CHAPTER - 3
FOUNDATION OF THE RESEARCH AND RESEARCH DESIGN

3.1 Introduction:

Man is always anxious to know and create something new and when a man attempts systematically to satisfy the anxiousness it is called research. The roots of progress in various field of life lie in research. Man always seeks to find truth and research is one of the ways to reach to the truth.

A researcher gives complete definition of a situation. He /She maintain purity in data collections and techniques and precisely collect and arrange the data obtained. Then the data is appropriately analyzed and inferences are drawn by a researcher and guidelines are suggested. In this whole process, research methods play an important role. While showing the importance of a research method, Dr. K.G. Desai says, “Like other functions in life, a researcher must plan for research design because without presumption or preparation the research aim cannot reach to the prescribed goal and energy, time and money are wasted.”

According to Desai (1997), “The description of research design is very much necessary to understand research report. The chapter should be written in such a way so that a reader can clearly understand it and its reliability can be tested.”

Like other researches, an educational research also requires detailed observations. According to Kalinger (1978), “Research means the arrangement, structure and strategy of examining what has been taken for consideration, so that answers to question in research can be obtained and variance can be controlled.” Thus, this chapter refers to research design and methods used in the study. This chapter also discusses on tools and techniques used to obtain statistical findings.

3.2 Origin of subject:

The culture manifests national character and it is the reflection of organizational circles formed collectively by the people. These organizations are the idols of family, religion, literature, education etc. They uniformly
perceive the institutions. It has common features which are descriptive. It separates one group from another and integrates the variables of individual group or organization system. The employees of a school are on the basis of factors like openness, confrontation, trust, authenticity, pro action, autonomy, collaboration and experimentation and the culture of an organization is recognized through its employees.

In today’s times, whether an employee’s respects the feelings, abilities and decision making of others? Whether they face problems and challenges or not? Whether they take steps independently? Whether they show team work or team feelings? Whether they implement innovative ways to solve problems? Whether they make conduct or support people? Whether they accept their mistakes? Whether they obey orders from their seniors? etc… These are the matters that are seen in schools/institutions.

Most people relate leaning with formal education and especially with school. Through this relation is logical we must take into account the extensive area of learning.

In the social perspective of learning an employee is found to be learning about how the employees behave with their colleagues which behavior is acceptable and which is not, laws of group etc. Whereas in the political perspective the employees learn about how to behave with principal and staff, who to ignore and which person to be trusted. Then, the teaching learning process influence the organizational life and behavior of the individuals of an institution.

In schools the factors like innovation, implementation, stabilization, experimentation, mutuality, planning, temporary systems, and competency building etc. work among the employees and becomes responsible for internal and external environment of the institution.

In organizational learning the employees are invited to exchange their views with experts and experienced creative practitioners and are encouraged to attend external programs. They are encouraged to mutually share their experiences and other things with the employees of other organizations, they are also encouraged to conduct experiments and to implement innovation and to organize periodical meetings. These things are
observed or experienced in schools/institutions. The learning process also impacts on various levels (middle, lower and clerical) of a school because their laws, characteristics and culture may be different. The type of organization also impacts along with the level of organization. For example, Grant in aid school and non-grant in aid schools have different learning environment and work culture.

Therefore, the researcher had decided to conduct a comparative study of organizational culture and organizational learning in grant in aid and non-grant aid schools of Gujarat to find out types of effects and changes keeping in mind the organizational types (grant in aid and non-grant in aid schools) and levels (middle, lower and clerical) which create impact on organizational culture and organizational learning.

3.3 Field of Research:-

In every field of life, a research helps a man in every walk of life; and therefore the researches are conducted in all fields of life. Researchers are conducted in fields like education, medicine, agriculture, health, etc. various diverse researches are conducted in education field.

In a survey by Sharma and others(1973)³, it was found that many researches were conducted in education field during 1988 to 1992 in India, out of which the investigator has presented 37 researches in various field of education which can be seen below.

1) Language education,
2) Education philosophy,
3) Education sociology,
4) History of Education,
5) Education Economics,
6) Education psychology,
7) Mental health,
8) Cognitive processes,
9) Social process,
10) Motivation,
11) Guidance and counseling,
As this research is based on organizational culture (openness, confrontation, trust, authenticity, pro action, autonomy, collaboration and experimentation) and organizational learning (innovation, implementation, stabilization, experimentation, mutuality, planning, temporary systems, and competency building) of the employees of grant in aid and non-grant in aid schools, therefore its field is educational psychology.
3.4 Type of Research:

In a research, scientist method is used which relates to the appropriate, objective solution of a meaningful problem of the field. Its form or type changes according to the nature of questions related to the problem. Any type of research is determined on the basis of the problems originating and their processes.

There are mainly three types of research.

1) Basic Research
2) Applied Research
3) Action Research

1. Basic Research

This type of research is conducted to develop broad theories and rules. Here the purpose of practical usage is secondary. In this the learning principles, Motivation principles and principles of idea constitution are presented as examples.

2. Applied Research

The main aim of such type of research is to apply theoretical principles or to nurture the knowledge. If the inferences of basic research become useful in life practices, this role is provided by the applied research.

According to John W.Best, “The purpose of applied research is to improve production or process. It tests theoretical concepts in real-problem situations."

3. Action Research

When an individual or groups make systematic study to obtain answers to unsolved questions, it called Action Research.

This research is based on organizational culture (openness, confrontation, trust, authenticity, pro action, autonomy, collaboration and experimentation) and organizational learning (innovation, implementation, stabilization, experimentation, mutuality, planning,
temporary systems, and competency building) of educational institutions (grant in aid and non-grant in aid) therefore this research is a applied type of research.

3.5 Scope and Sample of the research:

It becomes necessary in a research study to clarify which scope can be applied and which sample can be selected from the scope of the study. If no clarification is made about a scope, it becomes difficult to select what and which type of sample is to be selected. Therefore, before conducting a research, it is necessary to select scope of the study.

“Population means the aggregate of the totality of objects or individuals regarding which inferences are to be made in a sampling study. It means all those people or documents etc. who are proposed to be covered under the scheme of study.”

“A population is any group of individuals that have one or more characteristics in common that are of interest to the researcher.”

This study includes the whole state of Gujarat, therefore the population of the study is the employees (middle, lower and clerical cadre) of all three types working during the academic year of 2011-12 in Grant in aid and non- grant in aid Gujarati medium secondary and higher secondary schools of Gujarat state.

The criteria of the scope are as follows:

<table>
<thead>
<tr>
<th>Area</th>
<th>State of Gujarat (East Gujarat, West Gujarat, North Gujarat, South Gujarat and Central Gujarat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium of instruction</td>
<td>Secondary and higher secondary schools with Guajarati medium as the medium of the instruction.</td>
</tr>
<tr>
<td>Institution/School</td>
<td>Grant in aid and non-grant in aid</td>
</tr>
<tr>
<td>Year</td>
<td>2011-2012</td>
</tr>
<tr>
<td>Level</td>
<td>Middle, Lower and Clerical cadres.</td>
</tr>
</tbody>
</table>
Sample:-

In any research, the selection of a representative sample carries great importance, because it is difficult to study the whole scope. Therefore a generalization is drawn about a scope by studying small parts of the whole scope. Thus, a sample is a small representative group which the characteristics of the whole scope.

According to Singh, “Perhaps the most important factor in determining the generalisability of results is the selection of the sample used in collecting the research data.”

According to Uchhat, “Sample is a process of selecting a small representative part to predict in accordance with the objectives of a study.”

A part of certain units taken from a whole is called sample. A sample of subjects representing the whole scope is selected and research process is conducted on it, and its results apply to the whole scope.

Selection of a sample helps in better use of time, energy and money. If a sample is representative, control can be maintained and a deep and detailed study can be conducted. It helps in expediting the process and research design can be enriched. Thus, sampling is an important factor in a research.

The following methods are used for sample selection.

- Random Sampling method
- Systematic Sampling method
- Stratified random method
- Dual sample method
- Cluster method
- Sequential method
- Intermediate method
- Intentional Sampling method
- Accidental Sampling method
- Multi-step Sampling method, etc.
Among the various sampling methods cited above, the investigator had selected intentional and random sampling method keeping in mind the objective of the study, because the sampling technique used in the study is suitable to the type and objectives, and moreover it is intentional.

In this research, the readiness of the respondent who gave responses could create direct impact, so the investigator had made contacts with various schools and those schools were selected in the sample which had given their consent to join in his study. Thus the districts and schools were selected by intentional method.

From the selected schools the respondents were divided into three levels according to the level of management.

Among the respondents included in the level only those were selected who wanted to join in the study to give responses in the study.

Thus, the respondents were selected by stratified intentional sampling method.

Sample selection:-

This study was confined to the employees of grant in aid and non-grant in aid secondary and higher secondary schools of Gujarat state; therefore data of such schools were obtained from Secondary Education Board, Gandhinagar from which districts and schools were selected by intentional method. The state of Gujarat was divided into five geographical areas and was stratified into 5 parts which included East Gujarat, West Gujarat, North Gujarat, South Gujarat and Central Gujarat and schools were selected from these parts. Four schools from each of these areas were selected. Among these 20 schools 10 schools were grant in aid schools and 10 schools were non-grant in aid schools. From these selected schools 15 employees (5 from middle, 5 from lower and 5 from clerical level) were selected from each of the schools. Thus the sample of the study consisted of total number of 300 employees.

From the selected schools the subjects were divided into three levels according to the level of management.
Table 3.1
Sample Distribution

<table>
<thead>
<tr>
<th>Management Level</th>
<th>Middle Level</th>
<th>Lower Level</th>
<th>Clerical Level</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grant in aid schools/Institutions</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>Non-Grant in aid schools/Institutions</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>150</td>
</tr>
<tr>
<td>Total no. of employees</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>300</td>
</tr>
</tbody>
</table>

Table 3.2
Detail Sample Distribution

<table>
<thead>
<tr>
<th>Zone</th>
<th>Types of school Organization</th>
<th>Level of Management</th>
<th>Employees from every school/organization</th>
<th>No. of school</th>
<th>Total</th>
<th>Total Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Gujarat</td>
<td>Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>West Gujarat</td>
<td>Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>North Gujarat</td>
<td>Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
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<td>5</td>
<td></td>
<td>10</td>
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<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Grant in aid (2 schools)</td>
<td>Middle</td>
<td>5</td>
<td>2</td>
<td>10</td>
<td>30</td>
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<tr>
<td></td>
<td></td>
<td>Clerical</td>
<td>5</td>
<td></td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
3.6 Research Method:

Research method is based on shape and type of content. Research method and content, both are mutually related. Various research method used are shown below:

- Historical research method
- Survey method
- Co relational method
- Developmental study method and
- Experimental study method

During planning process a research has to think about a suitable method. In fact, it is a serious decision on which the success of a research depends.

“Survey has its usefulness both in lending to the formulation of hypothesis and at a more advanced stage in putting them to the test. Their function in a given research depends on how much is already known about the subject to on the purpose for which information is required.”

By way of survey method, attempts are made to find out situation or estimates of various fields. This method gives an idea of past and current situation, from which future predictions can be made. Moreover, when
different aspects of a study are to be studied comprehensively, the survey method becomes useful.

This study aimed at studying organizational culture (openness, confrontations, trust, authenticity, pro action, autonomy, collaboration and experimentation) and organizational learning (innovation, implementation, stability, experimentation, mutuality, planning, temporary system, and competency building) in grant in aid and non-grant in aid schools, so the survey method was found to be more effective. Moreover, the investigator has selected the survey method so that future predictions and programs can be determined from the obtained results.

Steps followed for Survey:-

1. **Planning:-** To know about organizational culture and organizational learning in grant in aid and non-grant in aid schools the researcher has prepared a research design through the conceptual matters and variables of the basic concept with the levels of management.

2. **Selection of appropriate tools:-** To achieve the objectives of the research the researcher had translated a standardized test in to Gujarati languages and its validity and reliability were tested to know about the organizational culture and organizational learning.

3. **Sample selection :-** For sample selection, a systematic procedure was followed in the study.(See sr. no. 3.5 page - 106 )

4. **Data collection:-** Data was collected with help of selected tools of the study.

5. **Data analysis and Interpretation:-** The data analysis was done by computing mean, standard deviation and t-value and comparisons were tested at 0.05 and 0.01 levels.

3.7 Tool selection:

According to Uchat, “The tool to obtain data according to the objectives during the research process is called research tool.”

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For a comparative study of organizational culture and organizational learning in grant in aid and non-grant in aid educational institutions of Gujarat, data gathering is an important step. The quality, usage and inferences of the whole study depended on the trueness of the data collected. Therefore the tool used for data collection should be suitable to the study subject and should be errorless. For data collection in research field generally the following tools are used.

- Interview
- Rating Scale
- Questionnaire
- Identification list
- Opinionnaire

In this research the investigator had selected the OCTAPACE profile developed by Uday Pareek to know the organizational culture of educational institutions. The OCTAPACE profile consists of 40 items which provides the emotional profile of an institution in terms of 8 values which are openness, confrontations, trust, authenticity, pro action, autonomy, collaboration and experimentation. The investigator has also used ‘OLD’ (Organizational Learning Diagnostics) developed by Uday Pareek to know the organizational learning. Both these standardized psychological (eight dimensional) tools were available in English version and therefore, the tools were translated into Gujarati language and were used after the suggestions and guidance of the English, Gujarati and Psychology experts. The test was selected on the basis of validity, reliability and norms of the test.

**Organizational Culture: (Octapace Profile)**

Prof. Udai Pareek had developed OCTAPACE Profile in 1975, to study the ethos of a work group. OCTAPACE profile is a 40 item instrument that gives the profile of organization’s ethos according to eight values. These values are openness, confrontations, trust, authenticity, pro action, autonomy, collaboration and experimentation. The tool contains two parts. In Part I values are stated in terms of statement from 1 to 24 (three statements of each of the eight values) and the respondent is required
to check (on a 4-point scale) how much each item is valued in his organization. Part 2 contains sixteen statements on beliefs, two each for eight values, and the respondent checks (on a 4-point scale) how widely each of them is shared in the organization.

In addition to checking the items on the extent of their importance or sharing in the organization, the respondent can also check how much they should be valued, or how much the beliefs are useful. Thus either present as well as desired or ideal profiles can be obtained.

Above tool was translated into Gujarati and were used after suggestions from the experts of psychology. The tools were selected on the basis of validity & reliability of the tests.

**Reliability**

For the measurement of organizational culture and was used in which the reliability of the standardized tool was found to be Split-half reliability of the OCTAPACE profile on a sample of 135 college/university teachers was found to be 0.81 (Mathur, 1991). Alpha coefficient for a group of 153 managers was found to be 0.90.

To discover the internal consistency of the instrument, each of the forty items was correlated with the total score for a group of 102 managers from three steel plants. Out of forty, twenty-seven items had correlations that were significant at 0.001 level, four at 0.01 level, and two (numbers 19 and 35) at 0.05 level. Six items (numbers 12, 22, 25, 31, 36 and 40) had zero correlations, and one (14) had a negative, but insignificant, correlation with the total score. The five items with zero and negative correlations are for the aspects of openness (25), authenticity (12), autonomy (14, 22), collaboration (23) and experimenting (40). It is interesting to note that all these items are among the eleven items that are worded negatively. On the whole, item-total correlations provide satisfactory results.

To test the effect of social desirability on the items, analysis of Kurtosis and Skewness was carried out on all forty items, eight aspects, and the total OCTAPACE profile of a sample of 102 managers from three steel plants. Only two items (numbers 15 and 26) had higher
Kurtosis, the first has leptokurtic and the second, platikurtic. Confrontation and collaboration also were leptokurtic. Skewness was satisfactory except for items 29, 33 and 34, all of which were negatively skewed. On the whole, the indices were acceptable.

In this research the reliability of the test was found out which was found to be Split half reliability of the OCTAPACE profile on a sample of 50 secondary and higher secondary school middle, lower & clerical level of employees were found to be 0.79.

Validity

Validity was indirectly tested by comparing the scores from three departments with their ranking by two judges for their effectiveness. The judges rankings were independently done and agreed with one another. Tests showed no difference between the first- and second-ranked departments or between the second – and third – ranked departments. However, there were significant differences between he first- and third – ranked departments, the former having a higher mean than the latter on the following aspects: confrontation (significant at the 0.01 level), collaboration (0.04) level, proaction (0.0048 level) and openness (0.10 level). Validity needs to be further tested and established.

Norms

In the selection of the standardized test, its norms were also considered which are shown in Annexure 5. The norms of the test used in the research found out which can be seen in Annexure 7 to 9.

Organizational Learning: (OLD-Organizational Learning Diagnostics)

OLD has been formulated by Udai Pareek, in 1988. It measures the organizational learning. It has 23 items. Respondents are required to rate each item, on a 5 – point scale, for the value and frequency of its practice is the respondents organization.

These mechanisms are grouped into three subsystems acquiring and examining (the innovation phase, consisting of 8 mechanisms), retaining and integrating (the implementation phase, consisting of 7
mechanisms) and the stabilization phase, (using and adopting consisting of 8 mechanisms).

These subsystems of OLD are present in an organization in varying degrees and are inter-related with a feedback loop. The more frequently these mechanisms are used, the stronger is the organizational learning.

Furthermore, all twenty three items can be grouped into five categories of OL mechanisms experimentation and flexibility, mutuality and team work contingency and instrumental planning, temporary systems and competency building.

For responses on a tool, the questions can be asked in group or individually. The research tool was translated into Gujarati language and used in the present study.

**Reliability**

For the measurement of organizational learning and was used in which the Guttman split-half reliability of the standardized to was found to be 0.36 (N = 20). Equal length and unequal length Spearman Brown was found to be 0.60 and 0.67 respectively (N = 20), whereas for another group (N = 20) equal and unequal length Spearman Brown was found to be 0.99 and Guttman split-half was found to be 0.98 respectively.

In the present research measurement of translated tool (organizational learning) was used in which the Guttman split-half reliability of the this tool was found to be 0.35 (N = 50). Equal length and unequal length Spearman Brown was found to be 0.62 and 0.66 respectively (N = 50), whereas for another group (N = 50) equal and unequal length Spearman Brown was found to be 0.97 and Guttman split-half was found to be 0.99 respectively.

**Validity**

Validity was not available.

**Norms**

In the selection of the standardized test, its norms were also considered which are shown in Annexure 6. The norms of the test used in the research found out which can be seen in Annexure 10 to 12.
3.7.1 Scoring/Rating process:

3.7.1.1 Organizational Culture:

To make scoring easier an answer sheet is provided. From the key, the item marked with an asterisk are first reserved so that 4 becomes 1, 3 becomes 2, 2 becomes 3 and 1 becomes 4. This makes all items unidirectional. The rows are then added. The eight rows represent the eight aspects (OCTAPACE) in the same order. The scores on each aspect range from 1 to 20. In a group; participants can be themselves scored on their completed answer sheets.

The grading of the scores of each statement can be given as 1, 2, 3 or 4. Each dimension has five statements. Therefore, minimum for 5 or maximum scores can be obtained.

Table : 3.3

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Statement No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openness</td>
<td>1  9  17  25* 33</td>
</tr>
<tr>
<td>Confrontation</td>
<td>2 10 18 26* 34</td>
</tr>
<tr>
<td>Trust</td>
<td>3 11 19 27 35*</td>
</tr>
<tr>
<td>Authenticity</td>
<td>4 12* 20 28* 36</td>
</tr>
<tr>
<td>Pro action</td>
<td>5 13 21 29 37</td>
</tr>
<tr>
<td>Autonomy</td>
<td>6 14* 22* 30* 38</td>
</tr>
<tr>
<td>Collaboration</td>
<td>7 15 23* 31* 39</td>
</tr>
<tr>
<td>Experimentation</td>
<td>8 16 24 32 40*</td>
</tr>
</tbody>
</table>

3.7.1.2 Organizational Learning

The scoring sheet is self-explanatory and is used to score individual responses. The twenty three items are first grouped in three columns, representing the three sub-systems. Five other columns, which represent five categories of mechanisms, include the items that relate to the specific categories. The score for each item is written on the scoring sheet in the blank adjacent to the item number. In the first three columns, each item appears only once. In the other five columns an item may
appear more than once. The scores in each column are summed and each total is written. Where indicated each total is then multiplied by 25, and the figure is written in the appropriate blank. Each product is then divided by the number that is printed beneath it and the quotient written on the POLI (Potential for organizational learning Index) line. Multiplying by the fraction will make the scores comparable for all columns and each column score will range from 0 to 100. This system will allow the scores of all respondents to be averaged with a resulting range of 0 to 100. The higher the score, the higher potential of the organization for learning of that dimension.

**Scoring Sheet**

Table 3.4 shows scoring sheet for POLI (Potential for Organizational Learning Index)

**Table 3.4**

**Scoring sheet for POLI**

**(Potential for Organizational Learning Index)**

<table>
<thead>
<tr>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
<th>Item no. &amp; Rating</th>
</tr>
</thead>
<tbody>
<tr>
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<td>9</td>
<td>16</td>
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<td>1</td>
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<td>9</td>
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<td>Multiply total by 25</td>
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<td>Divide answer by 25</td>
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</table>

POLI
POLI (Potential for Organizational Index)

The blanks against each statement in table 3.4 will be provided grading. In the first three columns (3 stages) every response of the respondent will be noted once.

In the next month five columns (under mechanisms) some of the answer will be recorded more, than once. For example, must be recorded rating for statement 1 in three of those columns (Experimentation, Mutuality and Competency Building).

After completing the blank, total the numbers the respondent have entered in each column on the total line multiplying each total by 25 and product is to be written on the next column/line.

Then, each multiplication will be divided by the number written under it and the remainder will be obtained.

3.8 Data Collection:

Firstly, the employees of the educational institutions (grant in aid and non-grant in aid) selected in the sample were individually contacted and permission for the study was obtained. There after 15 employees (five from each of the school) of grant in aid schools and 15 employees (five from each of the school) of non-grant in aid schools were selected according to various levels (middle, lower and clerical cadre) of management. These employees were ensured that their responses would be used only for the study and would be kept confidential. Then they were given instructions about the test and these standardized tests were administered on all the subjects of the sample. Then, scoring was done according to respective manual of the tests. Thus, data was collected by administering the tests on 300 employees of 10 grant in aid and 10 non-grant in aid schools of the five areas of Gujarat.

3.9 Statistical Analysis of the Data:

The score obtained on various variables in the study were statistically analyzed. The whole analysis was done through computer. In this study the statistical analysis of the acquired data was done with the help of t-test. In
terms of type of organization two groups of grant in aid schools and non-
grant in aid schools were formed. In terms level of management the
comparisons between middle and lower level, between middle and clerical
level and between lower and clerical level of both groups were conducted
and statistical analysis was conducted through t-test and findings were
drawn.

3.10 Conclusion:

This chapter relates to tool used in the study, sample selection,
data collection process and statistical technique. The next chapter relates to
discussion on data analysis and interpretation.
References


5. Ibid, P. 76.


