will be applicable to the principals of all the higher secondary schools of the five educational districts of Chhattisgarh.

The Sample -

A sample is the small population selected for observation and analysis by observing the characteristics of the population from which it is drawn. As per the definition of the population, the unit of sampling is the ‘principals’ working in the higher secondary schools of the five educational districts of Chhattisgarh. The first task in drawing the sample is to get the list of higher secondary schools, established in Bastar, Durg, Kabirdham, Rajnandgaon and Surguja districts. For this purpose the “All
India 7th School Survey Report – HRD, Delhi (2002) has been consulted which provided the district wise list of such higher secondary schools in number. The table 3.1 represent the number of higher secondary schools in each district of Chhattisgarh:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>District</th>
<th>Non Tribal</th>
<th>Tribal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bastar.</td>
<td>13.</td>
<td>45.</td>
</tr>
<tr>
<td>2.</td>
<td>Durg.</td>
<td>162.</td>
<td>11.</td>
</tr>
<tr>
<td>4.</td>
<td>Rajnand Gaon.</td>
<td>49.</td>
<td>20.</td>
</tr>
<tr>
<td>5.</td>
<td>Surguja.</td>
<td>06.</td>
<td>59.</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>242.</td>
<td>135.</td>
</tr>
</tbody>
</table>

Table 3.1 - No. of Higher Secondary Schools in Each Undertaken District.

Having obtained this sample frame, the next task was to decide upon the best sampling design in order to draw a representative sample from a sample frame of this type. Contrary to some popular opinion, samples are not selected haphazardly; they should be chosen in a systematically random technique, so that chance or the operation of probability can be utilized.

Since, the research has been designed for stratified study, so, for the sampling design, the population of the undertaken districts was classified accordance with the gender of principals amongst the non-tribal
and tribal locality of their higher secondary schools, as referred in table 3.2.

<table>
<thead>
<tr>
<th>Gender of Principals</th>
<th>Locality of Higher Secondary Schools</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NON-TRIBAL</td>
<td>TRIBAL</td>
</tr>
<tr>
<td>Male principals</td>
<td>138</td>
<td>92</td>
</tr>
<tr>
<td>Female principals</td>
<td>104</td>
<td>43</td>
</tr>
<tr>
<td>TOTAL</td>
<td>242</td>
<td>135</td>
</tr>
</tbody>
</table>

Table 3.2 – Demographical Distribution of Principals’ Population.

<table>
<thead>
<tr>
<th>Gender of Principals</th>
<th>Locality of Higher Secondary Schools</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NON-TRIBAL</td>
<td>TRIBAL</td>
</tr>
<tr>
<td>Male principals</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Female principals</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>TOTAL</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

Table 3.3 – Sample design for the study.

The distribution of the sample design for the study is shown in table: 3.3 for which the sample of 20 male and 20 female principals were
drawn from non tribal locality and 20 male and 20 female principals were from tribal locality amongst the respective numbers of the locality wise higher secondary schools in Chhattishgarh state through the 'Serial Marking Sequential Method' of sampling.

As the principals' administrative effectiveness was measured on the basis of their sub-ordinate teachers' perceptions, so it was decided to administer the 'Administrative Effectiveness Scale' to the teacher of these selected higher secondary schools. In all, 400 teachers were tried to make available who rated the effectiveness of their principals after one or two approach. Moreover, begin in complete all the returns were found usable for the purpose of analysis.

3.3 THE VARIABLES:

The present study involved five variables, out of which one is dependent variable, two variables are independent in nature and others are background variables. The intent in this study is to see the contribution of the independent variables to the dependent variable under the influence of intervening variables. These variables are:

A. Dependent Variables -

1. Principals' Administrative Effectiveness.

B. Independent Variables -

1. Principals' Work values.

2. Principals' Adjustment.
3.4 THE TOOLS:

The selection of the tools for a particular study depends upon various considerations such as objectives of the study, availability of suitable tools, techniques of scoring and the like. After a comprehensive review having all these factors into consideration the following tools are adapted or used for measuring the dependent and independent variables:

1. Principals' Administrative Effectiveness Scale, that constructed by Bhatnagar is used to measure the Principals' Administrative Effectiveness in Higher Secondary Schools.

2. Principals' Work Values Inventory, the adapted version of the "Vasantha's Work values Inventory" that modified by U. Kumar, is used for measuring the work values of Principals of Higher Secondary Schools.

3. Principal Adjustment Scale, that constructed by the Vidya Agrawal, is used for measuring the Principals' Adjustment in Higher Secondary Schools.
The present study involved measurement of principals' administrative effectiveness. The construct of administrative effectiveness has not been specifically and uniquely defined in the literature. At least the investigator could not lay his hands on any such piece of literature in which the concept had been discussed and defined exactly. The process of administration may, then, seem to be a more feasible and objective index of administrative effectiveness. Though, there may not be a very valid conceptualization of principals' administrative effectiveness, yet perceptual evaluations of day to day performances may construe a reasonably sound basis of measuring their administrative effectiveness.

In the present study the administrative effectiveness has been defined as a set of desirable administrative behaviours on the part of the principals as perceived by the subordinate teachers in their higher secondary schools. These desirable administrative behaviours include various aspects of administration such as decision making, implementation of policies, planning, human relation, sharing leadership, ensuring good discipline, making people work hard, ensuring required facilities for work, ensuring order, giving individual guidance to students, adopting innovations, ensuring high standards of teaching-learning etc. The definition of administrative effectiveness in the present study is the same which has been used by the Bhatnagar in constructing the "Administrative Effectiveness Scale" for her Ph. D. work. Therefore, this tool is
considered appropriate and justified for the present study in measuring the administrative effectiveness of higher secondary school principals of five selected districts of Chhattisgarh.

The Administrative Effectiveness Scale is a uni-dimensional and uni-factorial measure of principals' administrative effectiveness. It is a 34-items Likert type scale consisting of a series of items on which teachers rate their principals. It was a 6-point scale in its original form ranging from 1 to 6 which meant never true, very less true, less true, some times true, true, and always true. Later on the scale has been changed into 5-point rating scale which ranges from 1 to 5 meaning there by totally false, false, neither false, nor true, true and totally true. This scale is administered on the teachers and they are asked to read each statement carefully and think as to how far each statement is true about the administrative behaviour of their principal and the institutional process. The subject has to indicate his or her response on a 5-point rating scale by encircling one of the rating's ranging from 1 to 5, having the aforesaid meaning. The rating given by subjects will indicate as to to what extent the item is true about his or her principal and the institution. The rating of 5 will be meant for totally true and the rating of 1 will be meant for totally false about the principal and the institution, yielding in this way a specific score for administrative effectiveness on each item. These scores on thirty four items of all the teacher subjects of one higher secondary school when summed up and averaged, will be given the total administrative effectiveness score for the individual principal. A high score on this scale indicates high administrative effectiveness and low score indicates low administrative effectiveness.
The administrative effectiveness scale is a very carefully constructed scale. The author of the scale while constructing the tool, passed through all the steps of test construction very systematically. She subjected each item of the scale to a process of item analysis, where by only those items which significantly discriminated between high and low effective principals were selected in the final form of the score.

The reliability of the scale was established by the constructor of the scale by using test-retest method of reliability on a sample of 90 teachers of six intermediate colleges of district Bijnor in Meerut region. This reliability coefficient was found to be 0.86 which may be considered satisfactory for the purpose in hand. Likewise, the validity of the score was also established by the author by adopting case study approach. In the absence of any other criterion test, the author of the scale found her self unable to establish statistical validity of the questionnaire. The author had to be satisfied with the little evidence that she obtained through the case study approach and the expert opinion of the principals and the test specialists. The author, however, feels highly satisfied with the face validity of the items, and from operational point of view she considers that more important. The six intermediate collages which were used for establishing reliability of the questionnaire were put in a hierarchical order according to their mean scores on the effectiveness of questionnaire. Then, information about their effectiveness around the same reference characteristics as included in the questionnaire was obtained from district inspector of schools, a few principals and teachers of other colleges, and a few citizens.
On this basis of this information a consensus was arrived at about the order of administrative effectiveness of the principals of six colleges. The order emerged to be the same as that which was found to be on the basis of their mean scores on the effectiveness of questionnaire.

3.4-2. Principals' Work values Inventory:

Rokeach (1973) viewed that work values are a collection of options in a phenomenological world in which individuals have to give meaning to their action. These are the values which involve the feelings and believe and refer to principals' perception of appropriateness of different types of work for themselves and to the concepts formed by them as to how they perform in general. This emphatic thought obliges to think that the selection and adaptation in behavioural trends of members within an organization possessing a folder of its own values system is regulated by their own value system. The purpose of this present study consists of the measurement of principals' work values in terms of their disposition to like or not to like a particular type of work with reference to power, job freedom, adventure, social welfare, prestige and interests.

The definition of principals' work value in the present study is as similar as used by Kumar in adapting the "Work values Inventory" of Vasantha for her Ph.D. work. The attributes of this adapted version of "Work values Inventory" facilitate the choice of investigator for this present study because of:
i. It is applicable to the present situation i.e. principals of higher secondary schools.

ii. It gives an index of work values in relation to administrative effectiveness.

iii. It measures the dimensions of work values in terms of power, adventure, job freedom, social welfare, prestige and interest.

iv. It yields reliable and valid score of work values.

v. It is brief and easily scored.

vi. It has the items of such a nature that each of them evokes cooperation from the principals.

Therefore, the adapted version of "Vasantha's Work values Inventory" by Kumar is used by the researcher to obtain a reliable and valid measure of principals' work values in higher secondary schools of Chhattisgarh.

The original Vasantha's work values inventory consisted of 77-items with sixteen dimensions on five point scale. But in the procedure of adaptation of the inventory, Kumar sorted out only 33-items for determining the five dimensions of principals' work values. The scoring of the chosen items based on a five point scale: 'Most Important' (5); 'More Important' (4); 'Important' (3); 'A Little Important' (2); and 'The Least Important' (1). After analyzing the characteristics of the items in numerical form during the process of standardization of the adopted inventory through trying out and final trying out test method, ultimately, 28-items were found by her to be significant at 0.05 level.
<table>
<thead>
<tr>
<th>S.No.</th>
<th>Dimensions</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>'Power'</td>
<td>1. 7. 12. 16. 20. 25.</td>
</tr>
<tr>
<td>3</td>
<td>'Adventure'</td>
<td>2. 3. 8. 13. 17. 21.</td>
</tr>
<tr>
<td>4</td>
<td>'Social welfare'</td>
<td>5. 10. 11. 19. 24.</td>
</tr>
<tr>
<td>5</td>
<td>'Prestige and Interest'</td>
<td>6. 15. 23. 27. 28.</td>
</tr>
</tbody>
</table>

Table 3.4- Item Numbers in Different Dimensions of Work values.

Items related to five dimensions of principals' work values has been revealed in table 3.4. There is no any item which is negatively worded. It is a self administering tool with instructions written on first page of the questionnaire in which it is emphasized that no items should be omitted and there is nothing right and wrong about these items. There is no time limit and the subjects are requested to answer each item by making a tick mark in one of the alternative and they are also assured that there replies will be keep confidential and will be used only for research purpose.

3.4-3. Principals' Adjustment Scale:

Principal's adjustment for the present study is meant for the adequacy with which the principal manage his interpersonal relations with teachers, students, community, ministerial staff, management and higher authorities. The critical analysis of the concept of adjustment is made to delimit and breakdown the areas involved. In this present study the researcher has delimited the
context of higher secondary schools in to six areas:

i. Teacher.

ii. Students.

iii. Ministerial staff.

iv. Management.

v. Community,

vi. Higher Authority.

For measuring principals' adjustment in context of higher secondary school the researcher has tried his best to find out any available tools for measuring the principal's adjustment. After reviewing all the available test on adjustment it was found that the "Principals' Adjustment Scale" constructed by V. Agrawal is the appropriate tool because both the definition of principal's adjustment and delimitations of areas for in the present study are same which were used by Agrawal in constructing the "Principal's Adjustment Scale" for her Ph.D. work.

Agrawal's "Principal's Adjustment Scale" is designed to measure principals' adjustment to teachers, students, ministerial staff, management, community and higher authorities in context of intermediate college which is equivalent to the higher secondary school in Chhattisgarh and throughout India. After specify the areas of adjustment of principals, she enlisted the items indicating appropriate behaviours related with the problems of each of the areas going through concerning inventories, experts in the fields of education and experiences of several principals which they inculcated during facing up such problems in their real administrative functioning.
The items, collected from various sources were, then, edited and 77-items were selected by her as the preliminary form of the scale for tri-out and item analysis. The scale, thus developed, was a five point scale having five response categories ranging from ‘A’ to ‘E’ which meant strongly agree, agree, indifferent, disagree and strongly disagree. Both positive as well as negative items were included in the scale, so that an agreement with an item would not indicate in all cases only one end of the dimension. The scoring was based on five point Likert type scale designed as: Strongly agree (5); Agree (4); Indifferent (3); Disagree (2); and Strongly disagree (1) for positive items and the direction of items scores was reversed for negatively worded as: Strongly agree (1), Agree (2), Indifferent (3), Disagree (4) and Strongly disagree (5). Hence, the theoretical range of scores was from 77 to 385, the high score indicating greater adjustment.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Dimensions</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>with 'Teacher'</td>
<td>1. 7. 13. 19. 25. 31. 37.</td>
</tr>
<tr>
<td>2</td>
<td>with 'Student'</td>
<td>2. 8. 14. 20. 26. 32. 38.</td>
</tr>
<tr>
<td>3</td>
<td>with 'Ministerial staff'</td>
<td>3. 9. 15. 21. 27. 33. 39.</td>
</tr>
<tr>
<td>4</td>
<td>with 'Management'</td>
<td>4. 10. 16. 22. 28. 34.</td>
</tr>
<tr>
<td>5</td>
<td>with 'Community'</td>
<td>5. 11. 17. 23. 29. 35. 40.</td>
</tr>
<tr>
<td>6</td>
<td>with 'Higher authority'</td>
<td>6. 12. 18. 24. 30. 36.</td>
</tr>
</tbody>
</table>

Table 3.5: Item Numbers in Different Dimensions of Adjustment.

The final form of the scale after analyzing the items by Agrawal and used for this study by the researcher, it consists of 40
items which measure principals' adjustment in six areas of administration of intermediate collages or higher secondary schools. Each dimension of concerning areas consists of seven items except two dimensions namely adjustment with management and adjustment with higher authorities which consisting of six items each. In this scale 20 items are positively worded while other twenty are negatively worded. The table 3.4 shows the dimensions of adjustment along with the item numbers measuring adjustment in each area.

The “Agrawal Principal Adjustment Scale” is a self administering tool. The scoring system is based on a five point Likert type scale designed as: Strongly agree (5); Agree (4); Indifferent (3); Disagree (2); and Strongly disagree (1) for positive items and the direction of items scores was reversed for negatively worded as: Strongly agree (1), Agree (2), Indifferent (3), Disagree (4) and Strongly disagree (5). A sum of all the item scores on the scales range from 40 to 200 indicating lowest adjustment to higher adjustment. The sum of the scores for different dimensions gives the dimensional score for the subject. Thus the scale provides the overall adjustment score as well as dimensional scores.

The reliability of the test was established by employing the split half method and the coefficient of reliability was found by the author as:

i. Uncorrected ______ 0.77

ii. Corrected ______ 0.87

These reliability values are large enough to justify the internal consistency of the scale. It indicates that the scale
measures the principals' adjustment quite accurately. Regarding validity, she made an effort to establish content validity of this scale. The content validity of the scale was thus obtained from the reaction of experts in the field of education, psychologists, and test constructors. Under the light of definition, the items in the scale are found to be having perfect agreement among experts regarding their suitability of measures of Principals' Adjustment Scale.

Subjects are requested to read the instructions carefully. There is no time limit for the scale. It is emphasized that no item should be omitted and that there is nothing 'right' or 'wrong' about the items. The subjects are also assured that their replies for each item by making a tick mark in one of the alternative will be kept confidential and will be used only for the research purpose.

3.5 PROCEDURE OF THE TOOLS' ADMINISTRATION:

Every research involves a series of inter linked steps of research procedure to collect a reliable and valid data leading to the completion of the research task. The researcher has made his best effort to gather most reliable and valid data. For this purpose, the researcher visited mostly all the selected higher secondary schools in the selected district of Chhattisgarh personally and contacted the principals of each institution. As in the present study the sample consisted of principals as well as teachers, the researcher decided to contact principals first of all and to convince them of the utility of the study so that they might allow him to collect data from their
subordinate teachers also. Though, principals of higher secondary school were so busy in their administrative work, the researcher has got full cooperation from most of the principals. They took interest in the problem, discussed it with the researcher, appreciated the tools administered to measure their work values and adjustment and gave some useful suggestions with regard to the present study. They asked their teachers also to cooperate with the researcher.

The data collection work has been done in 2005-‘06. The principals in each institution were given a set of two tools arranged in a booklet form. Another tool “Administrative Effectiveness Scale” was given to the teachers to rate their principals, simultaneously on the same day in same institution. Since all the tools were self administering, the researcher explained to each principal and their subordinate teachers his intention and the way in which they were to respond to the tools. The principals were requested to fill the complete set of the tools and the teachers were requested to rate their principals as objectively as possible. The researcher requested the subjects to complete the work and return it to him on the same day. In the beginning they showed their inability but when they were told that he would have to go to other institutions also for the same work, they cooperated with him willingly. Cooperation of several scholars and teachers in the education department was also sought to collect data from such institutions in rural areas where the researcher found it difficult to approach frequently himself. Before, these persons were assigned the task; they were made to understand thoroughly the nature of the work, actual administration of the tools and other precautions to be taken.
3.6 DATA ORGANIZATION AND STATISTICAL STRATEGY:

The test booklets duly filled up were, then, scored as per scoring procedure laid down for each instrument. The "Principals Work Values Inventory" yielded scores for each principal on the total tests as well as on each of the five dimensions of the test. Likewise, "The Principals adjustment Scale" yielded total adjusting capabilities scores as well as on each of the six dimensions of the test for each principal. Since administrative effectiveness of each principal was rated by the five subordinate teachers, the scores obtained by these five teachers were averaged to get a single score for the principal. In this way after having scored the three scales, the whole of the data were, then, transferred on to a master sheet.

All the hypotheses were tested by using the following statistical techniques:-

1. Analyzing of variance (Two ways ‘ANOVA’).
2. t-test.
4. Multiple Correlations.