3.1.0 Introduction

After the selection of the problem and formulation of hypothesis, the next step is to prepare a research design. The ultimate success of a research immensely depends upon the design of the study. It avoids aimless wandering, saves time and economize the efforts of researcher. It includes sampling, research strategy, tools and techniques for collecting the evidence, statistical tools and procedure employed to gather data. The procedure of any research is determined by objectives as they provide a framework within which the goals of research are to be achieved and they differ from research to research. Facts are like beads, they require string to hold them together to connect them. But if there is no string, if there is no unifying idea, then even the most distinguished authorities cannot help producing unsatisfactory work. Research requires expertise and involves gathering new data from primary or first hand sources or using existing data for a new purpose. Research is carefully recorded and reported. It is characterized by patience and unhurried activity. Research has been defined as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly ultimate control of events. “It is a systematic attempt to obtain answers to meaningful questions about phenomena or events through the application of scientific procedures” (Koul 1994). Although research is scientific and as such is not satisfied with isolated facts, but seeks to integrate and systematize its findings. It is based upon observable experience or empirical evidence. Research demands accurate observations and description. It involves gathering new data from primary or first hand sources or using existing data for a new purpose. Although researcher activity may at times be some what random and unsystematic, it is more often characterized by carefully designed procedures, always applying rigorous analysis. Although trial and error are often involved, research is rarely a blind, shotgun investigation-trying something to see what happen. The research is essentially a creative activity. The first step in the research process is the choice of a suitable problem for investigation. Research starts with a felt
difficulty. It takes place when there is a problematic situation and a need to solve the problem.

Among the sources of problems one has to be thoroughly acquainted with the literature in the field of one’s interest. The study of professional literature will not only expose a researcher to pressing research problems but will suggest the way in which research is conducted. Research reports, bibliographies of books and articles, periodicals, research abstracts, years books, dictionaries and research guides suggest areas of need research. Some specialized sources as the encyclopedia of Educational Research, Dissertation Abstracts International, The Handbook of Researcher, on teaching Psychological Abstracts and similar publications provide rich sources of problems. The publications like “Research Needs in the Study of Education (1968)” and the “Third Indian Year book of Education,” “Educational Research (1968)” are exclusively devoted to identifying and bringing into sharp focus the varied research needs, in the different areas and aspects of Indian education. All published research report generally conclude by making suggestions about further research. Such suggestions help a researcher to considerate how the procedures employed could be adapted in solving other problems, or how a similar study could be undertaken in a different field or subject area or with a different sample or subjects. That is why a vast store of educational literature may help the creative problem-solver to reach his or her objectives more effectively.

The research problems in the field of education all over the world are numerous. For the study and solution of the problems, a research worker has to follow a well-planned systematized procedure to reach at satisfactory results and well regulated order of research steps.

A vast store of educational literature was studied by the investigator that included Encyclopedia of Educational Research, The Review of Educational Research, Journals of Educational Research, Doctor's and Master's level Thesis in Education and International year books for the selection of the topic. After the study of available material and sources, the present problem was selected for detailed study because selecting a specific problem and trying to find out its solution for study is essential if it is to be saved from becoming a heap of jumbled ideas. The problem was titled as
“COMPARISON OF MUSIC CURRICULUM AND SUPPORT SYSTEM IN INSTITUTIONS FOR HIGHER EDUCATION IN PUNJAB”. The different terms of the problem were defined and the parameters for comparing the curriculum and support system and infrastructure in Higher education were fixed. After studying the related literature, the study was delimited according to the time and sources available with the investigator. “Practically all human knowledge can be found in books and libraries. Unlike other animals that must start a new with each generation, man builds upon the accumulated and recorded knowledge of the past” Best, J.W. (1977).

3.2.0 Methods

By method, we mean a systematic approach towards a particular phenomenon. The method by which man from the earlier times sought answers to his problems can be classified under the categories like authority, tradition, experience, deductive reasoning, inductive reasoning and scientific methods. Research methods are of utmost importance in a research process. Methodology makes the most important contribution towards the enrichment of any study. So, in the planning process, the researcher has to decide about research method that he or she could use in solving his or her research problem. “Methods of research, according to Good, Barr and Scates, may be classified from many points of view; the field to which applied; education, history, philosophy, biology, etc; purpose: description, prediction, determination of causes, determination of status, etc; place where it is conducted: in the field or in the laboratory; application: pure research or applied research; data gathering devices employed: tests, rating scales, questionnaires, etc; nature of data collected; objective, subjective, quantitative, qualitative, etc; symbols employed in recording, describing, or treating results: mathematical symbols or language symbols; forms of thinking: deductive, inductive etc; control of factors: controlled and uncontrolled experimentation; methods employed is establishing casual relationships: agreement, difference, residues and concomitant variation” (Koul, 1984).

Research methods when classified in the above manner give rise to a comprehensive list with much of overlapping among the different methods. To undertake any research it is necessary to design and plan the procedure and the method
to be used. In research there are numerous methods and procedures to be applied. But it is the nature of the problem under investigation which determines the adaptation of a particular method and procedure. Procedure helps the investigator to achieve in economy in time and coordination of efforts. The selection of research method to be used is of utmost importance in the research process. Methods describe various steps of plan of attack to be adopted in solving a research problem. There are three major methods of conducting research like Historical method, Experimental method and Descriptive method.

### 3.2.1 Historical Methods

Historical method is a method of investigation to discover, describe and interpret what existed in the past. The main purpose of this method is to arrive at an accurate account of the past so as to gain a clear perspective of the present. It attempts to establish facts to arrive at conclusions concerning past events. It is usually accompanied by an interpretation of those events and of their relevance to present circumstances and what might happen in the future. This knowledge enables us, at least partially, to predict and control our future existence. It is not based upon experimentation, but upon reports of observation which cannot be repeated. In historical method, the data are mainly traces of past events in the form of various types of document, retics, records, and artifacts having direct or indirect impact on the event under study. It enables us to avoid mistakes of the past.

### 3.2.2 Experimental Methods

Experimental method is based upon the law of the single variable. This method provides for much control and therefore, establishes a systematic and logical association between manipulated factors and observed effects. The researcher defines a problem and proposes a tentative answer or hypothesis. He tests the hypothesis and accepts or rejects it in the light of the controlled variable relationship that he has observed. It provides a method of investigation to derive basic relationship among phenomenon under controlled condition. Although experimentation is the classic laboratory method of psychology, physics, chemistry, biology and other sciences, it has been effectively used in non-laboratory, educational settings such as classrooms.
3.2.3 Descriptive Method

Descriptive method of research describes records, analyse and interpret conditions that exist. It involves some types of comparisons and contrasts and attempts to discover relationships between existing non manipulated variables. Descriptive research studies are designed to obtain pertinent and precise information concerning the current status of phenomenon and whenever possible to draw valid conclusion from the facts discovered. They are restricted not only to fact finding but may often result in the formulation of important principles of knowledge and solutions of significant problems concerning local, state, national and international issues. For the sake of convenience, descriptive studies are classified in the following three categories:

I. Survey Studies
II. Inter-relationship Studies
III. Developmental Studies

Out of these categories of descriptive method, the investigator selected survey studies, which is most suitable for the study under investigation.

Survey studies are conducted to collect detailed descriptions of existing phenomenon with the intent of employing data to justify current conditions and practices or to analyse interpret and report the status of an institution, group or area in order to guide practice in the immediate future, but also to determine the adequacy of status by comparing it with established standard.

Every investigator in the field of research has to adopt certain methods, tools and techniques for successful completion of his or her investigation. Based on specific research objectives described earlier, the study attempted to collect data on the nature of curriculum, teaching-learning process, support system and budget allocation. For this purpose, the following objectives of the study were kept in mind:

1. To compare the curriculum of music as a subject of Guru Nanak Dev University, Amritsar, Panjab University Chandigarh and Punjabi University Patiala.
2. To compare the teaching-learning process of theory and practical separately in Government colleges, Aided Colleges, Un-aided colleges and in all the three universities of Punjab.
3. To compare human resource in Government colleges, Aided colleges, Un-aided colleges and in all the three universities of Punjab.

4. To compare budget allocation for Music in Government colleges, Aided colleges, Un-aided colleges, and in the three universities of Punjab.

5. To compare the infrastructure in Government colleges, Aided colleges, Un-aided colleges and in the three universities of Punjab.

The analysis of the above mentioned objectives of the study reveals that the data about curriculum, support system, infrastructure, teaching-learning process and budget allocation for music departments in institutions of higher education in Punjab were to be inquired. For this purpose, the opinions of the principals, lecturers and college students were decided to be adopted.

The historical method was not applicable because “it attempts to establish facts so as to arrive at conclusions concerning past events” (Koul 1984). Moreover this method of investigation is to discover, describe and interpret what existed in the past. The main purpose of this method is to arrive at an accurate account of the past so as to gain a clear perspective of the present. It is usually accompanied by an interpretation of those events and of their relevance to the present circumstances and what might happen in the future. This knowledge enables us to predict and control our future existence. Similarly experimental method is also not a precise method of research in the field of education because of “the complex nature of the human beings and problem of controlling the extraneous variables” (Koul, 1984). Therefore “descriptive research method was decided to be applied for the present study because descriptive research studies are designed to pertinent and precise information concerning the current status of phenomenon and whenever possible, to draw valid general conclusion from the facts discovered” (Koul 1984). The descriptive studies are classified in three categories like survey studies, inter-relationship studies and developmental studies. Out of these categories of descriptive method, the investigator selected survey studies because it is the most suitable for the study under investigation. Survey research is applied through the methods of personal interviews, mailed questionnaires and personal discussions besides indirect oral investigation. “It has the advantage of wide scope in the sense that a large volume of information can be controlled from a very large population”
(Kerlinger, 2004). The survey method is more realistic than the experimental method as it investigates phenomenon in their natural setting and it affords flexibility and versatility during the early stages of investigation for the study. The quantitative approach is narrowly focussed and useful only for a set of hypothesis or research questions. The survey research information is accurate within sampling error, of course. The surveys are almost ubiquitous. ‘Surveys are concerned with the collection of information from a specialized target population i.e. a defined group of people in whom interest is expressed. Although questionnaire instruments are frequently used in research employing a survey strategy, yet other methods like interviews, observations and documentary analysis may be employed’ (Taylor, 2008). Therefore it was decided to collect the data through both quantitative and qualitative approaches to be benefited from both the techniques and to become free from the limitations also. In order to achieve this evaluation was done keeping in view the available physical facilities like teaching and non-teaching staff, teaching-learning process, availability of infrastructure and budget for Music departments.

3.2.4 Quantitative Approach Method
The quantitative data for the study was collected with the help of tools namely:-

(1) Questionnaire to gather information from lectures.
(2) Questionnaire for principals of the concerned colleges.
(3) Questionnaire for the students.

These tools were developed by the investigator under the guidance of the supervisor for the specific purpose. These tools were administered to the principals of the colleges to which they belonged, music departments to which teachers belonged, the teachers and students of the colleges and universities.

3.2.5 Qualitative Approach Method
The qualitative data was collected through some open ended questions out of the three above mentioned tools of the study viz.

(a) Questionnaire to gather information from teachers and the students.
(b) Questionnaire for principals of concerned institutions.
Further, the investigator also collected qualitative information through observation and informal discussion with the lecturers, non-teaching staff of music departments and students of colleges and universities.

3.3.0 Research Design

An educational and scientific problems can be resolved only on the basis of data. A major responsibility of the researcher was to set up a research design capable of providing the data necessary for the solution of the problem. The compactness of research work makes it impossible to say that one aspect is more crucial than the another. But collection of data is very important in conducting research, because no solution can be more adequate than the data on which it is based. The present study falls under the domain of normative survey as it extends to study the existing course in music from B.A-I to M.A-II in music instrumental and music vocal in the prevailing conditions. By the term normative survey, here we mean, that type of research which proposes to ascertain what are normal or typical conditions or practices at the present time. The investigator in this study had tried to find out exactly the comparison of music curriculum, support system and budget allocation of three universities. For this purpose, the music syllabi of the three universities of Punjab viz., Guru Nanak Dev University, Amritsar, Panjab University Chandigarh and Punjabi University Patiala were collected and studied to arrive at a comparative picture of T.D.C part I, II, III, M.A part I, II music vocal and instrumental courses. The syllabi of all the three universities, G.N.D. University Amritsar, Panjab University Chandigarh and Punjabi University Patiala were discussed verbally with the experts and teachers teaching at that level and opinions of the experts were solicited. The investigator had to go through the syllabi of all the classes from B.A I to M.A II in music instrumental and music vocal. First of all the investigator prepared the list of commonalities in the syllabi (list attached in appendix I).

3.4.0 Tools

For the success of each and every type of research, certain instruments are needed to gather new facts or to explore new fields. The instruments used as means are called tools. Different kinds of research tools which are used in education research are:
3.4.1 Inquiry Forms

These are the class data gathering devices which make use of properly prepared proformas for getting information about certain phenomenon under study. These devices are questionnaires, opinionnaires, schedules, checklists and score cards.

3.4.2 Inventories

Inventories are instruments that attempt to take stock of one or more aspects of an individual’s behaviour rather than to measure in the useful sense. Unlike test, they do not require subjects to perform at their maximum level, but merely ask for information about their typical behaviour. These are personality inventories, interest inventories and information inventories.

3.4.3 Scales

Scales are specifically used to measure data qualitatively. These are often prepared to find or assess different psychological aspects of the individual’s behaviour-both verbal and non-verbal, attitudes, personality traits, values, social distances etc. These scales are like achievement tests, aptitude tests, sociometric tests, personality tests, situation tests, attitude scales, rating scales, social distance scales and value scales.

3.4.4 Other Techniques

A rich supply of other devices still remains for being explored for the research purpose. Other techniques, which can be utilized for measurement or collection of data, are interviews, observations, experimentation and surveys.

Of all the tools discussed, the investigator used inquiry forms i.e. questionnaire as a tool for the research purpose. It is a device to obtain answers to questions by using a form, which the respondents fill in themselves. It contains a systematically compiled and organized series of questions that are to be sent to the population sample under study in order to get the required information. This tool is useful for gathering data by using qualitative or quantitative technique. It can be well exploited to yield the requisite information in an exquisite manner if it has been prepared well and administered to the subject in a properly planned manner.
3.5.0 Selection of Tools

The objective of the present study was to collect information about the curriculum and infrastructural facilities provided to music departments.

A suitable and self-made questionnaire was prepared with the help of supervisor to collect information regarding all the aspects i.e. curriculum, teaching-learning process, living infrastructure and non-living infrastructure and budget allocation provided to the music departments for the purpose. Eight questionnaires in total were prepared. Out of these eight questionnaires, six questionnaires were prepared for teachers teaching the concerned classes and one questionnaire was prepared common for teachers and students regarding infrastructure and support system and eighth questionnaire was prepared for the heads of the institutions regarding the budget for music departments. In a questionnaire, ten variables were put viz. the age of teachers, their total teaching experience, name of universities to which they belong or teach, status of their institution whether government, aided or unaided, year of establishment of the college in which they teach, number of years teaching presently in that college, mode of teaching whether music vocal or music instrumental, position in the staff-whether lecturer, or senior lecturer, employment status of the teacher whether full-time, adhoc or on part-time basis and last of all qualification of teacher whether M.A, NET clear, M.Phil or Ph.D.

3.6.0 Sampling Technique for the Study

3.7.0 Sampling

The process of selecting a part as a basis for an estimate of the total is known as sampling. Most of the education phenomenon consist of a large number of units. It would be impracticable, if not possible, to test, to interview or observe each unit of population under controlled conditions in order to arrive at principles having universal validity. The whole group from which the sample is drawn is technically known as universe population and the group actually selected from the universe for the study is known as sample. The sample is taken to represent population. The conclusion are drawn and generalization can be made about the whole population based on an examination of some part of whole. Sampling procedure provide generalizations on the
basis of relatively small proportion of the population. “Sampling is the process by which a relatively small number of individuals or measures of individuals, objectives or events is selected and analysed in order to find out something about the entire population from which is was selected” (Koul, 1984).

3.7.1 Random/stratified Sampling

“Random sampling is that method of drawing a portion (or sample) of a population or inverse so that all possible samples of fixed size have the same probability of being selected” (Kerlinger, 2004). It is the form applied when the method selection assures each individual or unit in universe an equal chance of being chosen. Moreover it is free from bias not affected by the choice of the researcher. Thus it is to make sure that the sample taken at random provided each and every item equal chance to be represented on it. However, when a population is divided into strata and random sample from each strata is taken, this is referred to as stratified random sampling technique.

3.7.2 Sample Size

The size and technique of the sample selection is an important problem to be decided under sampling. This is because the size has a direct bearing upon reliability, time constraint and administration of survey. Large samples are generally hard to manage and are unfit for detailed study, but they may be essential for representativeness and higher reliability. According to Patron, “An optimum sample in survey is one which fulfils the requirement of efficiency, representativeness, reliability and flexibility” (quoted from Bajpai, 1972). The scientific method of the mathematical theory of probability in its principle of scientific regularity, lays down that moderately large number of items, chosen at random from a large group, on the average, possess the characteristics of a large group. If the sampling is done, after observing all codal formalities, the sample so selected, in all probability will have the characteristics of the large group. To find out the sample size for this study a pilot stratified random sample of colleges and universities was used.
3.7.3 Sample Design

Punjab state and union territory Chandigarh has a total number of eight universities i.e. GND University Amritsar, Panjab University Chandigarh, Ph. University Patiala, Baba Farid University for Health Services, Faridkot, PTU Jalandhar, LP University Jalandhar, Punjab Agricultural University Ludhiana, Thaper College of Engineering and Technology Patiala a Deemed University. Three universities namely Guru Nanak Dev University Amritsar, Panjab University Chandigarh and Punjabi University Patiala were randomly sampled out of the eight universities for the present study. The postgraduate students of music subject undergoing study in different three universities were also included in the population. The list of departments offering post graduation in music course were made from the hand book and prospectus of these three universities.

The next step for the investigator was to take three lists of all the institutions affiliated to these three universities. GND University Amritsar, list comprised 151 institutions. The list of Panjab University Chandigarh, comprised of one hundred and seventy nine institution. The list of Punjabi University Patiala, comprised of one hundred eighty four institutions. While the researcher was to go through the lists it was found that colleges of education, law colleges, engineering colleges, gurmat colleges were also included in the lists. So the lists were to sort out and degree were to be required for the research purpose. So, the separate list comprising only degree colleges were prepared. The names of 81 degree colleges affiliated to GND University Amritsar, are as under:

for Women, Gurdaspur, Govt. GN College, Kala Afghan, SRPA Adrash Bhartiya College, Pathankot, RRMK Arya Mahila Maha Vidyalaya, Pathankot, SMDRSD College, Pathankot, SRC SD Kanya Maha Vidyalaya, Patankot, BUC College, Batala, RR Bawa DAV College for Girls, Batala, Guru Nanak College, Batala, SL Bawa DAV College, Batala, Bebe Nanaki College for Women, Dhariwal, Hindu Kanya Mahavidyalaya, Dhariwal, SDAM College, Dina Nagar, SSM College, Dina Nagar, S.N. College, Qadian, Shaheed Ram Singh Pathania Memorial College, Niai Block Kalan, Gurdaspur, Mata Gujri Memorial College, Gurdaspur, Pt. Mohan Lal SD College for Girls Fategharh Churian Gurdaspur, Govt. Degree College, Narot Jaimal Singh, Gurdaspur, APJ College of Fine Arts, Jalandhar, Doaba College, Jalandhar, DAV College, Jalandhar, Hans Raj Mahila Maha Vidyalaya, Jalandhar, Kanya Maha Vidyalaya, Jalandhar, Lalaipur Khalsa College, Jalandhar, Lalyapur Khalsa College for Women Jalandhar, PCM SD College for Women, Jalandhar, St. Soldier College, Basti Danashmandan, Jalandhar, BD Arya Girls College, Jalandhar, GGS Govt. College Jandiala, Trinity College, Church Nagar, GGS Avenue, Chogitti, Jalandhar, GN Khalsa Girls College, Baba Sang Dhesian, Jalandhar, DRV DAV Centenary College, Phillaur, (Jalandhar), GN Khalsa College, Daroli Kalan (Jalandhar), PTM Arya College, Noor Mehal, (Jalandhar), MGSM Janta College, Kartarpur, GN National College, Nakodar, GN National College for Women, Nakodar, KRM DAV College, Nakodar, Hindu Kanya College, Kapurthala, NJSA Govt. College, Kapurthala, SPSK Khalsa College, Begowal (Kapurthala), SBDSM Khalsa College, Domeli (Kapurthala), Sant Hira Das Kanya Mahavidyalaya, Kala Sanghian (Kapurthala), SD College for Women, Sultanpur Lodhi, (Kapurthala), GN Khalsa College, Sultanpur Lodhi, (Kapurthala), Govt. College Bholath (Kapurthala), GN Prem Karamsar College, Nadala (Kapurthala), GN Navbharat College, Narur Panchhtar, (Kapurthala), Kamla Nehru College for Women, Phagwara, Ramgarhia College, Phagwara, GNBL Ramgarhia College for Women, Phagwara, GN College Sukhchainana Sahib (Phagwara), GRD College for Women, Phagwara, St. Solider College, Hadiabad (Phagwara), BLM Girls College, Nawar Shehar, Mohan lala Upkral D.A.V. College, Phagwara, RK Arya College, Nawar Shehar, SN College, Banga, GN College for Women, Banga.
Out of all the institutions affiliated to Panjab University Chandigarh, degree colleges were taken under study by the investigator because music subject is introduced in the degree colleges. Names of 98 degree colleges which are affiliated to Panjab University Chandigarh are here with-

(Hoshiarpur), SMS Karamjot College for Women, Miani (Hoshiarpur), D.M. College, Moga, Guru Nanak College, Moga, S.D. College for Women, Moga, Swami Premnand Mahavidyalaya Mukerian, Govt. College Muktsar, Dashmesh Khalsa College, Muktsar, Guru Nanak College for Girls, Muktsar, Govind National College, Narangwal (Ludhiana), S.G.G.J Girls College, Raikot (Ludhiana), Mai Bhago College for Women, V&PO: Ramgarh Chandigarh Road, (Ludhiana), M.B.B.G.G. College for Girls, Rattewal (Hoshiarpur), BSSG Govt. College, Sidhsar, PO: Nizampur (Ludhiana), Malwa College, Bondli-Samrala (Ludhiana), Khalsa College for Women, Sidhwan Khurd (Ludhiana), Sant Baba Bhag Singh Mem. Girls College, Sukhanand (Moga), G.K.S.M. Govt. College, Tanda Umar (Hoshiarpur), Govt. College, Zira, D.A.V. College Sector-10, Chandigarh, Govt. College for Boys, Sector 11, Chandigarh, Govt. College for Girls, Sector 11, Chandigarh, S.G.G.S. College Sector 26, Chandigarh, Guru Gobind Singh College for Women, Sector 26 Chandigarh, G.G.D. S.D. College Sector-32, Chandigarh, MCM D.A.V. College for Women, Sector-36, Chandigarh, Govt. College for Girls, Sector-42 Chandigarh, Dev Samaj College for Women, Sector-45 Chandigarh, Govt. College Sector-46, Chandigarh, S.G.H.R. Sahib College for Women Chhabewal (Hoshiarpur), National College for Women, Machhiwara (Ludhiana), Bhag Singh Khalsa College for Women, Kala Tibba (Abohar), Jagat Sewak Khalsa College for Women, Amargarh Parao Mchna (Moga), Baba Lachman Singh College for Women, Mallian Wala (Moga), Gobindgarh Public College (Alour) Khanna, M.L.B.G. Girls College Tapprian Khurd (Nawashahr), Guru Nanak Khalsa College for Women, Sham Chaurasi Teh & Distt. Hoshiarpur, Dasmesh Girls College Chak Alla Baksh, G.T. Road Mukerian (Hoshiarpur), Maharaja Ranjit Singh College New Brar Tractor, Tikoni Chowk, Bathinda Road, Malout, Shaheed Udham Singh Govt. College Vill. Mohan Ke Hithar, Guru Har Sahai (Distt. Ferozepur), Shri Ram College Dalla Teh Jagraon (Ludhiana), Bhai Nagahia Singh Memorial Girls College VPO Alamgir Distt. Ludhiana, Baba Kundan Singh College (Co-edu), Village Muhar, PO: Mandir Teh Zira Distt. Ferozepur, Baba Nehal Singh College Baba Nehal Singh Street (Muktsar), Tarawati Memorial Degree College, Bringli (Mukerian), Sant Hari Singh Memorial College for Women Chella (Hoshiarpur)
Out of all the institution affiliated to Punjabi University Patiala, degree colleges were taken under study, because music subject is introduced in degree colleges. Names of 71 degree colleges which are affiliated to Punjabi University Patiala are here with:-

3.8.0 Preparation of Tools

The questionnaires for teachers concerning different classes, and for students concerning infrastructure were prepared for the experts from different three universities. After scrutinizing the questionnaires it was found that ten questions from all the questionnaires were irrelevant and were having similar nature. These questions were deleted from the list of the questionnaire and finally a questionnaire having thirty questions each from B.A-I and B.A-II, forty five questions from B.A-III, forty questions from M.A-I and hundred questions from M.A-II was prepared (List attached in appendix III, IV, V, VI, VII). Ten questions for Teaching-learning process for the teachers and twenty questions from budget allocation for the heads of the institutions, and thirty questions in total in the questionnaire both for the students and teachers concerning infrastructure and support system were finalized. (Lists of these questionnaires are attached under appendix VIII, IX, X.

3.9.0 Selection of Sample

Sampling is the process by which a relatively small number of individuals or measures of individuals, objectives or events is selected and analysed in order to find out something about the entire population from which it was selected (Koul 1984). Approximately 1100 copies of questionnaires were made in printed forms and were sent by mail with self addressed and stamped envelops to the teachers working in different music departments of the three universities of Punjab and colleges affiliated to those
universities. However the investigator personally visited these colleges and handed over the questionnaires to the principals and teachers with a request to fill it and send it back to the researcher as early as possible so that the research work could be finished in time.

The sample of the study consisted three different types of respondents:

(a) Principals of colleges and H.O.D’s of the music departments of three universities i.e. G.N.D. University, Amritsar, Panjab University Chandigarh, Punjabi University Patiala.

(b) Music lecturers of the colleges affiliated to these three universities.

(c) Students of colleges and universities.

**Figure I: Types of Institution**

The classification of the sample is given as below:

In the above table, three government colleges from each university i.e. Guru Nanak Dev University, Amritsar, Panjab University Chandigarh and Punjabi University Patiala were taken under study. Three music departments from all these three universities were taken under study. Five aided colleges and five un-aided colleges each from all the three universities were taken under study. In this way total number of institutions was thirty six (List attached in appendix-II). All the music departments of these 36 institutions were provided questionnaires to fill in. In accordance to the above mentioned sample, the number of students approximately 1100 are taken for the study is as shown in figure 2:
Figure II: Institution of Higher Education

Institutions of Higher Education

- Govt. Colleges
  - B.A-I, II, III Total - 20×3=60
  - M.A-I, II Total - 10×2=20
    - 10 Music (vocal)
    - 10 Music (Inst.)
    - 5 (Vocal)
    - 5 (Inst.)
  - 10 (Inst.)

- Aided Colleges
  - B.A-I, II, III Total - 20×3=60
  - M.A-I, II Total - 10×2=20
    - 10 (V)
    - 5 (V)
  - 10 (Inst.)

- Un-aided Colleges
  - B.A-I, II, III Total - 20×3=60
  - M.A-I, II Total - 10×2=20
    - 10 (V)
    - 5 (V)
  - 10 (Inst.)

- Three Universities of Punjab
  - G.N.DU.
    - 5 (V)
    - 5 (Inst.)
  - PB Uni.
    - 5 (V)
    - 5 (Inst.)
  - PBI Uni.
    - 5 (V)
    - 5 (Inst.)

Approximately 1100 students were included in the study.

- 60+20=80
  - 3 Govt. Colleges from 80×3(Universities) =240 students
- 60+20=80
  - 3 Universities of Punjab =60 students
- 60+20=80
  - 80×5(Aided Colleges) =400 students
- 60+20=80
  - 80×5 = 400 students (un-aided colleges)
- 20×3(Universities) =60 students
Questionnaires were given to approximately 1100 students like as under:

$$240+400+400+60=1100$$ students.

Survey was conducted on ten students from B.A. I music (v), ten students from B.A. I music (Inst.) were randomly selected from the classes. Similarly students of B.A. II, B.A. III were taken for study. Five students from M.A. I, five students from M.A. II music (v) and music (Inst.) were randomly selected. In this way approximately 1100 students formed the populations.

In this way approximately 1100 students from 36 institutions were included for the study.

**Figure III: Infrastructure**

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Infrastructure

   /\  
  /   
Human Resources      Material Resources
  /     
Teaching Staff       Non Teaching Staff
     /\        /\           /\        /\           /\        /\
Lecturers            Accompanists Instruments for music (vocal) Instruments for music (Instrumental)
     /\                /\                          /\        /\
Demonstrators        Instructors
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3.10.0 Development of Tools

To achieve the objectives of this study a number of tools for data collection were necessary. Therefore, the investigator employed many questionnaires as tools for data collection. These tools were different questionnaires for teachers teaching to different classes i.e. B.A. I, II, III, M.A. I and M.A. II in music vocal and instrumental, questionnaires for the heads of music depts. and colleges.

According to the objective one, five questionnaire of B.A-I, B.A-II, B.A-III, M.A-I and M.A-II music instrumental and music vocal were based on the curriculum of all the three universities of Punjab viz. Guru Nanak Dev University, Amritsar, Panjab University Chandigarh and Punjabi University Patiala. (List attached in appendix-III, IV, V, VI, VII)

According to the objective second, a questionnaire was prepared for the teachers of all the three universities of Punjab and colleges affiliated to these three universities. (List attached in appendix- VIII)

According to the objective third and fifth, a questionnaire was prepared for both teachers and students, (list attached in appendix-I X. Fourth questionnaire was prepared for the heads of the institutions based on the budget provided to music departments of their institutions where they are serving (List attached in appendix-X).

While sending the questionnaires it was found that in some colleges M.A music classes have not been introduced and M.A music vocal and instrumental both have not been introduced in all the unaided colleges. Even in some unaided colleges either music vocal has been introduced or music instrumental. So it was not possible to collect data from such colleges for M.A-I, M.A-II classes.

3.10.1 Tools Administration/Data Collection

The sample for the purpose of the present investigation was selected for institutions. It was ensured that the best possible rapport could be established with the respondents and the questionnaires could be administered under congenial environment.

3.10.2 Administration of Questionnaires

Questionnaires were sent by mail in order to collect the relevant data. Different questionnaires were administered to the principals/H.O.Ds in music depts. of the
universities, lecturers and students of the colleges affiliated to three universities of Punjab. First of all, general instructions were given to the respondents and the purpose of administration of these questionnaires was fully explained to them.

3.10.3 Questionnaire to Gather Information from the Principles/H.O.Ds

Questionnaires meant to gather information from the principals were distributed by the investigator personally at the time of the visit to the concerned colleges and music departments of the universities. The principals were approached after seeking their prior permission. After explaining to them the purpose and importance of the present study during informal interactions, they were requested to extend their cooperation. They were also assured that the information provided by them would be kept confidential and used for research purpose only. Some of the questionnaires were returned by the principals. However some of the principals sent the filled up questionnaires by post later on.

3.10.4 Questionnaires for College and University Lecturers

For the administration of the ‘questionnaire’ for the lecturers, the investigator met the participants personally after seeking permission from their principals. The necessary instructions were given to the participants after explaining them the purpose and importance of the present study. It was pointed out to the lecturers that their cooperation was very significant. The filled-up questionnaires were collected as per the convenience of the lecturers.

3.10.5 Administration of the Questionnaires for the Students

The questionnaires were administered individually to the students after construction, validating and establishing reliability of each of the questionnaire. The questionnaires were administered on the following students: Ten students of B.A. I music (V), ten students of B.A. I music (Inst.), ten students of B.A. II music (V), ten students of B.A. II music (Inst.), ten students of B.A. III music (V), ten students of B.A. III music (Inst.), five students of M.A. I music (v), five students of M.A. I music (Inst.) five students of M.A. II music (V), five students of M.A. II music (Inst.), from
one institution. In this way questionnaire to music students from five aided colleges, five unaided colleges, three govt. colleges and three music departments of three universities of Punjab, were administered. Arrangements for the administration of the tests were made prior to the actual administration. Co-operation was sought of the concerned authorities of the three universities and colleges. Different dates were fixed for administering the questionnaires in different universities and in different colleges. Before administering, the investigator established harmonious environment with the students and ensured that the seating arrangement of the students was acceptable and they all had pens.

The questionnaires were distributed to the students with the instructions that they should fill up their names, college roll no. class, name of the teacher, subject whether music vocal or instrumental and name of the institution on the upper part of the questionnaire at is appropriate place. The questionnaire were administered in English. The students were directed to read the instruction silently and very carefully from their own questionnaire. It was ensured that the students had understood the technique of making their answers. Some students showed great enthusiasm whereas some of them were hesitant in the beginning to respond. The investigator ensured the students that the responses given by them would be kept confidential and would be used for research purpose only. The students were made free to ask any statement or instruction which has not been understood by them. Explanation was given in English/Hindi/Punjabi. They were assisted, whenever required in understanding the contents of the questionnaire. Since there was no time limit for the completion of the each of the questionnaire, the students were allowed to work at their own speed and time. However, it took $1\frac{1}{2}$ hours to 2 hours students filled up the questionnaires.

While receiving the questionnaires back, the investigator made sure that all the items were answered and no item remained unanswered. In case of incomplete questionnaires, the respondent was requested to complete the same. This was done for the purpose of getting the complete data required for analysis and interpretation.
However, there was provision of allowing the students to fill the questionnaire at some other day or to get necessary information from teachers. But this situation did not occur.

3.11.0 Analysis and Interpretation of Data

The validity of findings in an investigation is directly linked with judicious choice of appropriate statistical techniques for data analysis. For interpretation of data, the opinions collected by the researcher were rated according to their positions. As it is already mentioned above that eight questionnaires in total were prepared which were analysed according to the requirement to find the conclusion for further analysis so that the relevant results might be prepared.

3.12.0 Statistical Techniques

Statistics is a body of mathematical technique or processes for gathering, organizing, analyzing and interpreting numerical data. Since research yields such quantitative data, statistics is a basic tool of measurement, evaluation, and research. Statistical data describe group behaviour or group characteristics abstracted from a number of individual observations which are combined to make generalizations possible. After collecting the data it was analyzed for the purpose of finding the existing conditions for the teaching of music in different institutions in Punjab.

To draw the conclusions, statistical techniques as tables and percentage was used. This percentage technique gave concise picture of whole data and provided the whole information which was required. A number of tables were prepared as required according to the type of problem to the investigated.