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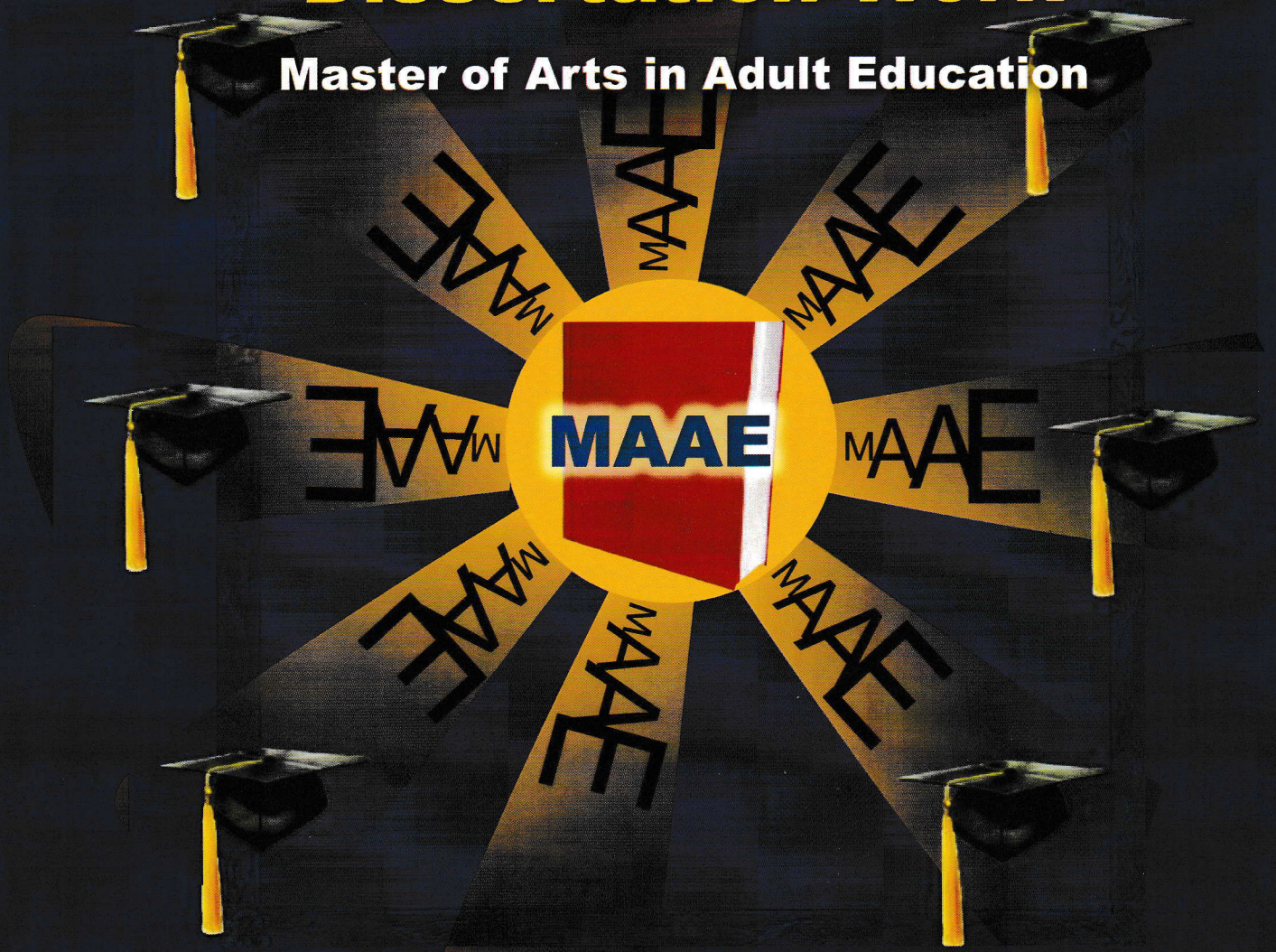
Handbook on Dissertation Work

Master of Arts in Adult Education



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Dissertation

Handbook on Dissertation Work

MASTER OF ARTS IN ADULT EDUCATION (MAAE)

School of Extension and Development Studies
Indira Gandhi National Open University
Maidan Garhi, New Delhi – 110 068

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CONTENTS

1 INTRODUCTION TO THE HANDBOOK

From your journey through MAAE programme till date you might have got comprehensive exposure to theoretical and practical aspects of adult education. It might have ***equipped*** you with necessary knowledge, understanding, skills, attitudes and competencies that would be helpful to you: i) in enhancing your participation in wide range of adult educational activities; ii) in effectively carrying out your professional tasks and roles in adult education; and iii) in managing knowledge and infomation for dissemination and networking among different types of communities. As a result, you might have developed confidence that you can venture into the field to seize possible opportunities in your endeavours as an adult educator and/or adult educationist.

While studying different compulsory and optional/elective courses of this programme, you might have come across various issues and problems related to theory and practice of adult education whioh might have sharpened your understanding of these issues and problems. In particular:

- ***whilepursuing the first year courses*** (MAE-001, *MAE-002, MAE-003,* MES-016, *MAEL-001),* ***you might have come across various issues andproblems related!to:*** conoepts, objectives, aims and goals of adult education; characteristics of adults, their environment including learning contexts, problems and their impacts on their lives; philosophical, sociological and psychological foundations of adult education; policy, planning and implementation of adult education programmes; development, transaction and evaluation of curriculum in adult education; role of different implementing agencies of adult education in promotion of literacy, post-literacy, continuing education and lifelong learning of adults; participatory training, evaluation and research in adult education; knowledge generation and documentation in adult education; management and dissemination of infomation for the benefit of adults; social, professional, learning and communication networks; working with community and institutions both individually and in groups; and organisational behaviour and dynamics of working together.

- ***while pursuing your second year courses*** (MAE-004, MAE-005, *MAEE-001/MESE-061, MAEE-002/MESE-062) you might have noticed certain issues and problems related to:* different aspects of extension education; theories, dimensions, dynamics and factors of development including disparities, marginalisation and exclusion, among others; factors influencinggovernance; planning, management and evaluation of extension and development programmes; demography, determinants and consequences of population change; adolescence and sex education and family life, pre- and post-marriage individual's measures of population control/regulation including methods and techniques of family planning; family welfare and gender equality and equity; national and international measures of population control; scope, approaches, policies, strategies, programmes arid challenged to sustainable rural, tribal and urban development; philosophy, policy, organisational matters of open and distance learning, programmes and their implementation; methods and media in preparation of self-learning materials and their designs including e-learning; instructional transaction and delivery including learner support services; assessment, evaluation and research in open and distance learning including trends and paradigm shifts at national and international levels; substantive and procedural laws, justice delivery system and implementation of law in India; empowering laws such as the Constitution of India, Right to Information Act, Protection of Woman Against Domestic Violence Act, Right of Children to Free and Compulsory Education Act,

National Rural Employment Guarantee Act; liability creating laws such as Indian Penal Code, Tort Law, Contract Law and Family Law; legal remedies law such as writs, law of specific performance, compensation law, legal aid, human rights law and panchayat raj law; special rights of children, women, workers, Dalits and tribals, land-holders, persons with disabilities, and parents and senior citizens; context, emergence, perspectives, policy dimensions, and support systems of vocational education; coverage, curricular design, implementation strategies and innovations in vocational education; impact of vocational education and training in changing society, role of entrepreneurship, partnership model and life-long learning for skills development and vocational education for all for promoting human development.

To make a special mention in the context of your ensuing MAEP-001: Dissertation Work, the knowledge and understanding you got from course *"MES-016: Educational Research"* might have given you clarity about the process of knowledge generation with broad understanding of research in education in general. *"Unit-12: Participatory Research"* of course MAE-002 might have given you an understanding of the nature and innovative type of research, i.e. participatory research, which is quite possible in adult education. In addition, certain experiences you gained during workshop as part of Course MAEL-001 might have given you broad understanding of preparing a research proposal for individual-based research work and that for sponsored or funded research project as well. Thus, by now, you might have noticed that the basic process of research in adult education is same as in the field of education, though in the former there is large scope for introducing innovations to address dynamic and emerging issues and problems in various social, political, cultutal, economic, and other developmental situations for effecting transformation at the individual, familial, community, national and international levels. Approaches such as patticipatory research, community-action research, phenomenological research in adult education have special significance to individual adults and their communities as these approaches, among others, can address core problems that impinge them personally and their lives directly.

Therefore, in MAEP-001: Dissertation Work, you have an excellent opportunity to acquire practical experience of conducting research study on a problem of your choice in the field of adult education and to submit the output of the study in the form of a dissertation. It will not only provide learning-experiences that will enable you to understand and appreciate knowledge structures and paradigms of adult education but also develop you as a budding professional researcher who can participate in the knowledge generation process and even bring in effective paradigm shifts such as participatory research, community action-research, phenomenological research, etc, in adult education. It, thus, generates a community of scholars adequately equipped for conducting research studies in adult education and promote intensive theoretical and research discourses and actions for development of individuals, communities and the nation.

Naw, in order to help you in planning, organizing, systematizing and accomplishing your tasks at different stages of this work, we have come out with this Handbook as a part of course "MAEP-001: Dissertation Work" which has been conceptualised to provide you with systematised practical experience: of conducting adult educational research. In other words, the detailed process of how. you would conduct the research study is explained in this document titled 'Handbook on Dissertation Work'. Its objectives are presented below.

2. OBJECTIVES OF THE HANDBOOK

After going through this 'Handbook on Dissertation Work', you should be able to:

- Understand and follow the guidelines about the procedure and the supervisor in relation to your dissertation work;
- Identify a research problem for your dissertation work;

  Evaluate the significance, feasibility and suitability of the problem for conducting research;

  Formulate, define and state the research problem covering its different aspects;

  Elucidate various components of the research proposal;

  Prepare a research proposal on the identified research problem;
- Execute the proposed research study; and
- Write the research report in the form of a dissertation and submit it to the University.

You should be able to realise the above objectives systematically under the guidance of a duly approved supervisor.

3. GUIDELINES ABOUT THE PROCEDURE AND THE SUPERVISOR

In this section, we acquaint you with brief procedural guidelines regarding your dissertation work and supervisor so as to make you feel comfortable, to start your work.

3.1 Procedural Guidelines

The following guidelines will help you understand the procedure involved regarding your dissertation work.

The student will start dissertation work in the second year of the programme by way of submitting a research proposal on a problem either related to the compulsory courses (of first or second year) or the optional (i.e. elective) courses of the programme or any other aspect/area of adult education that has relevance to the programme.

The student has to prepare the research proposal and also carryout his dissertation work under the supervision of an approved supervisor.

Research proposal along with the prescribed proforma duly filled-in should be submitted by the student to the concerned Regional Director for necessary approval.

The Regional Director will send the proposal back to the student after due process of approval by the expert in the field of adult education or allied areas/fields.

After completing the dissertation work on the approved proposal, the student will submit two copies of dissertation to the Regional Director of the concerned Regional Centre, towards the end of the second year preferably before the Term-End Examination, for evaluation.

- After evaluation of dissertation is completed viva-voce will be conducted at the concerned Regional Centre.

One important point you can notice from the above guidelines is that you are required to carryout your work under an approved supervisor. The following criteria provide you an idea of who your supervisor could be.

3.2 Criteria to be Fulfilled by a Person to be the Supervisor of Dissertation Work

Your supervisor who will be guiding your dissertation work is the person of your choice, but he/she should fulfil the criteria prescribed in this regard. Therefore, we wish to present below these criteria so as to provide you an idea of whom you should be approaching to seek his/her consent to be your supervisor for your dissertation work.

A person fulfilling the following criteria is eligible to be the supervisor for the dissertation work of the students of Master of Arts in Adult Education (MAAE) programme of IGNOU.

- ✓ Any person who has already supervised and/or is supervising the dissertation work of students of MA (Education) / MEd / MAEDS programmes of IGNOU.

OR

- ✓ Any person who possesses MPhil/PhD Degree and has supervised and/or is supervising dissertation work of students of MA (Education) / MEd / MA (Adult Education / Andragogy) of any University/Institute recognized by UGC.

OR

- ✓ Any faculty member of Department/Centre/School of Education / Educational Studies / Adult Education / Adult and Continuing Education / Extension / Extension Studies / Development Studies / Extension and Development Studies / Non-Formal Education / Lifelong Learning / Rural Development / Population Studies / Geography / Sociology / Psychology / Social Work / Political Science / Legal Studies of any University/Institute recognized by UGC who possesses MPhil/PhD Degree and has supervised and/or is supervising dissertation work or is eligible to supervise dissertation work of students of their respective Department / Centre / School / Institute.

OR

- ✓ Any permanent academic staff member of IGNOU working at any of its Regional Centre who has minimum experience of five years in a position not below that of Lecturer or equivalent position, after obtaining PhD Degree in Education / Educational Studies / Adult Education / Adult and Continuing Education / Extension / Extension Studies / Development Studies / Extension and Development Studies / Non-Formal Education / Lifelong Learning / Rural Development / Population Studies / Geography / Sociology / Psychology / Social Work / Political Science / Legal Studies, and involved in implementation of MAAE / MA (Education) / MEd / MAEDS programmes of IGNOU under any one of its Regional Centres.

OR

- ✓ Any person who is an academic counsellor at or a Programme In-Charge (PIC) of a Programme Study Centre (PSC) of MAAE / MA (Education) / MEd / MAEDS programmes of IGNOU and has minimum of five years experience after obtaining PhD and working as permanent faculty of that PSC.

Thus, you can approach any person fulfilling the above criteria and seek his/her consent to be the supervisor for your dissertation work. For your ready convenience, you can choose your supervisor from among the lists of approved supervisors existing in respect of MA (Education), MEd or MAEDS Programmes of IGNOU at the concerned Regional Centre. Or, you may even identify any other person fulfilling any other criteria mentioned above and seek necessary approval by submitting the details of name, designation, address, qualifications, experience, etc., of that person on prescribed format/proforma (See **Appendix – I**) to the Regional Centre concerned for necessary approval along with your proposal.

4. STEPS TO BE FOLLOWED IN CARRYING OUT DISSERTATION WORK

As you are now aware, right from preparation of your research proposal till submission of your dissertation you will work under the expert guidance of the approved supervisor. You know that, like education, adult education is multidisciplinary and applied field, drawing its content and applying theoretical principles, etc, from different disciplines. Adult education as a specialised area of education is emerging fast and evolving itself into a separate discipline of study. Therefore, research process in adult education is although not much different from those of education it should attempt to set new trends and paradigms of research as the same are more possible in it. This is so because, the research in the field of education is most often conventional in its nature while the research in the field of adult education can adapt methodologies which are more action-oriented, participatory, phenomenological, and also practically relevant and useful from the point of view of adults and their communities, among others.

You have got theoretical understanding of research skills from course ***MES-016: Educational Research.*** And, from Unit-12 of course MAE-002, you have understood the process of participatory research and also significant differences between the conventional research paradigm and the emerging participatory research paradigm with its roots in adult education practices. It can encourage community-action research also which can become interesting subject of study. Further, phenomenological research study, which you studied as a method of qualitative research (see Unit 8 of Course MES-016) can also be attempted in adult education. As suggested and elaborated by Stanage (1987), phenomenological research as rigorous human science research will be helpful in setting new directions or paradigm shift in theory, practice and research in adult education and also in paving the way for establishing it as a perfect discipline of its kind.

Nevertheless, like research in any other field, the first and, of course, the most important step in carrying out successful adult educational research is to choose a good research topiclproblem. How you can go about selection, formulation and statement of the problem is discussed below.

4.1 Selection, Formulation and Statement of the Problem

For conducting a research study in the field of adult education, you as a researcher will first choose a specific area of your interest in the study of adult education and then will identify a suitable research problem, then formulate and state it clearly. That will be the research problem for your study/ dissertation work. whatever the area you may choose, you cannot isolate it totally from the basic theoretical foundations and general professional literature in the field of adult education and its relevance to real life situations and experiences that have inseparable

linkages with technological advancements as well. Therefore, to start with, you may bank upon the following broad sources available to you, which will help in your search for the problem.

- ***Inferences from theory:*** Philosophical foundations of adult education studied by you in general and inferences that can be drawn from psychological and sociological theories and their relevance to the contexts of adult education in particular form the important source of research problems in adult educational research. The application of general principles involved in various theories to adult education contexts/settings including whether a particular theory can be translated into practice and/or alternatively whether any particular real-life problem situation can be related to any particular theory becomes an excellent basic point for research, to begin with. For example, the theories propounded by Thorndike, Pavlov, Skinner, Kohler, Piaget, Maslow, Dewey, Freire, and others provide a strong theoretical framework as to how the researches in the area could be planned and designed. Thus, application of learning theories, theories of motivation, and innovative evaluation techniques provide rich sources of topics for research in adult educational situations within informal, formal and non-formal settings. Though theory does not provide answers to practical problems, its application in the field that help in drawing certain inferences will stimulate, direct and control further research in the field of adult education in general.

- ***Professional literature:*** The study of professional literature will not only expose you to pressing research problems but also suggest the ways in which research is conducted. Research reports, bibliographies of books and articles, periodicals, research abstracts, yearbooks, directories, dictionaries, research guides, newsletters, newspapers, etc, suggest important themes, which can be selected for undertaking dissertation work. Some special sources such as the Surveys of Educational Research, Dissertation Abstracts, Handbooks on Research and Teaching, Encyclopaedias of Education, in general, and Source Books on Adult Education (e.g. Shah, 1989), Handbook of Adult and Continuing Education (e.g. Sharan and Phyllis, 1989), International Handbooks on Lifelong Education for Adults (e.g. Titmus, 1990); International Directories of Adult Continuing Education (e.g. Jarvis, 1990), Encyclopaedias on Adult Education (e.g. Shah, 1999), and International Handbooks on Lifelong Learning (e.g. Jarvis, 2009; and London, 2011) and other related publications in particular are good sources of professional literature for identifying problem situations and locating problems for conducting research in adult education. For other relevant sources and documents, among others, it would be advisable for you to consult your research supervisor and other approachable experts, and to visit the IGNOU Regional Centre library, the Study Centre library, or the libraries of nearby Teacher Training Colleges/Institutions, Colleges of Education, Departments of Education and Departments of Adult and Continuing Education in Universities, and libraries in other higher learning institutions.

- ***Experience:*** You may be a fresh graduate without much experience or already a post-graduate and even with experience in teaching, training, and extension activities'in formal and non-formal educational systems/institutions of different kinds such as schools, colleges, universities, resource centres, non-governmental organisations, etc. The experiences you gain by way of participation in intellectual discourses such as listening to lectures by eminent teachers and researchers, discussion with peers, teachers, practitioners and research experts, and attending seminars, conferences, etc will be helpful to you in shaping your ideas, understanding and experiences to choose a research problem.

- ***Technological and social changes:*** Technological and social changes demand development of new courses with suitable curriculum for students and adult learners in both formal and

non-formal adult education systems including open and distance learning. These developments constantly bring forth new problems for research. The use of hardware and software in teaching adults, in training volunteers, instructors and other functionaries, in preparation of teaching-learning and training materials, in innovating teaching-learning and evaluation methodologies, including online options, use of teleconferencing, etc., gives rise to various types of problems for research in the field that you can explore in your area of interest.

Once you attempt to explore these sources, you will understand that though you have chosen an area of your interest, selection of a research problem in the chosen area is not an easy task. Of course, the area you choose for your research shall be one in which you are capable of demonstrating necessary scholarship – of the known facts, processes and developments plus insight, critical analysis and judgemental capacities to take initiative for your research in it. This constitutes the most important basis for selecting specific research problem, around which your entire dissertation work revolves.

Selection of a research problem in the chosen area is a systematic process and involves certain steps which are highlighted below.

4.1.1 Identification of a Problem

The following points are helpful to you, as a researcher, in identification of the problem situations and then the problems for research.

- ***Confine your search to your domain/area:*** Your domain for problem-searching will be determined by your understanding of the known theories, facts, ideas, policies, practices and other developments in the field/area of your interest.
- ***Understand the range of problem situations:*** Familiarize yourself with new knowledge in the area of your interest by acquainting with a variety of (old and new) books, journals and other published researches. This will provide you an understanding of the range of problem situations for research.
- ***Have an overview of the problem situations:*** Read relevant surveys and reviews of research, selected research articles in the area and research/project reports, including those that highlight the research in progress and research required in the area. This will deepen your understanding of the problem situations and also help you keep track of development in the relevant field/ area.
- ***Locate some specific problem situations:*** A survey of relevant research reports including dissertations pertaining to MA (Adult Education/Andragogy) / MA (Education) / MA (Extensidn) / MEd and MPhil/PhD (Adult Education/Andragogy/Education/Extension and Development Studies, etc) along with the suggestions for further research given therein will be more useful to you to locate specific problem situations in the area.
- ***Relate the specific problem situations with life situations:*** Examine certain real life situations including their interrelationships and mutual impacts. Relate the specific research problem situations with the real life situations so as to understand the complexity of the research problem situations vis-a-vis their implications in the context of technological advancements. Sometimes, certain unique experiences in your own life may also trigger curiosity into research problem situations to find solutions that may be more interesting.

- ***Narrow down the specific situations to a highly specific and focused research problem:*** Remember that the focus of these problem situations is determined by your perspective, which again is based on or limited to what you know as an individual researcher about the existing status of research in the area and what you feel needs to be discovered. Therefore, after you have located problem situations in the area of your interest, you will finally zero in at narrowing down the same to a highly specific and focused research problem.

After identifying a specific problem of research, you now need to evaluate its suitability from various angles.

4.1.2 Evaluation of the Problem

In order to arrive at a decision about the suitability of an identified research problem for your dissertation work, you should evaluate its feasibility and significance based on your answers to certain questions. Following questions raised by Best and Kahn (2001, pp.37-38) merits thorough consideration by you while evaluating your problem by way of asking for yourself the same questions.

- **Is this the type of problem that can be effectively solved through research?** There could be some problems that may not be effectively solved through the process of research. There could be certain other problems which can be answered only based on the value judgement. Therefore, you need to avoid such a problem as any particular theory for which relevant data may not be available to test, or certain other problems as those requiring answers to questions involving ethical or moral issues. Your research problem must be such that it could be stated in workable research questions to be answered empirically.

- **Is the problem significant? Is an important principle involved?** You need to consider whether the solution to the problem makes any difference as far as adult educational theory or practice is concerned. Thus, the question of significance or importance of the problem usually relates to what you as a researcher hope to accomplish through a particular study. What new knowledge is likely to be added in terms of its significance in filling the gaps in the existing knowledge or resolving some of the inconsistencies in the earlier studies or reinterpretation of the known facts. If it is not going to be significant, then you need to (re)search/look for more significant problem which is worthy of your study/investigation.

- **Is the problem a new one?** If the answer to the problem is already available in prior studies done by others, about which you may be ignorant, then there is no purpose in studying such a problem. You should not spend time needlessly on a problem already investigated by some other researcher(s). To avoid such duplication, it is essential for you to survey very carefully the previous research works completed in the area of your interest. However, this does not mean that a problem, which has been investigated in the past, is no longer worthy of study. You might want to repeat a study when you want to verify its conclusions based on new data or to extend the validity of its findings to a situation entirely different from the previous one.

- **Is research on the problem feasible?** A problem you selected for the dissertation work may be a good one from the point of view of the above mentioned criteria (questions), but it should also be suitable to you, in the sense whether you will be able to carry it through to a successful conclusion in view of some of the aspects such as the following:

- ✓ ***Your research competence:*** You must be familiar with concepts linked with the problem and also possess necessary skills and competencies required to develop and administer the necessary data-gathering devices and follow other procedures in the conduct of study.
- ✓ ***Interest and enthusiasm:*** The problem should be the one in which you are genuinely interested and about which you are truly enthusiastic. It should be meaningful and arouse your curiosity.
- ✓ ***Financial consideration:*** You need to ascertain the financial feasibility from the point of view of your ability to afford the estimated expenditure in development of tools, data collection, word processing, etc, related to dissertation work on the selected problem.
- ✓ ***Courage and determination:*** You must ensure for yourself that you have necessary courage and determination to pursue the study in spite of the difficulties and hazards that you may have to face.
- ✓ ***Time requirement:*** Dissertation work is the compulsory course component of M.A. in Adult Education (MAAE) Programme. You are required to complete it within the stipulated time. Thus, the problem selected by you should be one the study of which for your dissertation work can be completed in the stipulated time.

Your answers to the above questions determine your evaluation of feasibility, suitability and significance of the problem you identified for your dissertation work.

4.1.3 Deciding the Exact Title s f the Problem

If your evaluation of the problem of its suitability and feasibility for the study is satisfactory, you have to specify the problem in precise terms. It means, you need to give an exact title to the problem. The title of the problem should be a clear, stand-alone and meaningful statement explicitly conveying what you aim to discover through your research study. The title of the research problem thus forms the foundation and focus of your research and finally it will be the title of your research report, i.e. Dissertation.

The title of the problem will be useful to you in properly formulating, defining and stating the probiem.

4.1.4 Formulation and Statement of the Problem

In this context, it may be noted that the statement of the problem is not exactly the same as the title of the problem. The former is much more than simply the title. The statement of the problem elaborates the research problem by focussing on certain details such as the research questions that it attempts to answer, the objectives, the hypotheses, if any, and the delimitations under which it will be studied. If the statement of problem is poor, unfocused or ambiguous, the rest of your research is likely to go off-track and you will, thus, be doing a great deal of unnecessary reading, writing, and certain other things losing sight of the essence of the problem.

Further, if the problem stated is a complex one, it needs to be divided into sub-problems while defining it for better clarity. In such case, each of the sub-problems is also required to be stated clearly.

4.2 Development of a Research Proposal on the Problem

On the basis of statement of the problem, you can now prepare a research proposal for your dissertation work. Research proposal is also called *'synopsis'* of research work to be undertaken by the researcher. Research proposal is the basis of a research activity. It also conveys the scope of research work that you intend to carry out. It is basically a plan of action, like the blueprint which an architect designs before construction of a house. Therefore, if the proposal is properly prepared, the rest of the work in the process of research becomes smooth and easy. While you prepare your research proposal you keep the following components in view.

4.2.1 Components of a Research Proposal: Essential Set of Questions to be Addressed

While you prepare a research proposal for dissertation work, you need to be clear about a set of relevant questions. The answers to these questions constitute the different components or aspects of a research proposal. In the Table 1, the questions to be addressed by you and the corresponding answer-components that form parts of your research proposal are given. Please go through them carefully because while you develop the research proposal for dissertation work, your proposal needs to incorporate such components.

Table 1: Questions and Corresponding Components of Research Proposal

Sl. No.	Questions	Components of Proposal
1.	What do you propose to study?	Title of the study
2.	Why do you intend to conduct in the proposed study?	Context, justification/rationale of the study
3.	How do you define the study?	Statement of the problem
3(a).	How do you define the terms used in the title of the study?	Operational definitions of the terms
3(b).	What do you intend to address through your study?	Research questions
3(c).	What do you intend to achieve through your study?	Objectives of the study
3(d).	What tentative solutions do you formulate for research questions?	Hypotheses
3(e).	What will be the scope of your proposal?	Delimitations of the study
4.	What earlier researches tell you about the research study?	Review of related literature
5.	How do you propose to conduct the Study?	Methodology of the study
5(a).	What is the total number of units for which the study is proposed?	Population of the study
5(b).	What is the small number of units to be selected for the purpose of conducting the study?	Sample

5(c).	What means do you propose to use for collection of research evidences?	Tools and techniques of data collection
5(d).	How do you propose to collect research evidences?	Procedure of data collection
5(e).	How do you propose to analyse the obtained evidences?	Methods and techniques of data analysis
6.	What implications would the findings of your proposed study have for practice of adult education?	Results/findings, conclusions, generalisations and suggestions

Source: IGNOU. 2011. *MESP-001: **Dissertation.*** New Delhi: IGNOU, **P.9** (Note: Adapted with minor changes)

From the questions and corresponding answer-components in Table 1, you get clear idea of the sequence of the components (sections or parts) of a research proposal. Let us discuss each of them, in brief.

1) **Title of the Problem/Proposal:** The title of the research proposal is same as the title of the problem. On the first page of the proposal, the title of the problem is mentioned along with name of the researcher, name of the supervisor, and name of the concerned School of the University to which your research proposal is to be submitted. The title should not be too lengthy or too short and should be precise and explicit.

2) **Introduction:** This is the first section of the proposal. Some researchers name this caption (i.e. Introduction) as *"**Background of the study**"*. In this section, the topic of the study is duly introduced. You will introduce your problem area briefly. You will spell out as to how the problem emerged and why is it significant in social context in general and adult education contexts in particular. Some researchers use separate caption 'Rationale' after 'Introduction', while some others use it as a sub-section under '**Introduction**' itself, dealing with justification for conducting the proposed study.

3) **Formulation, definition and statement of the problem:** Statement of the problem is not exactly the same as the title of the problem. It has a definite place in the research proposal. Statement of the problem is primarily an expansion of the title of the problem. You will formulate, define and state the problem by focusing on certain aspects such as the research questions it attempts to answer, the objectives it intends to achieve, the hypotheses, if any, it attempts to test, and the delimitations of the study that determine its scope.

4) A **brief review of related literature:** While some researchers use it as separate section, some others often present it after the 'Rationale of the study' or integrate with it. The review of related literature highlights two aspects: i) the theoretical background of the problem, and ii) the research studies already conducted in the area. If the area selected is quite new and the concepts involved are unknown or not explored at length, then the researcher should also describe the concepts in brief. By reviewing several related studies, the researcher may describe the most important and recent ones that indicate research trends, if any, pertinent to the problem. In other words, it is not necessary to discuss all the related studies in detail. It may not be exhaustive but it should touch upon important aspects of related studies tracing the roots of the problem in the existing literature that warrants further research and exploration. It should demonstrate the grip of the researcher over the field including awareness of recent developments in the area.

Suppose you are interested in studying the *'Problems of women learners in attending adult education centres in rural areas'*, you may review related studies which have been carried out till the recent past. The review should discuss some important findings and their implications for the proposed study. It should focus on the essence of what has been done so far in the area along with insights gained from the review and indicate your review (views) of related literature including the research gaps found in the area. Research gaps so identified should provide a rationale or strong basis for justification for conducting your proposed study.

5) **Research Questions:** While proposing to conduct any research study, the researcher should frame certain research questions that require answers. The research questions you frame usually lead to framing of objectives of the study and the hypotheses, if any, to be tested on the basis of evidences/data to be obtained.

6) **Objectives:** Generally, the objectives are framed keeping in view the research questions raised. Objectives are the basic foundations and the focus of the research. These guide your entire process of research, and hence you need to formulate the objectives clearly, or else you are more likely to wander aimlessly in the field of study without achieving worthwhile goal. Neither the list of objectives should be too lengthy nor should the objectives be ambiguous. So, the objectives of your study should be precise and stated clearly to indicate what you intend to investigate.

7) **Hypotheses:** formulation of hypotheses is not essential for all studies — some studies require hypotheses while others do not. This is so because the formulation of hypotheses has relevance to the objectives of the study, which need to be tested on the basis of evidence. These are formulated in such studies where some prediction of results is possible based on certain perceived relationship or difference between selected variables. For example, in experimental type of research, a researcher is interested in making predictions about the outcomes of the experiment or what the results are expected to show. Hence, formulation of hypotheses is very important in experimental research. On the other hand, in the historical, descriptive or exploratory research, the researcher may be interested in investigating the history of an educational institution/system or the happening of an event, phenomenon, etc, and, thus, may not have a basis for making a prediction of results. Therefore, a hypothesis may not be required in such fact-finding studies. Further, it may be noted that when the purpose of the research is to find facts as they exist, a hypothesis may not be required.

Hypotheses, where required, are formulated keeping in view the theoretical constructs, previous researches and logical analysis. Formulation of the hypotheses helps in two ways: i) a well-grounded hypothesis is an indication that a researcher has adequate knowledge in the area; ii) the hypothesis gives direction to collection, analysis and interpretation of the data. A good hypothesis must be testable, have explanatory power, state the expected relationship between variables; be consistent with the existing body of knowledge; and be stated as simply and concisely as possible.

A hypothesis can be stated in directional or non-directional form. The hypothesis which indicates the direction of the expected differences or relationships is termed as *directional hypothesis.* Suppose you are interested to study, "Socio-economic factors influencing the literacy achievement of adult learners". For this problem, you may formulate directional hypothesis as below:

- *There will be **significant** positive relationship between income level and literacy achievement of adult learners.*

Or, for the same problem, you can also formulate *non-directional hypothesis* which does not specify any direction of expected differences or relationships. For example,

- *There will be significant **difference** between **sex** and literacy achievement of adult learners.*

Both directional and non-directional hypotheses are called *research hypotheses*. To test the research hypotheses statistically, *null hypotheses* are formulated. In this example, the null hypothesis is formulated as below:

*There will be no **significant** difference between the mean scores of income level and literacy achievement of adult learners.*

For more details about the hypotheses you are advised to refer to Unit 11 of MES-016.

8) Operational definitions of terms: The title of every research problem involves certain key or technical terms, which have some special connotation in the context of the study. Hence, it is always desirable to define such terms. There are two types of definitions: i) constitutive definitions, and ii) operational definitions. A constitutive definition elucidates a term and perhaps gives more insight into the phenomena described by the term. An operational definition is one, which ascribes specific meaning to a concept in the context of the study that must be performed in order to measure the concept, e.g. the word 'achievement' has many meanings constructed by the researcher, but its operational definition will have specific meaning in particular context of literacy programme. It needs to be defined connoting its definite contextual meaning, which gets ascribed only after conducting the particular study.

9) **Methodology:** Under this section, you will describe the details of the method of research proposed to be used for conducting the study (viz. historical, descriptive, experimental, etc), population, sampling procedure, tool for data collection, procedure of data collection and data analysis.

i) ***Method:*** You may revisit Block-2 (Units 5, 6, 7, 8 and 9) of *MES-016: Educational Research,* to recall different types of studies in educational research viz. descriptive research, experimental research, qualitative research, philosophical studies, historical research, etc. which you had already studied.. The method or type of research will specify the nature of the data and their treatment in the study. For example, the nature of the data and their treatment in experimental type of research are different from those of descriptive types of researches. So, you will specify the method of research you intend to adopt for the proposed study.

ii) ***Population and Sample:*** Recall the sampling techniques you studied in Unit 12 of *MES-016: Educational Research.* The knowledge of sampling enables you to describe the population, the sample and the procedure of drawing the sample for the study. Justification should also be given for the choice of sampling. It is therefore essential that you describe the size of population, the structure and distribution of its units and the size and type of the sample for the proposed study.

iii) ***Tools and Techniques of Data Collection:*** In Unit 13 of course MES-016, you studied in detail about tools and techniques of data collection. Further, we will present wholesome picture of these instruments or tools and techniques under sub-sub-section 4.3.1.3 below which will be useful to you in describing the tools and techniques that you propose to select/develop for collection of data for the study. In case you propose to use any of the existing standardized'tools, information regarding their validity, reliability, norms, etc, should be mentioned along with its suitability for your study. Otherwise, if you want to construct your own research tool, the procedure you intend to follow for its development should be described in brief.

iv) ***Procedure of Data Analysis:*** Here, the researcher should indicate the procedure he/she proposes to follow for analysis including the qualitative and quantitative (statistical) techniques intended to be used in the analysis. It is more meaningful if the purpose for which a particular technique will be used is also highlighted in terms of its relevance to the objectives and hypotheses of the study. In case of historical research, it is necessary to throw light on the methods of internal and external criticism in the analysis of historical data. In case of documentary studies, the nature of documentary data and methods or techniques of analysis should also be highlighted in the research proposal.

10) References: This is the last section of the research proposal. In this section, the researcher should provide details of all the authors and sources referred to in the proposal. In so doing, the specific details such as the names of the authors, the title and other relevant details of the publications – books, journals, reports, etc – referred/consulted should be specified in this section.

From the procedural guidelines (See sub-section 3.1 above) related to your dissertation work, you are aware that you are required to submit your proposal/synopsis developed covering the above aspects. In order to provide you clarity about research proposal, i.e. as to how it looks like, ***two sample research proposals*** have been developed and appended (See **Appendix – II** and **Appendix – III**). *You should not use these proposals for your dissertation work as they are not your researchproposals.* Rather you have to develop your own research proposal based on your area of interest. In order to help you identify a problem/topic for your study/dissertation work, a list of suggested problems/topics is given in **Appendix – IV** for your consideration and guidance. Now, you can and should attempt to develop your proposal on a problem of your choice, in consultation with your supervisor. Once it is developed you are required to submit it along with duly filled-in prescribed proforma/format (See **Appendix – V)** to the concerned Regional Centre for approval.

As soon as you get the approval, you have to proceed with its execution accordingly in systematic manner.

4.3 Execution of the Proposed Research Study: Essential Tips

After finalizing the research proposal the next step for a researcher is to execute the proposal. In your case, only after your proposal is approved you will undertake the research study and then write a report of it in the form of a dissertation. This basically involves:

- collection of data/evidences;
- analysis and interpretation of data/evidences;

- validation of the objectives or verification of hypotheses;
- formulation of conclusions and generalizations; and
- writing the report/dissertation and its submission.

4.3.1 Collection of Data: Basics of What, Where and How?

For collection of data for research purpose you need to understand what type of data is required, where it is available and how to collect it.

4.3.1.1 Identification of Data Sources and Approaches to Collection of Data

Having studied MES-016, you are clear about two types of sources of data – primary and secondary. Primary sources include artefacts, historical documents, observations, or the people directly; and the secondary sources of data normally are other people's accounts, mostly printed documents. And the data comprises of numerical figures, descriptive narrations, responses of people, researchers observations, field notes, etc. You need to collect the relevant data from various primary and secondary sources that have relevance for your study. Further, what ever the data you collect must be valid and reliable enough for the purposes of the study. In adult educational research, like in educational research, the data you collect may be quantitative or qualitative, or both. Whatever it be, you have to follow certain approach that is suitable for collection of data for the study.

As Anderson (2001, p.164) rightly highlights, there are four general approaches basically used for data collection:

i) non-personal interaction with a subject (person) who provides data,

ii) personal interaction,

iii) observation of a setting, and

iv) examination of documents and artefacts.

Here, remember that every approach has its strengths and limitations in terms of the reliability and validity of the data that can be collected through these approaches.

Further, you need to be clear about how to collect data, that is, through what means you would be able to collect the required data. Data collection thus requires use of some sort-of instrument such as a test, questionnaire or the researcher.

For collection of data directly from the people – primary data – you are required to have clarity about:

i) the population whom you will be approaching for collecting the data, and

ii) the instruments/tools and techniques that you can use for collecting data from them.

So, firstly, you have to be clear about the units of population you will be consulting, contacting or approaching for collecting the data. Further, since it is not possible to take the entire population for the study you have to select representative size/number of units called sample from the population. Therefore, before you can approach them with your tool for collecting data from them you need to have very clear idea of not only population but also the sample you select out of it for your study.

4.3.1.2 Selection of Sample: Ways of Doing It

Although we have discussed the types and/or procedure of sampling in detail in Unit-12 of course MES-016, we put the essence of it here for practical benefit of enabling you to proceed with executive steps of your research/dissertation work.

Population (universe) and its sampling: *A* population (also called universe) is any group of individuals/elements/units that have one or more characteristicsin common which are of interest to the researcher. Sample is small group of units of the population selected for a particular research purpose. There is no sample readily available for any study. A sample for an intended study is therefore selected by a researcher from a population. After studying the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it (sample) is drawn. Or, if the population itself is small enough, then the entire population can be covered in the study.

In order to select suitable sample, you need to follow appropriate sampling methods. There are two broad categories of sampling methods, viz. i) Probability sampling methods, and ii) Non-probability sampling methods.

i) **Probability Sampling Methods:** In this type, samples are selected in a random manner which involves chance or operation of probability. The units of the sample are selected by following certain procedure which ensures that every unit of population has equal and independent chance, with one fixed probability, of it being included in the sample. Hence, these methods are also called *random sampling methods.* There are different types of probability sampling methods, as given below, from which you can choose suitable method for selection of sample, if this type of sampling is appropriate for your study.

- ***Simple random sampling:*** This sampling is followed when all the elementslunits of population are listed or available. In this sampling, each and every unit of the population has the same or equal chance or probability of being selected or included in the sample. You may use *lottery method* or *Random Number Tables* to draw sample. When you use lottery method, if a unit selected in a draw is replaced in the population before making the next draw, then it is known as *simple random sampling with replacement.* On the other hand, if the unit selected is not replaced, before the second draw, and so on till the desired sample is drawn, then the sample plan is called *simple random sampling without replacement.* In either case, the simple random sampling would be one (Elhance, 1984, p.19.12). Or, you use of *Random Number Tables* for selecting the sample (please refer to Unit 12 of MES-016 for Random Number Tables). Please bear in mind that simple random sampling is neither possible nor feasible if list of population units is not available or the same is incomplete,

- ***Stratified random sampling:*** This sampling is used when elementslunits of population are not homogenous and universe contains sub-groups called *strata.* Stratified random sample is one in which random selection is done not from the universe as a whole but from different parts or strata of universe. The units of one stratum may be alike but are different from those of other strata. In this method, care is to be taken to see that units of each stratum (sub-group) are as homogenous as possible and at the same time differences between various strata are as marked as possible. Thus, sampling frame/plan is not homogenous for all the strata, i.e. there is heterogeneity across the strata. This sampling

is used, if these strata are necessary for research purpose. In this sampling, you need to divide the universe into different strata on the basis of some characteristics such as economic, social, geographic, etc., but the strata shbuld not be overlapping. After division of a universe into various strata, the next important step for the research is to allocate sample size to various strata or sub-groups. This allocation can be: ***i) proportionate, ii) optimum,*** or ***iii) disproportionate.*** Then, from each of the smaller homogenous strata or groups you will draw a sample accordingly, i.e. a pre-determinednumber of units allocated under either of the above three allocations (Elhance, 1984, p.19.19).

Just to understand ***proportionate stratified random sampling*** very clearly, look at the following example, based on which you can also have an implicit understanding of the ***optimum*** and ***disproportionate stratified random samplings.***

Suppose you intend to study "The reactions of adults who qualified the test for accreditation of their prior learning equivalent to Class 111" in a particular State. And, if there are 2000 adult learners who have passedthe test, we may categorize this population based on the locality (for example, urban, semi-urban and rural) of individual adults as a variable (See Table 2).

Table 2: Distribution of adults according to their locality

Type of Locality	Total number of adults (Np=2000)	Number of adults in sample (25% of population) (Ns=500)
Urban area	1000	250
Semi-urban area	600	150
Rural area	400	100
	Np = 2000	Ns = 500

Np = Size of the population; Ns = Size of the sample

You can notice from Table 2 that there are three groups of adults belonging to different types of localities (urban, semi-urban and rural) of the population of 2000 adults (Np =Number of adults in the population). Now, suppose you decide to select 25 percent of each group (stratum) into the sample. Then, from the stratum of urban locality, you get 250 adults (25%), from semi-urban locality 150 (25%) and from rural locality 100 (25%). Thus, the total number of adults in the sample comes to 500 (Ns = Number of adults in the sample) and units are thus proportionately selected. While selecting a particular number of adults from each stratum, simple random procedure is followed. Thus, sampling frame is ***proportionate stratified random sampling.*** (Or, if you decide optimum allocation for tach strata then the sampling frame will be ***optimum stratified random sampling***, and if the allocation is disproportionate, it is called *proportionate stratified random sampling*).

To explain ***proportionate stratified random sampling*** further, if you take more than one variable in the above example, you may go far more stratification of the population. For example, as given in Table 3 involving two variables (locality and sex), you will do further stratification by taking sex of adults as another variable in addition to locality, for selecting the sample, i.e. *proportionate stratified random sampling with two variables*.

Table 3: Distribution of adults according to locality and sex

Type of Locality	Number of males and females in the adult population (Np=2000)		Number of males and females in the sample of adults (25% of population) (Ns=500)	
	Men	Women	Men	Women
Urban area	600	400	150	100
Semi-urban area	400	200	100	50
Rural area	300	100	75	25
	Np_1 = 1300	Np, =700	Ns_1 = 325	Ns, =175

Np = size of the population (Np_1 + Np,); Ns = Size of the sample (Ns_1 + Ns,)

As you can notice from the above, stratified random sampling provides more specific results than simple random sampling. It is useful in survey-based research studies, particularly when the list of all units/members/items for each of the various strata of the universe is available.

- ***Systematic sampling:*** This sampling method is used when the universe is finite and all of its units can be arranged in some serial order – alphabetic, numeric or some other. In this sampling, only one unit is selected at random from the universe and all other units of the sample are fixed and are at some specified distance (space) from the so selected unit. Hence, it is also called *quasi-random sampling.* For selecting the sample, first the *space interval* is calculated by taking into account the size of the populationluniverse and the size of the sample. The *space interval* K is calculated as N/n, where N is the size of the universelpopulation, and n, the sample size.

  For example, a universelpopulation consisting of 1000 units is arranged in an order, and a sample of 100 is to be selected out of it, then the value of space interval K will be:

  K = N/n = 10001100 = 10 **(Note:** Suppose the value of K, in any other case, is in fraction, it would be rounded off to the nearest integer).

  Having decided the space interval (i.e. 10 in the example), we will first select at random any number from out of the first 10 units (K) of the universe. Then every consecutive tenth unit beginning from the randomly selected unit (i.e. from among the first ten units in the example) will form part of the sample till the required number of 100 is selected. Thus, if from the first 10 numbers the unit 6 has been selected at random, then our sample of 100 in this example would constitute the items at serial numbers 6, 16, 26, 36, .., ..., ..., and 996, in the so arranged order (Elhance, 1984, p.19.22).

- ***Cluster Sampling*:** In this sampling, the universe is divided into some representative sub-groups called clusters. Each cluster will consist of two or more units. Then, simple random sampling of the clusters is drawn and all the units belonging to the selected clusters constitute the sample. This sampling is followed when the population of your study is too large, geographically scattered, and it is difficult or impractical to prepare a

list of all the units and also sampling is likely to pose administrative problems. For example, if you want to sample survey households in non-regularised colonies in Delhi, you will divide non-regularised colonies into some representative Blocks and select a few Blocks, say 25, out of them at random. Then, all the households in these 25 selected Blocks will constitute your sample.

- ***Multi-stage sampling:*** If your research study involves large size of population spread across a large geographical area and it is difficult to access the population, you may opt for multi-stage sampling. As the name indicates, in this method, sampling is done at many or different stages. Each stage of sampling has some definite purpose. You will define each stage of sampling as per the objectives of your study. Suppose you are interested in studying "The reactions of adult participant-beneficiaries of skill development programmes organised by Jan Shikshan Sansthans (JSNs)" in particular State. At the *first* stage, you may select at random, for example, 5 districts out of all those in the State where the JSNs are implementing these programmes. In the second stage, out of all those JSNs implementing these programmes in these five districts, you may select 10 JSNs. In the third stage, you may select randomly 500 adult participant-beneficiaries of these programmes out of all those under these selected JSNs. In this way, the final sample, i.e. sample for your study will be 500 adult participant-beneficiaries spread over 10 JSNs under 5 districts in the state.

ii) **Non-probability sampling:** In this sampling, units/elements of universe are not chosen at random and it is difficult to estimate the sampling error. This sampling is used when representativeness of the sample is not the prime issue. Major forms of non-probability sampling include the following.

- ***Quota sampling:*** In quota sampling, sample is selected on the basis of key characteristics of population such as age, sex, income, occupation, educational level, etc. Firstly, population is divided into categories based on the key characteristics. Secondly, sample is selected from each of the categories to make it representative of the population. You give representation to the characteristics in the sample in the same proportion to their presence in the population. In quota sampling, you try to represent the strata (characteristics) in proportion to their presence in the population. For example, if your population is 1,000 comprising 600 men and 400 women, then in the sample there should be 60 percent men and 40 percent women. If the sample selected is 200, then there should be 120 men (60%) and 80 women (40%). Thus, in quota sampling, selection of the sample is done according to a fixed quota for different characteristics of the population. However, it is difficult to fix up quota for each characteristic if there are too many characteristics of population. Hence, you may choose a few characteristics and accordingly decide about the sampling. Quota sampling method is more or less similar to the stratified random sampling method. But, the difference between the two is that the randomization process is not required in the former while it is a must in the latter.

- ***Purposive or Judgement sampling:*** In this sampling, as the name implies, selection of the items/units depends on the discretion or judgement of the investigator. Those characteristics or qualities of the universe about which information is to be collected form the basis of judgement in selecting the sample. Under this sampling, the investigator chooses units from the universe in accordance with his/her own judgement. For example,

if investigation has to be done about the expenditure of students in a hostel, then the investigator will pick up such students who are neither miserly nor luxurious in their spending. The researcher exercises his/her discretion judiciously to meet the purpose of the study and to make the sample more representative (Elhance, 1984, p.19.23). But, the investigator should avoid any unreasonable bias in favour or against inclusion of particular units (of universe) in the sample, which will lead to distorted results/findings.

- ***Incidental or Convenience Sampling:*** In this sampling, as the name implies, the researcher will select those units of the population which are incidentally or conveniently available to him/her. This sample is selected neither on the basis of rules of probability nor on the basis of judgment of the investigator. Suppose you want to study the reactions of parents towards introduction of sex education in secondary schools. Then, you may interview the parents attending the parent-teachers' meeting in the schools which are in the areas nearer to your residence to arrive at the required sample size. In convenience sampling, any unit of the population incidental thereto can thus be included in the sample. Since the sample drawn is not representative of population, generalization of the findings about their reactions is not possible, as the results are biased, invalid and unsatisfactory. This sampling should be avoided as far as possible.

- ***Snowball sampling:*** Sometimes, you may find it difficult to access the sample because of the very nature of the members of population. In this case, you will first select a few members of the population whom can you access, then use them to identify and select another group of members who will further identify the third group of members, and so on. The process goes on till you arrive at the required size of safnple. Therefore, this sampling method is called snowball sampling. This sampling-method, for example, can be used when you want to study behaviour of those students who are addicted to computer games. Similarly, when it is difficult to trace the members of population due to lack of proper communication networks, the researcher may use snowball sampling method (IGNOU, 2011, p.16).

Sample Size: During the discussion about above samples, you must have got doubt as to what your sample size should be. Remember that: i) there are no hard and fast rules that are equally applicable to samples of all types of research; ii) optimum size of sample is specifically related to the type of research you are undertaking; iii) there are some research methodologists who believe in "rules of thumb" for quantitative experimental research as well as qualitative researches (e.g. Borg and Gall, 1979); iv) there are some other research methodologists who feel that rules of thumb'are never appropriate as a basis for making sample size decisions (e.g. Krathwohl, 1993); and v) sample size of your study will be determined by very practical constraints, such as how many people are participating in a classroom, programme, etc (Mertens, 1998, p.270).

Now, your next task is to select or develop your tool(s)/instrument(s) for collection of data from the sample. Please note that the terms 'tool', 'instrument' and 'device' are used interchangeably by many researchers and so is here in this Handbook. You know that data is of two types – quantitative and qualitative. ***Quantitative data*** are collected using inquiry forms such as questionnaire, schedule, check-list, rating scale, score card, etc which often elicit such responses which have numerical values attached. When the data are obtained as close-ended responses they hardly provide any depth and detail. Quantitative data are either parametric or non-parametric — *parametric data* are data measured on interval or ratio scales of measurement while *non-*

parametric data are obtained by applying nominal or ordinal scales of measurement. These data are either counted (enumerative) or ranked (ordinal). Other type, ***qualitative datu*** can be obtained through the tools such as opinionnaire or attitude scale, observation, interview, psychological tests, etc which are designed to describe and measure a sample of certain aspects of human behaviour or inner qualities. For example, when open-ended responses are obtained through questionnaire or schedule then they serve as qualitative data collection tools as well. Qualitative data may be verbal or in the form of symbolic materials which are useful in detailed description of observed behaviours of people, situations and events. First-hand information from people about their experiences, ideas, beliefs, etc., and selected content or excerpts from documents, case histories, personal diaries and letters are other examples of qualitative data. However, some studies may require quantitative and qualitative data that is collected by using one or more than one tool or technique, as the case may be.

Therefore, different tools/instruments used for collection of data are presented below, for the practical benefit of enabling you to choose from or develop your own tool and use it for your study.

4.3.1.3 **Selection/Development** and Administration of Tool for Data Collection

A researcher has two clear options regarding tool for data collection: i) To select appropriate tool from the existing tools developed and used by previous researchers; or ii) To develop appropriate tool(s) of his/her own. However, the tool that you select or develop, as the case may be, must be suitable enough to provide you the required data for achieving the research objectives or testing the hypothesis(ses) of the study. In Unit 13 of Block-3 of Course MES-016, we discussed in detail various tools and techniques of data collection. Yet, for your practical benefit, here, we attempt to provide you panoramic overview of these tools and techniques.

I) Range ***of*** Tools

As mentioned elsewhere above, the process of research in adult education is not much different from that in education, and so is the case with the tools used. The major tools of research in education can be classified broadly into the following categories (Sukhia, Mehrotra and Mehrotra, 1983, p.129-130).

A) Inquiry Forms: These are a class of data-gathering devices which make use of properly prepared proformas or forms for inquiring into and securing information about certain phenomena under study. These include:

i) Questionnaire,

ii) Schedule,

iii) Check-list,

iv) Rating Scale,

v) Score Card, and

vi) Opinionnaire or Attitude Scale

B) Observation

C) Interview

D) Social measures/Sociometry

E) Psychological Tests: These are instruments designed to describe and measure a sample of certain aspects of human behaviour or inner qualities. Important psychological tests include: *i) Achievement Test, ii) Aptitude Test, iii) Intelligence Test, iv) Interest Inventory,* and *v) Personality Measures.*

While some of these tools are useful in collecting quantitative and qualitative data some others are useful for collection of either quantitative or qualitative data only. We will discuss theses tools in brief, of course, with emphasis on selected ones in view of their greater relevance.

1) Questionnaire

In general, the word questionnaire refer· to a device for securing answers to questions by using a form which the respondent fills-in himself (Goode and Hatt, 1952, p.33). According to Ban; Davis and Johnson (1953, p.65) questionnaire is "a systematic compilation of questions that are submitted to a sampling of population from which information is desired. Questionnaire is the widely used tool to collect information from individuals regarding any events, phenomena, practices,and attitudes, among others. A questionnaire is either administered personally to a group of individuals or sent by post/mail to the individual respondents located at different places along with due explanation of the purpose and directions about recording their responses to the questions.

Types of questionnaire: Questionnaires in general are of two types — structured questionnaire and unstructured questionnaire. *Structured questionnaire* contains definite, concrete and pre-ordinate questions prepared well in advance. This type of questionnaire is pre-dominantly used in formal inquiries. *Unstructured questionnaire* is flexible with questions which are not rigid and pre-ordinate and are reframed or adjusted in view of the need, context or purpose. This type of questionnaire is often used as a guide by the interviewer during interviews.

Based on the type of questions asked, questionnaires can be classified into two types (Best and Kahn, 2001, p.231-232).

i) *Closed-form or restricted questionnaire:* In this questionnaire, the questions are given with a few alternatives answers or restricted responses. The respondent marks a response out of the suggested responses or writes short response out of the restricted/fixed choice of responses. It is done by way of putting a check mark (√) on the possible answer from a list, encircling particular response, ranking the responses, etc. For certain type of information, the closed-form questionnaire is entirely satisfactory. It is relatively objective, easy to respond as it takes little time and keeps the respondent on the subject. For the researcher also it is fairly easy to tabulate and analyse.

ii) *Open-from or unrestricted questionnaire:* This type of questionnaire calls for a free response in the respondent's own words. It provides for greater depth of responses. The respondents reveal their frame of reference and possibly the reasons for their responses; but, at the same time, it is time-demanding and difficult to respond. For the researcher also, sometimes, the data collected may pose difficulties while tabulating, interpreting and summarising it in the research report.

Each type has its relative merits and limitations, and the questionnaire builder must decide which type is more likely to supply the information wanted. Therefore, you must thoroughly decide which type of questionnaire is more likely to provide the information you want for your study. However, it may be noted that many questionnaires include both open- and closed-type items.

Principles of construction of a questionnaire: There ***are*** no definite ways of producing foolproof questions. However, you need to keep in mind the following principles, as given by Best and Kahn (2001, pp.233-236), which will be helpful to you in making your questionnaire items more precise and clear.

- *Define or **qualify** terms that otherwise could easily be **misinterpreted**.* (e.g. what is the value of your house?. Here, the word 'value' may be misinterpreted by many; instead 'cost' is more appropriate word).
- *Be careful in using descriptive adjectives and adverbs that have no agreed upon meaning.* (e.g. frequently, occasionally, rarely).
- *Beware of double negatives.* Underline negatives for clarity. (e. Are you opposed to *not* requiring students to take showers after gym class?).
- *Be careful of inadequate alternatives.* (e.g. Are you married? Yes/No. But, .how would the person answer it if he/she is widowed, separated or divorced).
- *Avoid the double-barrelled question.* (e.g. Do you believe that gifted students should be placed in separate groups for instructional purposes iind assigned to special schools? You can rather break it into two separate questions seeking clear response).
- *Underline a word, if you wish to indicate special emphasis.* (e.g. Aparent should not be told his child's IQ score).
- *When asking for rating or comparisons, a point of reference is necessary.* (e.g. How would you rate this student teacher's classroom teaching? Superior _____ Average _____ Below Average _____).
- *Avoid unwanted assumptions.* (e.g. Are you satisfied with the salary raise that you received last year?).
- *Phrase questions properly so that they are appropriate for all respondents.* (e.g. What is your monthly teaching salary?).
- *Design such questions that will give a complete response.* (e.g. Do you read *'The Hindu'*? Yes/No).
- *Provide for the systematic **qualification** of responses.* (e.g. What are your favourite television programmes? List them in order of preference).
- *Consider the possibility of **classifying** the responses **yourself**, rather than having the respondent choose categories.* (e.g. At what place does your father work? What kind of work does he do?).

Characteristicsof a good questionnaire: According to Sukhia, Mehrotra and Mehrotra (1983, p.131) following are the characteristics of a good questionnaire.

a) **A** good questionnaire deals with a significant topic, and it is so considered by the respondent. The questionnaire itself or the accompanying letter must indicate its importance.

b) It seeks information which is not available from other sources (such as reports, census data, etc.).

c) It is as short as possible, comprehensive and clear-enough for securing all the essential information.

d) It is attractive in appearance, neatly arranged and clearly duplicated or printed.

e) It contains directions which are clear and complete. Important items are defined and each questian deals with a single idea in unambiguous terms, so that it is valid and reliable.

f) Items are arranged in categories to ensure easy and accurate responses.

g) It contains questions of an objective nature without any leading suggestions as to the responses desired.

h) It presents questions in a good order, proceeding from general to the more specific responses, from simple to complex, from those that will create a favourable attitude to those that may be somewhat delicate or intimate.

i) It avoids annoying or embarrassing questions.

j) It is easy to tabulate and interpret, based on a pre-constructed tabulation sheet and a visualised final analysis of data.

Developing and implementing questionnaire: The task of developing and implementing a questionnaire can be accomplished by following the six essential steps.

i) ***Determine your questions:*** For this; identify your general information needs keeping in view yaur research aims and objectives, and target groups from whom you require this information.

ii) ***Draft the items:*** Your items can be closed-end questions with ***yes*** or ***no*** answers, fill-in-the-blanks type with fixed choice, multiple choice questions, rank or list format, matching type, and open-ended questions.

iii) ***Sequence the items:*** Organise your items to give structure to the questionnaire with sub-headings and corresponding sections; sub-sections, groups, major questions, sub-questions, etc.

iv) ***Design the questionnaire:*** You decide the format of your questionnaire; have a layout of items to avoid confusion, organise it into specific sections each with title, use a booklet format, make it visually appealing, and develop cover letter or include a cover page containing title, introductory paragraph, and certain directions/instructions.

v) ***Pilot-test the questionnaire:*** Through pilot-test you will be able to identify ambiguities in the instructions; clarify the wording of questions; identify omissions and unanticipated answers in multiple choice questions, rank questions; take cognisance of comments received on the length of questionnaire, etc, and revise it.

vi) *Develop a strategy for data collection and analysis:* Ensure that each subject receives a cover letter, a professionally developed questionnaire and a self-addressed return envelope, unless you are transmitting it electronically. Monitor returns, send reminders and follow-up with alternative distribution system, begin data entry and data analysis.

2) Schedule

Schedule is the name usually applied to a set of questions which are asked and filled in by an interviewer in a face-to-face situation with another person (Good and Hatt, 1952, p.133). A schedule is different from a questionnaire — the former is administered personally to a respondent or a group of respondents while the latter is usually mailed. The advantage of schedule over questionnaire is that it provides opportunity to establish rapport with the respondent, to explain the purpose and to make the meaning of the items clear, where required. Sometimes, its disadvantage is that personal contact may prove to be too expensive or time-consuming. The characteristics of a good schedule, the ways of constructing it, and the analysis and interpretation of the data gathered through a schedule are not very different from those of a questionnaire (Sukhia, Mehrotra and Mehrotra, 1983, p.138).

3) Check-list

The check-list is a simple laundry-list type of device, consisting of a prepared list of items. It is a type of questionnaire in the form of a set of categories for the respondent to check. It is used to *record the presence or absence of the phenomena under study*. It is used in educational surveys and also as a form of recording in observational studies of behaviour. Responses to the check-list items are thus a matter of fact, not of judgement. The tabulation and quantification of check-list data is done in very much the same way as of the questionnaire responses (Op. cit., p.139).

The check-list is an important tool in gathering facts for educational or adult educational surveys. It is useful in assessing the knowledge of the respondents regarding the presence or absence of certain defined characteristics or features in an object, a phenomenon or a process. It is also used to evaluate the performance, by dividing the check-list items into a series of clearly defined actions and the respondent indicates the presence or absence of the characteristics or actions by appropriately checking the listed items.

Construction of a check-list: For constructing a checklist the researcher first needs to decide about the type of information required for the investigation, then prepare the items and arrange them in a logical or psychological order. Check-list items, in general, are framed in different ways:

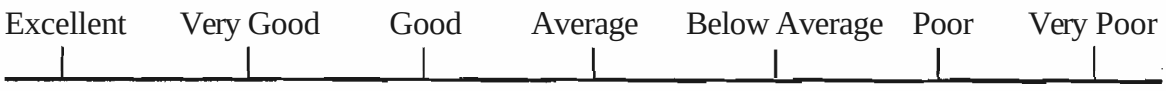
- Item may be put in question form with 'Yes'/ 'No' answers. In this type, the respondent will check either *yes* or *no*.
- Item may be prepared in the form of a statement. The respondent is asked to put a (√) tick or (X) cross mark depending upon the presence or absence of the phenomenon under study.
- Item may be given in the form of a sentence. The respondent is required to choose, underline or encircle the appropriate word(s) to indicate his/her response.

Check-list must have the quality of completeness and comprehensiveness. A pilot study of check-list is helpful to assess its feasibility in the field and improve its validity.

4) Rating Scale

Rating is a term applied to expression of opinion or judgement regarding some situation, object or character. Opinions are usually expressed on a scale of values. Rating scale is a very useful device in assessing quality, specially when quality is difficult to measure objectively. Rating scales record judgments or opinions indicating the degree or amount.

For example, 'How good was the performance?' can be measured on a scale of seven points indicating 'Excellent', 'Very Good', 'Good', 'Average', 'Below Average', 'Poor', Very Poor (Sukhia, Mehrotra and Mehrotra, 1983, p.142):



Rating scales include threefactors, namely,

i) The subjects or the phenomenon to be rated;

ii) The continuum along which they will be rated; and

iii) The judges who will do the rating.

Making use of rating scales is a very flexible and simple procedure but it depends on judges instead of independent criteria and is thus not wholly objective. Pooled judgements increase the reliability of any rating scale, when several judges are employed.

5) Score Card

The Score Card is an elaborate form of Rating Scale in which items are always evaluated, usually in numerical terms. The score card provides for the appraisal of a relatively large number of aspects. Its ratings usually yield a total weighted-score and thus reach an over-all evaluation. Score Cards are usually used in evaluating communities, building-sites, schools, text-books, socio-economic status of a family and the worth of any literary or educational work or institution. The rater is provided with a general standard of criteria in detail and he/she has to react to and rate only a single unit of the total situation at a time. Usually a number of raters are employed and their scores combined and averaged (Op. cit., p.139).

6) Opinionnaire or Attitude scale

An information form that attempts to measure the attitude or belief of an individual is known as opinionnaire or attitude scale. It is designed to measure the attitude or belief of an individual towards an object, event, or a phenomenon. There is, of course, difference between attitude and opinion. Beliefs and feelings expressed by people is the area of opinion. From the statement of opinion a person's attitude is inferred, although inferring attitude from expressed opinion has many limitations. This is so because people may conceal their real attitude and express socially acceptable opinions. Attitude thus denotes the inner/real feeling or belief of a person towards a particular phenomenon, while opinion is what a person says about his attitude towards some phenomenon. In spite of these limitations about attitudes, researchers have been employing several methods such as the following to study attitudes (Best and Kahn, 2001, pp.245-247).

i) ***Thurstone Technique:*** This is known as ***Thurstone Technique of Scaled Values*** (Thurstone and Chave, 1929). Attitude of an individual is basically his reaction to an object, situation or proposition in favourable (positive) or unfavourable (negative) ways. Attitude scale is always

in the form of a continuum which ranges from favourableness through neutral to unfavourableness. An attitude scale consists of a set of statements, usually more than twenty, gathered or prepared which express various points of view toward an object, group, situation, institution, idea or practice. They are then submitted to a panel of judges, each of whom arranges them in eleven groups ranging from one extreme to another in position. This sorting by each judge yields a composite position for each of the items. If there exists marked disagreement among judges in arranging a position to an item, that item is discarded. For items that are retained, each is given its median scale value between one and eleven as established by panel. The list of statements is then given to the subjects, who are asked to check the statements with which they agree. The median value of the statements that they check establishes their score, or quantifies their opinion.

ii) ***Likert Method:*** It is popularly called ***Likert Method of Summated Ratings.*** Since the Likert type scale takes much less time to construct, it offers an interesting possibility for the student of opinion research. In this method, in the *first* step, a number of statements about a subject are collected. It is important that they express definite favourableness or unfavourableness to a particular point of view and that the number of favourable and unfavourable statements is approximately equal. In the second step, a trial test is administered to a number of subjects. The respondents are asked to respond to each item in the scale, a five-point scale, which has categories of responses as Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). This technique assigns a scale value to each of the five responses. Starting with the particular point of view, the responses to all the statements favouring the position (SA, A, U, D and SD) are scored as 5, 4, 3, 2, and 1 respectively. For statements opposing the point of view, the responses to the items are scored in the opposite order (i.e. SA, A, U, D and SD are scored as 1, 2, 3, 4, and 5 respectively). Only those items that correlate with the total test are retained. The attitude or opinion scale may be analysed in several ways. The simplest way to describe opinion is to indicate percentage responses for each individual statement. For this type of analysis by item, three responses – agree, undecided and disagree – are preferable to the usual five type. If a Likert type scale is used, it may be possible to report percentage responses by combining the two outside categories: "strongly agree" and "agree"; "disagree" and "strongly disagree".

Criteria to be kept in view while writing statements for an attitude scale: Edwards (1957) lists the following criteria that can be taken into consideration while writing the statements for an attitude scale.

- Avoid statements that refer to the past rather than to the present.
- Avoid statements that are factual or capable of being interpreted as factual.
- Avoid statement that may be interpreted in more that one way.
- Avoid statements that are irrelevant to the psychological object.
- Avoid statements that are likely to be endorsed by almost every one or almost no one.
- Keep the language of the statements simple, clear and direct.
- Statement should be short and should contain only one complete thought.
- Statement should be in the form of simple sentence.
- Avoid the use of double negatives.

Construction or development of attitude scale: An attitude scale can be constructed as follows.

- Write a large number of statements with favourable and unfavourable opinions towards the psychological object. Edit the statements. The number of favourable and unfavourable statements in the scale should be approximately equal.
- Give clear directions or instructions in the beginning regarding how to mark their answers such as putting a mark or a circle around the number indicating the answer.

  Assign the scoring weights of 5, 4, 3, 2 and 1 for SA, A, U, D and SD (or 3, 2 and 1 for A, U and D, if it is three pint scale) in respect of the statements with favourable attitude, and the scoring weights of 1, 2, 3, 4 and 5 are used for SA, A, U, D, and SD (or 1, 2 and 3 for A, U and D, if it is three pint scale) for the statements with unfavourable attitude. An individual score on a particular attitude scale is the sum total of these ratings on all items.

  Once the draft is ready, it is generally administered to a sample of about 200 subjects selected from the population of the study. Scoring of the items is done as per the scoring weights decided for different items.
- The final selection of the items for the scale is made on the basis of their t-values. For this, item-wise analysis of the responses is carried out. On the basis of the total scores obtained by the respondents, the upper.25 percent obtaining the highest scores and the lower 25 percent obtaining the lowest score are taken. The value of 't' is found out based on the response of upper and lower groups to the individual statement. Finally, suitable number of statements with the largest t-values ($t > 1.75$) are selected for the final attitude scale.
- The reliability of Likert type attitude scale is computed by the split-half method. The validity of the scale is decided by comparing it with other similar standardised scales.

If your area of interest is population education, for you to feel the experience of practical illustration of the development of attitude scale, you can see Sreedevi and Lakshmi Reddy (1988, pp.65-75) who developed 'a scale to measure the attitude of adult education programme organisers to population education'.

iii) Semantic Differential Method: This method was developed by Osgood, Suci and Tannenbaum (1957, mentioned in Best and Kahn, 2001, p.250). It is similar to the Likert method in that the respondent indicates an attitude or opinion between two extreme choices. This method usually provides the individual with a seven-point scale with two adjectives at either end of the scale, having the ends such as good – bad, fair – unfair, moral – immoral, healthy – sick, clean – dirty, honest – dishonest, strong – weak, hard – soft, innocent – guilty, etc. The respondent is asked to rate a group, individual or object on each of these bipolar scales. The semantic differential has limitations similar to those of the Thurstone and Likert approaches.

In spite of their limitations, you can use these techniques or scales, as they still serve useful purpose in measurement of attitudes or opinions until more precise measures of attitude are developed.

7) Obsewation

Observation has been the prevailing method of inquiry that started with beginning of scientific activity. It consists of detailed notation of behaviours, events and the contexts. Observation as research technique must be systematic, purposeful, carefully focused and thoroughly recorded. In other words, it requires proper planning, expert execution, adequate recording, proper classification and interpretation of particular events or behaviour. It is used to evaluate the overt behaviour of individuals in controlled and uncontrolled situations. It is often used in experimental, descriptive and qualitative research, and more so in ethnographic and phenomenological studies.

Types of *Observation:* Based on the involvement of the researcher/observer with the subjects or the situation, observation may be classified as ***participant observation*** and ***non-participant observation.*** In the former, the observer becomes fully or partly involved with the group under observation either as a visiting stranger; an attentive listener, an eager learner, etc. In the latter, the observer does not take part in the situation and takes a position where his/her presence does not cause any disturbance to the group or in the actual happening of the event.

Spradley (1980, mentioned in Mertens, 1998, pp.317-318) identifies the following five types of participation depending upon the level of involvement of the observer.

1) ***Non-participation:*** There is lowest level of involvement usually accomplished by watching a videotape of the situation, recorded as it happened. The researcher may not be present during the video recording, but would review the tape at a later time.

2) ***Passiveparticipation:*** The researcher is present, but does not interact with the participants.

3) ***Moderateparticipation:*** The researcher attempts'to balance the insider and outsider roles by observing and by participating in some but not all of the activities.

4) ***Active participation:*** The researcher does what the others do generally, but does not try to blend in completely.

5) ***Complete participation:*** The researcher becomes a natural participant, which has the disadvantage of trying to collect data and maintain a questioning and reflective stance.

Observation may also be classified as structured (formal) or unstructured (informal) observation. The ***formal or structured observation*** proceeds as per the pre-designed systematic manner, start with relatively specified formulations and are executed in controlled conditions. The observer sets up in advance the categories of behaviour, qualities or characteristics that he/she wishes to analyse in respect of the problem, and keeps in mind the time limit for completion of observation. In ***unstructured or informal observation,*** the observer does not categorise the behaviour in advance for observation and there is no fixed time limit for completion of observation.

Qualitative observation occurs in naturalistic settings without using predetermined categories of measurement or response. The researcher is interested in observing people's behaviours as they naturally occur in terms that appear to be meaningful to the people involved. Adler and Adler (1994, mentioned in Mertens, 1998, p.317) distinguish between observation and participant observation, suggesting that qualitative researchers tend to use more of the latter, probably because of the theoretical roots associated with symbolic interactionism. In this type of qualitative research, the researcher usually wants to interact with the participants while collecting data from them. This contrasts with the less interactive, more "pure" observation appropriate for qualitative researchers who are conducting ethnomethodological research.

Enhancing the validity and reliability of observation: Collection of data through observation is a relatively demanding task. Sometimes, it requires considerable training of observers, who must be consistent in recording what they observe. Thus, agreement of observations is always a concern not only between different observers but also between the different observations of a single observer (Wiersma, 1986, pp.305-306).

Adler and Adler (1994) suggest the following ideas for enhancing the validity and reliability of observational data:.

- Use multiple observers or teams, diverse in age and gender, if possible.
- Cross-check observational findings with other researchers/observers and eliminate inaccurate interpretations.
- Search for negative cases to test emergent propositions.
- Describe the research setting and findings in such a way that the researchers can "see" and "feel" what it was like.
- Address reliability by making observations in various settings, at various times of the day, days of the week, and months of the year, as may be relevant.

Steps to be followed in observation: To make your observation a thorough one, you can follow the following steps.

i) Be sure that observation is the best technique for obtaining the information you are looking for.

ii) Prepare a scheme of work and make precise list of relevant aspects, matters, qualities, etc that are to be covered through observation. In formal or structured observation, consult minutes of previous meetings, future agenda, etc., if any, relevant for the purpose.

iii) Be clear about content, process, interaction, intervention, etc., which is of particular interest, relevance and significance.

iv) Devise your design, method or mechanism and identify other people, if any, required along with suitable equipment and devices that you may require.

v) If you are not doing the observation yourself and alone, and you are involving others necessary for the purpose, then train and equip them all properly.

vi) Adapt your own but effective system of recording the observation. If it is manual recording follow your own techniques of shorthand, symbols, letters, etc, as may be appropriate.

vii) Seek the permission of the concerned, and wherever required discuss with them in advance about any specific aspect, issue, matter involved, and more so the sensitive ones.

viii) Try out your method and revise it, if necessary, to get different types/categories of information that you need.

ix) Prepare any contingent plan as may be required in case of any anticipated disturbance or distortions in observation.

x) Prepare fully, indicating and ensuring all arrangements, about the setting(s) for observation of the actual/real situation.

xi) Practice recording until you are confident that all the observers involved can cope with it in actual situation.

xii) Conduct the observation as per the prepared plan. Be sure that you are through your agenda aimed at getting sufficient/complete observations to enable you to come to any meaningful conclusion. **Thank** all the people involved at all the stages.

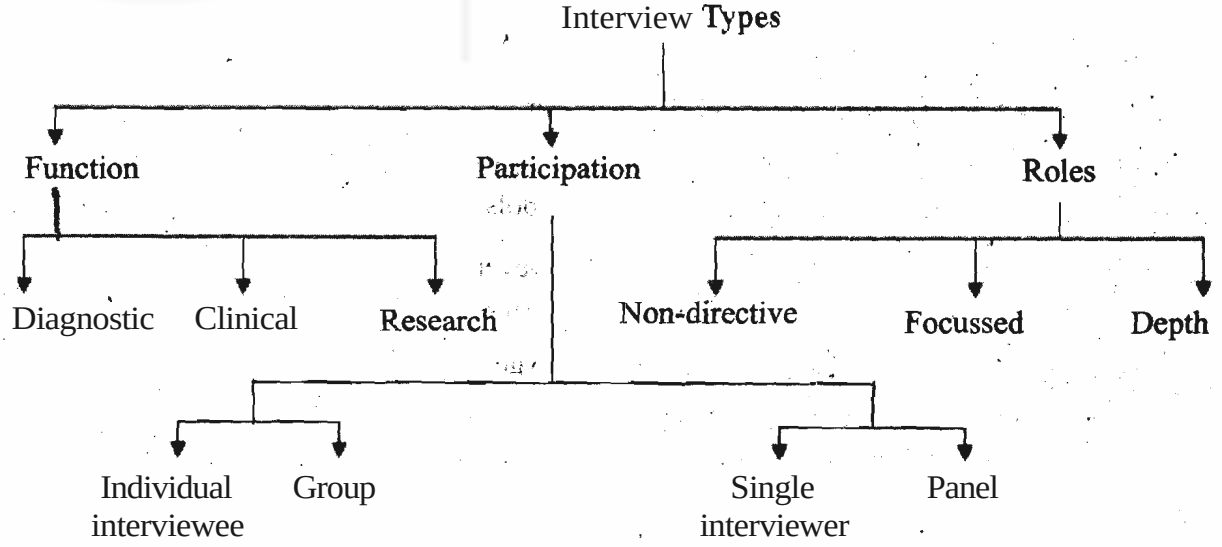
xiii) Consider the observations carefully along with their implications in the context, and analyse and interpret the **data/information** accordingly.

8) Interview

The interview is, in a sense, an oral ***questionnaire.*** Instead of writing the response, the subject or interviewee gives the needed information orally and face-to-face. Interviews range from quite informal and completely open-ended to very formal with pre-determined questions asked in standard manner. Although the interview is generally associated with counselling or pspchotherapy, it can be used effectively to collect useful information about individuals in many research situations. The technique of 'Interview' is mostly used in descriptive and case study researches.

Types of interview: Interviews are classified as structured and unstructured. A ***structured*** interview is one in which the procedure to be followed is standardized and is determined in advance of the interview. The same type of questions are presented in the same order to each subject or interviewee, and **working** of the **instructions** is specified to the interviewees before the interview starts. The interviewer has the **freedom** to rephrase questions, add extra ones, or change the order in whieh the questions have to be presented. On the other hand, unstructured interview provides greater **flexibility.** Although the series of questions to be asked and the procedure to be followed are decided upon before hand, the interviewer is largely **free** to **(re-) arrange** the form and timing of questions.

Based on function of interview, number of persons participating in the interview and roles assumed by the interviewer and interviewee interview is classified into **the** following types **(Sukhia,** Mehrotra and Mehrotra, 1983, p.158).



Preparation for interview: Preparation for interview is a critical step in the procedure of interview. A written outline of schedule or check-list will provide a set plan for interview. Recording interviews on tape is preferred because it is convenient, inexpensive and obviate the necessity of writing during the interview, which may be distracting to both interviewer and subject. Unlike a questionnaire, the interview protocol must address issues of process as well as content. You have to judge the amount of details your protocol or procedure requires.

Anderson (2001, pp.183-189) specifies the following seven steps (See Box-1) in developing an interview protocol, which you can follow as guidelines for conducting an interview.

Box-1: Developing an interview protocol

1) Determine your general and specific research questions
   - what do you intend to find out?
   - what information is essential from the interview?
2) Draft the interview questions
   - draft open questions;
   - draft closed questions.
3) Sequence the questions
   - group into topic sections;
   - arrange sections in sequence;
   - vary question type.
4) Consider your process needs
   - prepare suitable transitions;
   - prepare probes, process questions.
5) Prepare the introduction and closing
   - record verbal statements;
   - note non-verbal statements.
6) Prepare for recording the responses
   - decide on general method;
   - organise protocol for written responses.
7) Pilot test the interview protocol
   - pilot-test;
   - revise, as necessary.

9) Social Measures/Sociometry

For the purposes of describing and measuring social relationships, values, social phenomena, etc, many of the tools described above (questionnaire, schedule, opinionnaire, rating scale, observation and interview) have been variously used as they can lend themselves to be utilised for the purpose of collecting relevant data. But some tools which are specifically designed for

this purpose include social distance scales, guess-who techniques, sociometry. Since these are mainly used in sociological research, these are not discussed any further here.

10) **Achievement test**

Achievement tests propose to measure what and how much pupils/learners have learnt as a result of formal, non-formal or informal instruction. They measure the present level of performance of individuals or groups in academic learning. Achievement test scores are used to decide which grade a learner is suitable for or what his strengths and weaknesses are. Frequently, achievement tests are utilised for evaluating courses of study or efficiency of teachers and teaching methods or other educational factors. Achievement tests may be traditional or essay-type and new-type or objective. The shortcomings of the traditional achievement tests have led to the development of objective tests. In adult education also the achievement tests are used to evaluate literacy learning, awareness and functionality of adults. Recently, these are used in determining the level of equivalency of adults' learning with formal levels of learning as a part of recognition of their prior learning to promote their further and lifelong learning.

The salient features of the tests of achievement (new-type) are as follows (Sukhia, Mehrotra and Mehrotra, 1983, pp.169-170):

- They consist of a large number of individual test items requiring short answers or responses which take very little time of the students/learners.
- The items are based on an extensive sampling of the course of study and are arranged sometimes in a logical, and sometimes in a random order.
- The items are phrased briefly in unambiguous terms and permit of only one correct response.
- The items are of various types — the main classifications being (a) recall type, and (b) recognition type.
- These tests bear clear objective instructions as to their administration, answering and scoring. Scoring keys are prepared in advance. Each correct response secures one score and wrong response a zero.
- These tests may be oral or written, performance or paper-pencil, speed or power, depending on the subject or purpose for which they are devised and administered. Achievement tests may be standardised or non-standardised. Many standardised tests of achievement in different subjects are available for different grades or age-groups in advanced foreign countries. In India too some standardised tests in specific subjects have been prepared, and are being prepared.

Achievement test is an important tool often used in educational research. These tests have equal relevance in adult education for assessing the progress of adult learners in their literacy learning, awareness and functionality aspects.

Let us now consider the steps involved in developing a good achievement test, which are, in general, as follows.

i) The *first* step in the development of a good achievement test is to design a framework. For this, you have to:

   a) Analyze the course contents into different content units/chapters and decide the weight(age) to be given to each in the test.

b) Decide the weight(age) to be given to different objectives being tested.

c) Decide the weight(age) to be given to different forms of questions to be used in preparing a test.

d) Decide the weight(age) to be given to time and marks for different forms of questions.

e) Decide the weight(age) to be given to the difficulty level of the questions in the test.

f) Prepare a table of specification, i.e. the blue-print, which reflects distribution of various types of questions to be set for testing particular objectives such as knowledge, understanding, skill, and application related to different content units.

ii) Write test items as per the table of specification (blue-print). A good test provides necessary directions to the students clearly indicating: a) the purpose of the test; b) time allowed to complete the test; c) total marks for the test; d) weight(age) given to the different questions or parts of questions; e) how to record the answers; f) whether guesses are allowed when in doubt about the correct answer and the effect thereof;

iii) After the test is developed, it is administered to the intended respondents. After collecting the responses of the respondents on the test, the test scripts are scored. Scoring procedure for objective type items and essay type items will be different. Objective type items can be scored manually or sometimes by machines (computer), if the scoring key is provided. Essay type questions have to be scored manually by the teachers/instructors who are familiar with what has been taught. Sometimes, correction for guessing formula is applied while scoring objective type items in which answers can be guessed. However, if the number of items in that test is large (above thirty), it is not necessary to use this formula, as it does not yield better discrimination. Also, it is not necessary to use any such formula if the test is made by the teacher/instructor for classroom use, or for guidance to students/adults after their scores are communicated to them.

11) Intelligence Tests

Intelligence is an inborn general ability that determines performance of all activities by a person and differs in quantity from person to person. Intelligence is a factor which determines a good deal of educational outcomes. In experimental designs, intelligence is a significant variable which stands in need of being controlled. In studies of the causal relationship kind, intelligence of the subjects is a factor which has often to be measured. In normative survey studies also, sometimes, intelligence is described and measured. The tools that are used for the purpose of measuring intelligence are called intelligence tests. Intelligence tests may be classified into the following (Sukhia, Mehrotra and Mehrotra, 1983, pp.170-171).

i) Performance tests and Verbal tests,

ii) Oral tests and Paper-pencil tests,

iii) Group tests and Individual tests,

iv) Omnibus tests and Battery of tests, and

v) Point-scales and Age-scales.

Constructing and standardising tests of intelligence of various types is a long and painstaking activity requiring besides expert planning, preparation and organisation of work, steady application over a long period of time. It requires lots of statistical calculation and testing and retesting before such tests are finally available for use. Amounting to a complex research activity, construction and standardisation of intelligence tests is not the work of individual researchers but requires team work and cooperation of many. These tests, thus, are not appropriate for your dissertation purpose.

12) Aptitude Tests

Aptitude tests attempt to predict the capacities or the degree of achievement that may be expected from individuals in a particular activity (Best, 1959, p.172). The term aptitude test is more commonly reserved for the tools which measure and describe special abilities, capacities or talents which are supposed to determine the level of achievement that can be expected from individuals in specific fields of study and activity. Like intelligence, aptitude also cannot be measured directly. It can only be inferred on the basis of present performance. Aptitude tests are, therefore, so designed as to predict improved performance with further training in the area under question – mechanical and manipulative skills, literary or specific studies, musical and artistic pursuits. Aptitude tests have proved useful in dividing students into fairly homogenous groups in schools. They have been used to select individuals for particular courses of study and guide them into areas where the probability of their achieving success is the greatest. For research in educational and vocational guidance, for research in selection of candidates for particular courses of study or professional trainirg, for research of the complex causal-relationshiptype, aptitude tests have proved to be of great value (Sukhia, Mehrotra and Mehrotra, 1983, p.171-172).

13) Interest Inventories

Like in intelligence and aptitudes, persons differ in their interests, likes and dislikes. Interests are a significant element in the personality pattern of individuals and play an important role in their educational and professional careers. Tools used for describing and measuring interests of individuals are the ***interest inventories*** or ***interest blanks***. They are self-report instruments in which the individuals note their own likes and dislikes. They are of the nature of standardised interviews in which the subject gives an introspective report of his/her feelings about certain situations and phenomena which is then interpreted in terms of interests (Op. cit, p.172).

The use of interest inventories is most frequent in the areas of educational and vocational guidance and case studies. Distinctive patterns of interests that go with success have been discovered through research in a number of educational and vocational fields. Mechanical, computational, scientific, artistic, literary, musical, social service, clerical and many other areas of interest have been analysed in terms of activities. As a part of educational surveys of many kinds, children's interest in curricular work, in reading, in games, in dramatics and other extra-curricular activities, etc, are studied. Construction of interest inventories is yet in its developmental stage and not many definite rules and principles are laid down for guidance in this technique. Strong's Vocational Interest Inventory and Kuder's Preference Record should, however, serve as standard specimens in the field (Ibid).

14) Personality Measures

For the measurement of certain personality traits or tendencies various instruments have been devised in recent years. Personality testing, however, is yet in its formative years and more research is being carried out towards constructing and improving such tools. Personality measures are mainly of two kinds: i) direct or inventories, and ii) indirect or projective techniques. Personality inventories are like interest inventories requiring subjects to self-report on their personality patterns. The individual check responses to certain questions or statements designed to measure certain personality traits or tendencies. An inventory which has often been used as research device to identify and describe certain personality traits among students is the Mooney Problem Check List (Rose, 1941, mentioned in Sukhia, Mehrotra and Mehrotra, 1983, p.173). It is an inventory (in two forms) to be used by students in reporting their own problems of adjustment. This inventory lists a number of possible problems, classified in different categories from which the students have to check those which, from their own view-point, trouble them. These responses yield not only a verbal picture of individual's adjustment problems but also quantitative scores – category-wise as well as total – which indicate the degree of difficulty he feels he is experiencing in his adjustment. The validity of these direct personality measures called inventories, however, is limited.

Somewhat free from limitations of personality inventories are the projective tests of personality which disguise their purpose so completely that the individual unconsciously projects his personality through his responses to given situations. Rorschach's Inkblot Test, Thematic Apperception Test, CAT, Rosenzeweig's Picture-Frustration Study, are all projective techniques where, in reaction to vague visual pictures or symbols, individuals project their own personalities. Tautophone and Word-Association Tests present various sounds and words respectively as stimuli for the purpose of recording reactions which are later interpreted, according to a set scheme of interpretation, to get a picture of the individual's personality. Tests and techniques of this category, however, present problems of more or less developmental and promotional try-out. Sentence-completion, story-completion, argument-completion, etc., are other similar devices which depend a good deal on subjective judgment and skill of interpretation. The rationale of the projective method is to make the individual organise a series of unstructured situations, or objects in some way. Obviously, there is no one 'right' set of responses. The investigator is interested in the pattern that develops from the respondent's responses. He then interprets this pattern according to valid and reliable categories that have been developed for the test. The relative newness of the field suggests that there are many opportunities for the researchers in this area (Op. cit., p.174).

From the above discussion, you must have noticed that the Aptitude Tests, Intelligence Tests, Interest Inventories, and Personality Measures are not of much relevance to you from the point of view of your dissertation work which you have to perform in a time-bound task and you have short period at your disposal. Therefore, except these, you can think of using all the other tools that we have discussed above.

We will now discuss selection and development of tool/instrument of data collection.

II) Selection or Development of Tool for Data Collection

From the above discourse, you might have got basic understanding of different tools and techniques of data collection. But main issue is, with different tools and techniques available, how do you arrive at a decision about the most appropriate one for the purpose of your study. For this, you need to consider suitability only the relevant alternatives in the context of your

study. Here, you need to remember that the results of your study will largely depend upon the tool you use for data collection. In other words, the results you get are often a product of the tool you used to get relevant data. Regarding your tool, you have two clear options: i) to select suitable tool out of the existing ones developed by other (previous) researchers, or ii) to develop your own tool to collect data.

i) ***Selection of Tool/Instrument:*** If you desire to select your tool/instrument from those that exist for your research study, you need to look into relevant sources for identifying the suitable one.

- *Identifying an instrument: Sources of information:* Your first source of information about the data collection instruments for your research is literature review. In your literature review, you may have come across an instrument that was used in previous research that seems "just right" for your purpose. If so, it will give you a place to start to determine if that is, indeed, the appropriate instrument for you. If you have not zeroed in on a particular instrument through your initial searching, you can develop a detailed search strategy which involves the following three steps (Mertens, 1998, pp. 39-41, 309-311).

  a) *identify preliminary sources* that include databases, abstracts, and indexes that contain a compilation of bibliographic information (and sometimes with abstracts) for a wide range of topics and are accessible in print form, on compact discs (CD-ROM), or through an on-line service (www sites);

  b) *identify primary research journals;* and

  c) *explore personal networks* – talking to people who are doing work in areas related to your interest.

  In addition, you can look into the other sources such as Measurement Yearbooks, Handbooks of Tests and Measurements, Tests in Print, etc., and conduct a more focused search to identify/determine your instrument from the existing ones.

- *Criteria for Selecting an Instrument:* The criteria that you use in selecting your instrument determine its suitability for your study. Mertens (1998, p.312) suggests the following list of criteria that can be used in selecting suitable data collection instrument out of the existing ones.

  a) Identify the intended purpose of the instrument as it was conceptualised by the author who developed it.

  b) Identify your own purpose in collecting data; who do you intend to use it with and for what reason.

  c) Identify the variables that the instrument measures; are subscales and multiple constructs involved?

  d) Examine the validity information available for the instrument. What type of validity is reported, how was it established?

  e) Examine the reliability information that is available. What type and level of reliability is reported? How was it established?

  f) What is the age range and type of person for whom the instrument is appropriate? If it is a norm-referenced instrument, what is the composition of the norm group?

g) Are alternative or short norms available?

h) What are the conditions for its administration? Is it group or individual?

i) What type of training is needed for administration, scoring and interpretation?

j) What is the format of the instrument? How much time is required for administration and scoring?

k) What is the cost of the instrument? Can it be scored by hand? Is it possible to score it with a computer? Can you do it yourself, or do you have to send in the responses to the publisher or distributor?

1) Does the instrument satisfy concerns about language and culture in terms of avoiding bias on the basis of gender, race, ethnicity and disability?

m) To what extent do these features promote or restrict accuracy of assessment for the people in the proposed research?

After thorough search and applying above criteria, if you find a suitable tool you can use it for your research study. Otherwise, you have to develop your own tool.

ii) Development of Tool: Suppose you determine, after exhaustive search of the literature, that no existing tool is suitable for the purpose of your study, then you will develop your own tool of data collection. Developing a tool is, no doubt, a complex and time-consuming task.

Following are the important steps involved in the process of developing your tool.

a) Define the objective of your tool: Here, consider the two questions: What is the specific purpose of the proposed tool? What information do you want on what attribute? Answers to these questions will be helpful to you in defining the objective of your tool.

b) Identify the intended respondents: Be clear about the intended respondents. It is essential because many criteria such as reading level, format for items and response option formats — true-false, yes-no, matching, multiple-choice, sentence completion, ranking items, Likert-type scales, open-ended, short-answer, essay-type questions – you may set for development of items, and later the test-settings related to the administration of the tool and other factors such as amount of time required to complete it, etc, centre round the intended respondents.

c) Refer existing tools of similar kind: Before you decide to create your own tool you had already done a review of the existing tools. Now, you refer only same type of existing tools which are more relevant to what you are developing. However, methods for formatting and administering the tool as well as for determining its reliability and validity can be identified from the developmental works conducted by other researchers.

d) *Develop an itempool:* There are many avenues open to the researcher in preparing draft items for the new tool. Some items may be adopted or adapted from current tools. Add items you feel are essential. Other items might be developed using experts, the programme staff, if the tool pertains to any particular programme or group being studied, among others. The responses sought could be as simple as 'put tick mark', 'circle the appropriate response', 'matching', simple filling of blanks, etc. If a separate answer sheet is to be used, more complex instructions may be necessary.

e) ***Prepare and pilot test the Prototype:*** After the item pool has been developed, the researcher will assemble the first draft of the tool. Following the title, you might want to include a short introductory paragraph explaining the purpose of the instrument, how you got the person's name or why he or she was selected, and providing assurances of confidentiality or anonymity of intended data use. Directions for how to complete the instrument should also be included. Introductory paragraph and all the statements should be written in language that is clearly understandable to all the intended respondents. It is also possible to provide general directions and then supply more specific directions for individual parts as may be appropriate. Also, it is important to indicate the respondent who to give or send the tool and how after completing the responses. Thus, you prepare a prototype of your tool. At this stage, it is recommended that you as the developer of your tool should ask other professionals knowledgeable about the attribute and its measurement in the targeted sample to review the prototype. These experts will be looking for content validity in addition to relevance for the target population.

To develop a good tool you need to go through a number of revised drafts, prototype and pilot tests. After revisions have been made as a result of the reviews, the prototype can be tried out on a small sample of the intended respondents. Typically, this is done by the researcher under expected administration procedures to get a general idea of the quality of the information as well as any problems in administration and scoring. The researcher should provide a means for the members of the pilot group to give feedback on the tool in terms of the items that might need additional clarification. This can be done after they complete the tool through written comments, some type of modified focus group format, or both. The final pilot test should be conducted with a large enough sample to enable the researcher to gather reliability and validity information. If the tool depends on the use of interviewers, observers, or document reviewers, the researcher must collect interrater and intrarater reliability indices at this time.

f) ***Conduct an item analysis and revise the tool to finalise it:*** The answers to each item should be reviewed to determine if a pattern suggests ambiguity or bias in the item. The final revision of the tool can then be made. The researcher should be careful to document all the pilot test procedures and revisions in the tool so that these can be presented in the research report as evidence of the quality of the measurement.

The tool that you have developed must possess certain essential characteristics, and you are required to ensure the same.

III) Ensuring the Essential Qualities/Characteristics of Tool before Collecting Data

The data collection tool must have certain qualities or characteristics so as to ensure that the data collected is appropriate, trustworthy, reliable and useful. Therefore, you should ensure that the tool you developed fulfils the essential characteristics, viz. validity, reliability, objectivity and usability.

a) Validity

Validity is considered to be the most essential characteristic of a tool. The conventional definition of the validity of a tool is the extent to which it measures what is was intended to measure. Validity is thus associated with specific purpose for which a tool is developed. For example, a

test of attitude towards family planning ought to measure the respondents' attitude towards family planning only.

Traditional view of validity has been that there are basically three different types of validity – *content, criterion* and *construct* – with two variations of criterion validity, *concurrent* and *predictive. A* more current view (Gronlund, 1985, mentioned in Wiersma, 1986, p.290) is that validity is a unitary concept but that there are different types of evidence of validity. This is essentially a conceptual difference; the procedures for establishing validity are the same whether we consider different types of validity or different types of evidence for establishing validity.

i) ***Content validity:*** Content validation is the process of establishing the representation of the items with respect to the domains of skills, tasks, knowledge and so forth, of whatever is being measured. Content validation is a logical analysis of the items, determining their representativeness (Op. cit., p.291). Content validity is often established using content experts to make judgements. Content validity is especially important in studies that purport to compare two (or more) different curricula, teaching strategies or school placements. If all the students are taking the same test but all the students were not exposed to the same information, the test is not equally content valid for all the groups (Mertens, 1998, p.294).

ii) ***Criterion validity – Concurrent and predictive:*** Criterion validation establishes validity through a comparison with some criterion external to the test. The criterion is, in essence, the standard by which the validity of the test will be judged. If the scores of the measure being validated relate highly to the criterion, the measure is valid. If not, the measure is not valid for the purpose for which the criterion measure is valid. *Concurrent validation* is based on establishing an existing situation – in other words, what is – whereas *predictive validation* deals with that is likely to happen (Wiersma, 1986, p.291).

iii) ***Construct validity:*** The term *construct* refers to the theoretical construct or trait being measured, not the technical construction of the test items. A construct is a postulated attribute or structure that explains some phenomenon. Because constructs are abstract and are not considered to be real objects or events, they are sometimes called hypothetical constructs. Personality tests are examples of tests that commonly are validated on the basis of construct-related evidence. Construct validation can involve both logical and empirical analyses (Op.cit. p.292). *Consequential validity,* which is not separate but integrally connected with construct validity, refers to the social consequences of test interpretation and use (Messick, 1995, mentioned in Mertens, 1998, p.297).

Validity Coefficient: The validity of a test is always reported in terms of validity coefficient. Lovell and Lawson (1973, mentioned in IGNOU, 2011) recommend that a test ought to have a validity coefficient of at least + 0.70. But many tests with lower coefficients can be used, in the absence of better ones, if they measure something for which no other tests have been constructed.

b) Reliability

Reliability is a necessary but not sufficient condition for validity. That is, a test or measuring instrument could be reliable but not valid. In that case, it would be consistently measuring something for which it was not intended. However, a test must also be reliable to be valid. Let us discuss what 'reliability' is.

Reliability means consistency – consistency of the instrument in measurement, whatever it measures. It is the degree to which an instxument will give almost similar results for the same individuals/respondents under similar conditions at different times. In a conceptual sense, an observed score can be seen as consisting of two parts, one part, the individual's "true" score and the other part, an "error" score, which is due to the inaccuracy of measurement. If the scores have large error component, reliability is low, but if there is little error in the scores, reliability is high. Reliability is a statistical concept based on the association between two sets of scores representing the measurement obtained from the instrument when it is used with a group of individuals.

Reliability Coefficient: Like validity coefficient, reliability of a test is reported in terms of reliability coefficient. *Reliability coefficients* can take on values from 0 to 1.0 inclusive. Conceptually, for example, if a reliability coefficient is 0, it means there is no "true" component in the observed score. The observed score would consist entirely of error. On the other hand, if the reliability coefficient is 1.0, the observed score would contain no error, it would consist entirely of the true score. Clearly, in educational measurement, it is desirable to obtain high-reliability coefficients, although coefficients of 1.0 are very rare indeed (Wiersma, 1986, p.287).

Several procedures are used to obtain reliability coefficients and all of them have computational formulas that produce relevant reliability coefficients. The commonly used procedures are described as follows (Wiersma, 1986, p.288-289; and Slavin, 1984, pp.78-79,208-211).

- *Test-retest:* In this procedure, the same test is administered on two or more occasions, with some time gap, neither too short nor too long, to the same individuals. If the test is reliable, there will be a high positive association between the two scores obtained on two different occasions. Using the test-retest procedure gives a reliability coefficient that is a *coefficient .of stability* – the extent to which the scores on the single test remain stable.

- *Parallel forms or alternate (equivalent) forms:* This procedure involves the use of two or more equivalent forms of the test. The two forms are administered to a group of individuals with a short time interval between the administrations. If the test is reliable, the patterns of scores for individuals should be about the same for the two forms of the test. There would be a high positive association between the scores. When two or more parallel forms of the test are used, the reliability coefficient is a *coefficient ofequivalence* – the extent to which the forms are equivalent.

  You can notice that coefficients of stability is used when one test is used (but on two or more occasions) and coefficient of equivalence is used when more than one test are administered to a group of individuals.

- *Split-ha@* Unlike the above procedures, this procedure requires only *one administration* of the test. In computing split-half reliability, the test items are divided into two halves, with the items of the two halves matched on content and difficulty, and the halves we then scored independently. If the test is reliable, the scores on the two halves have a high positive association. An individual scoring high on one half would tend to score high on the other half, and vice versa. It is a measure of *internal consistency,* for example, how well the even items correlate with the odd items across individuals. Once the correlation between the two mini-scales is determined, the following formula, popularly known as Spearman-Brown formula, is used to compute reliability.

So, split-half reliability = $\frac{2r}{1+r}$ = $\frac{2r_{xy}}{1+r_{xy}}$

Where r or r_{xy} is correlation between the two mini-scales or two halves (for example odd items and even items).

For example, if the correlation between scores on add-numbered items and even numbered items is 0.70, split-half reliability would be:

Split-half reliability = $\frac{2r_{xy}}{1+r_{xy}}$ = $\frac{2\ (0.70)}{1+(0.70)}$ = $\frac{1.40}{1.7}$ = **0.824**

- ***Kuder-Richardsonprocedure:*** Two formulas for estimating reliability, developed by Kuder and Richardson (1937), require only one administration of a test. One formula KR-20, provides the mean of all possible split-half coefficients.
  - *KR* 20 (*coefficient* alpha for tests on which there are only two response options, such as right-wrong, agree-disagree, and so on) formula is as given below.

$$\alpha = \frac{K}{K-1}\left[1-\frac{\sum_{i=1}^{t} p_i q_i}{\sigma_x^2}\right]$$

Where

a = is the reliability coefficient of KR 20

K is the length of the test (or total number of test items in test *X*),

Σ indicates the sum (sum of i, i ranging from 1 to K).

ρ is the proportion of the test takers who pass an item,

q is the proportion of test takers who fail an item,

σ^2_X is the variance, i.e. the variation of the entire test, and

$$\sigma_X^2 = \frac{\Sigma_{i=1}^{N}\left(X_i - \overline{X}\right)^2}{N}$$

- *KR* 21, ***Kuder*** and Richardson ***formula*** 21, is given as follows

$$\alpha = \frac{K}{K-1}\left[1-\frac{\overline{X}\left(K-\overline{X}\right)}{K\sigma_X^2}\right]$$

Where

$\overline{X}$ is the mean of the total test.

The second formula, KR-21 may be substituted for KR-20 if it can be assumed that item difficulty levels are similar.

- ***Cronbach alpha:*** Cronbach's ***a,*** a formula developed by Cronbach was published in 1951, based on two or more parts of the test which requires only one administration. Since then, there has been no known advantage to KR-20 over Cronbach.

Cronbach's a is defined as (See Develles, 1991, mentioned at http://en.wikipedia.org/wiki/Cronbach%27s_alpha).

$$\alpha = \frac{K}{K-1}\left[1 - \frac{\sum_{i=1}^{K}\sigma_{Y_i}^2}{\sigma_X^2}\right]$$

Where K is the number of components (K-items or testlets),

σ_X^2 is the variance of the observed total test scores, and

$\sigma_{Y_i}^2$ is the variance of component i for the current sample of persons.

The theoretical value of alpha varies from 0 to 1. Higher values of alpha are more desirable. Some professionals as a rule of thumb, require a reliability of 0.70 or higher (obtained on a substantial sample) before they will use an instrument (http://en.wikipedia.org/WCronbach%27s–alpha).

Reliability *coefficients* are, thus, estimates of test consistency. While the test-retest procedure is a measure of stability, parallel forms procedure is a measure of equivalence. Procedures that involve only one test administration (split-half, KR-20, KR-21, Cronbach alpha) generate *coefficients* of internal consistency.

c) Objectivity

Objectivity refers to how much the measurement instrument is likely to be influenced by the beliefs and biases of the individuals who administer, score or interpret it. Objectivity is determined by the amount of judgement that is called for in these three processes. More objective measures consist of short-answer, multiple-choice, and true-false format options. Less objective measures include essay tests, although these can be made more objective by establishing criteria for scoring the responses. Objectivity of a test, thus, refers to consistency of test scores when evaluated by different evaluators who are equally trained in the administration, scoring and interpretation of the tests (Mertens, 1998, p.298).

d) Economy and Practicability

The matter of expense of administering a test and short possible period of time within which it can be given are often significant factors that influence the testing programme and its budget. Ease of administration, scoring, and interpretation is also an important factor in selecting a test, particularly when expert personnel or an adequate budget are not available (Best and Kahn, 2001, p.220).

Tests that are interesting and enjoyable help to gain the cooperation of the subjects (persons). Those that are dull or seem silly may discourage or antagonise the subjects. Under these unfavourable conditions, the test is not likely to yield useful results (Op. cit., p.221).

Therefore, you should consider all these thoroughly before you go for administration of the tool to collect data.

IV) Administration of the tool to collect data

Having properly selected or developed the tool as discussed above, your next task is to administer it duly on the properly selected sample. If you have successfully administered the tool on the requisite number of sample units, it means you have collected the data required for your study.

4.3.2 Analysis and Interpretation of Data

After collection of data, next step in the process of research is data analysis. As discussed elsewhere above, your data could be quantitative, qualitative or both. We discussed in detail the data analysis and interpretation in Block 4 of MES-016. You may revisit this Block to recall your knowledge and understanding of it. Let us have a look at the gist of data analysis below.

4.3.2.1 Quantitative Data Analysis

Quantitative data consists of scores, some type of responses in the form of numbers and frequencies. They usually have some quantitative meaning and usual approach is to perform an appropriate type of statistical analysis. We present the essence of quantitative data analysis here for your benefit of serving the following two important purposes:

i) To provide you an understanding of the basis underlying the use of statistical analysis; and

ii) To enable you to remember and recall the more commonly used statistical techniques along with the purpose for which they are used.

Therefore, the focus our discussion here will not be on the details of computational procedures used in the analysis, but on the essence of logic of analysis involved in different types of statistics – descriptive and inferential.

a) Descriptive statistics: These include: *i) scales of measurement* (nominal, ordinal, interval and ratio – percentages, rates and coefficients), which are simple and may be crude statistics; *ii) measures of central tendency or averages* (mean, median and mode), which locate the central points of distribution on the scale of measurement; *iii) measures of dispersion or variability* (range, variance, standard deviation, co-variance, co-efficient of variance, co-efficient of dispersion) which are the intervals or their squares designating or indicating distribution of a number of units on the scale of measurement, and distribution — normal (z-scores and percentiles), non-normal (skewed and kurtosis), and standard error (of the mean); *iv) statistical comparisons* (statistical significance, rejection of hypotheses – type-I error or alpha error, type-I1 error or beta error, one-tailed tests and two-tailed tests); and v) *correlation tests — measures of relationship or correlation* (simple, biserial, partial, multiple, linear, curvilinear, and rank correlations) that determine how the variables relate to one another; and to predict relative position of one based on the other (regression).

b) Inferential statistics: Population measures are called *parameters*, while those of sample are called *statistics* which are based on sample data. In research, inferences are made and conclusions are drawn about parameters from the statistics of the sample. Since collecting data from entire population is not possible always, in most of the studies inferences are made to population from statistics by using accepted statistical techniques meant for these inferences. Inferences are useful .in making generalisations to the parameters. Hence, the theory, the methodology and the results of these statistics together are called *inferential statistics.* These are of two types: *i) parametric tests* (t-test, ANOVA, ANCOVA) which are based on parametric assumptions and require interval scale measurement, and *ii) non-*

parametric statistics such as Chi-square test (goodness of fit, independence, median), Mann-Whitney U-test, which do not require interval scale measurement. Also, relevant are *statistics for reliability*, which we have discussed under reliability (see sub-sub-sub section 4.3.1.3).

There are two general procedures in which inferential statistics are used.

i) ***Testing hypotheses:*** Hypothesis, in the context of inferential statistics, is a statement (conjecture) about one or more parameters. After following the procedure of testing the hypothesis, if it (hypothesis) is not consistent, it is rejected; and if it is consistent it is retained as a value acceptable for population. However, when it is rejected, it may be noted that the sample data are not discarded altogether.

ii) ***Estimating parameters:*** There are two types of estimates of the parameter – *point estimate* and *interval estimate* (or *confidence interval).* While the former is a sipgle point estimate of the corresponding statistic from the sample, the latter is an interval on the scale of measurement that contains acceptable estimates of the parameter. Mostly, *the latter is used in inferential statistics.*

Wiersma (1986, p.343) nicely puts chain of reasoning for inferential statistics in diagrammatic manner, as given below.

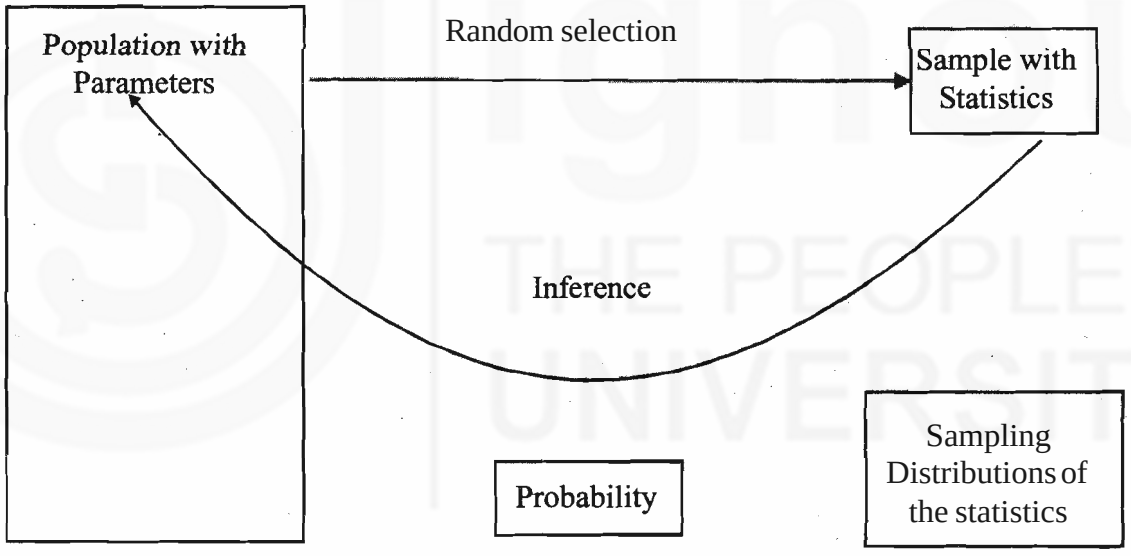


Fig.1: Chain of Reasoning for Inferential Statistics

The above discussion should help you select the statistical techniques that are appropriate for describing distribution and relationships, testing hypotheses, and estimating parameters, among others, of your quantitative data.

4.3.2.2 Qualitative Data Analysis

In quantitative data analysis above, we noticed that the data has definite nature and character and there are clear conventions that can be observed and definite techniques that can be employed. Unlike this, as Punch (2009, pp.170-171) observes, qualitative data analysis techniques are quite complex and diverse as they are often interconnected, overlapping and complementary, and sometimes mutually exclusive also. So, its analysis is very difficult and different techniques are

applied to the same body of qualitative data. The variety and diversity in approaches underlines the point that there is no single right way to do qualitative data analysis. "In the expanding literature on qualitative analysis, terms such as 'transforming', 'interpreting' and 'making sense of qualitative data are prominent, and it is the different ways of doing these things that lead to the diversity in methods of analysis" (p.171).

Therefore, it is clear to us that qualitative analysis is more susceptible to subjectivity and there is often an element of bias in analysing and interpreting qualitative data, where the researcher should try to maintain reasonable amount of objectivity. Qualitative analysis discovers inherent facts, examines them from different angles to explore new facts or to reinterpret already existing facts. Content analysis, inductive analysis and logical analysis are mostly used in the analysis of qualitative data/material, though these analyses cannot be as objective as the quantitative analysis.

"Components of data analysis: interactive model" of Miles and Huberman (1994, mentioned in Punch, 2009, pp.173-175) with three main components (of data reduction, data display, and drawing and verifying conclusions) and three concurrent streams or activities, interacting throughout the analysis as shown in the Fig.2 below provides us summary understanding and clarity of the process as well as complexity of qualitative data analysis.

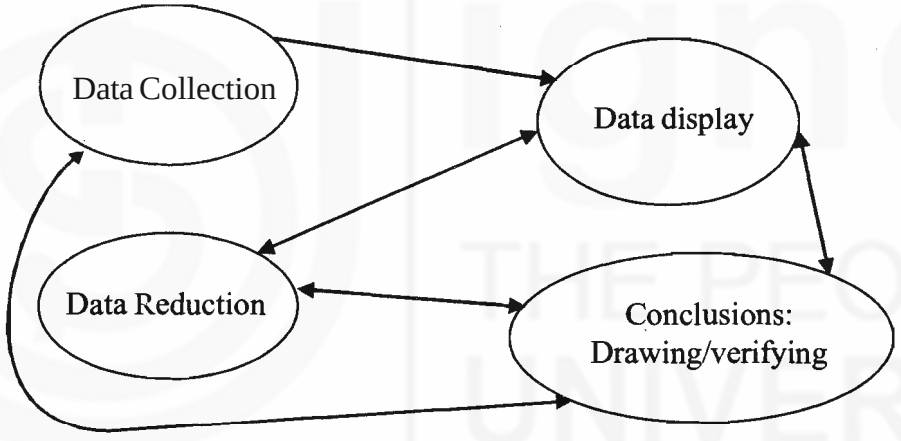


Fig.2: Components of data analysis: interactive model

Source: Miles and Huberman, 1994:12 (mentioned in Punch, 2009, p.174).

Miles and Huberman (1994, mentioned in Punch, 2009, p.346) combine their tactics given for generating meaning in the qualitative analysis, and for testing or confirming findings into ***conzmon features of different approaches to qualitative analysis*** as follows:

- Affixing codes to a set of field notes drawn from observations or interviews;
- Noting reflections or other remarks in the margins;
- Sorting and shifting through these materials to identify similar phrases, relationships between variables, patterns, themes, distinct differences between subgroups, and common sequences;
- Isolating these patterns and processes, commonalities and differences, and taking them out to the field in the next wave of data collection;

- Gradually elaborating a small set of generalisations that cover the consistencies discerned in the databases; and
- Confronting those generalisations with a formalized body of knowledge in the form of constructs or theories.

4.3.2.3 Selection of Appropriate Statistical Techniques/Tests and Qualitative Analysis

With the above knowledge and understanding of both quantitative and qualitative analysis, you should be able to select appropriate statistical and qualitative analyses to meet the requirements of your research study keeping in view the quantitative and/or qualitative data that you have collected for the purpose.

4.3.2.4 Interpretation of Results

After data analysis is over, you have to record your findings/results and interpret the same. Interpretation of results is essentially the process of stating what the results of your study reveal. It calls for a careful, logical and critical examination of the results/findings you obtained and also your ability to state them correctly. In so doing, you have to keep in view the limitations of the sample chosen, the tools selected and statistical techniques used in the study. Remember, it is not a mechanical process to follow nor an easy task to perform. Though there is always an element of subjectivity in interpreting the results, you as a researcher should reduce it to the minimum possible extent.

4.3.3 Drawing Conclusions and Generalizations

The next step of your dissertation work demands logical and critical thinking in concluding the results/findings of the study and in summarizing and generalizing them. In so doing, compare the findings with the objectives, the research questions and the hypothesis(es) formulated in the beginning. In the light of interpretations of the results/findings, you have to formulate your conclusions carefully and cautiously and then draw the generalizations. You should not draw conclusions which are inconsistent among themselves or with external realities. The generalizations drawn on the basis of research findings should be in agreement with facts and should not conflict with the known laws of nature. The implications of the conclusions for adult education processes and practices may also be indicated here. The suggestions for the applications of research findings in practical settings as well as for further research may also be provided in view of conclusions and generalisations.

4.4 Writing the Research Report/Dissertation and its Submission

After you have completed the analysis and interpretation of the data, formulated conclusions and drawn generalisations you are required to write the detailed account of the research work in the form of a report. You will highlight, in your report, all aspects starting from the background in which you selected the area and the research problem therein, statement of the problem covering the research questions, the objectives, the hypotheses, delimitations and limitations of the study, review of related literature, methods and procedures used in respect of selection of sample, selection/development of research tool and its administration for collection of data, analysis and interpretation of data, conclusions and generalisations drawn along with their implications for adult education and suggestions for further research in the area.

Thus, your research report/Dissertation is nothing but the detailed account of all the stages of research work you have undertaken as a part of your study. It is, in fact, this Dissertation which you will be submitting to the University as a part completion by you of Course MAEP-001. Apart completion because your Dissertation will be evaluated by the university as per the due process which will be followed by viva voce. In order to facilitate you in writing your report we will discuss certain details of the format of writing a research report/dissertation which you can follow, with minor variations as may be required.

4.4.1 General Format of the Research Report/Dissertation

There is no one fixed/standard format of research report. We present you the broad structureloutline or general format of research report writing, which most of the researchers follow, may be with some minor variations; and similarly, you can also follow it. Therefore, for presentation of your research report/Dissertation, you can follow the most commonly followed format which generally comprises the following three *main* sections in the given order:

3 the preliminary section;

ii) the body of the report; and

iii) the reference section.

For broad list of contents under each of these sections, you can refer the suggestive Format of 'Table of Contents' for your dissertation report given at **Appendix – VI.** We will now present you more details covering the broad list of the contents under each of these sections for your practical advantage.

I) Preliminary section

In this section, the preliminaries, i.e. those which come in the beginning of the report, are included. Thus, this section forms the first section of your Dissertation. In this section, you will present the following information.

i) Title page: This is the first page of your report. It also forms the cover page of your dissertation. Specimen of the cover page of Dissertation is given at **Appendix – VII.** Generally, it contains the following information in the order given below.

- Title of the dissertation.
- Your name (if you desire, mention your previous academic degree after or below the name).
- The Degree for award of which you are submitting it.
- Name of the Universitylinstitution (i.e. Indira Gandhi National Open University) to which your dissertation is being submitted.
- Month and Year of submission of the dissertation.

ii) Declaration page: This is a declaration by you as a researcher that it is the original work undertaken by you. It will be signed by you. For proper format of declaration see **Appendix – VIII.**

iii) Certificate page: It is a certificate given by your supervisor authenticating that your report / Dissertation is the original work undertaken by you. It is signed by your supervisor. For .proper format of certificate see **Appendix – IX.**

iv) **Preface page with acknowledgements or Acknowledgement page (if acknowledgements only):** Certificate page is followed by ***'Preface'*** page. Here, you will present a brief statement highlighting the purpose, scope and contibution of the study. Towards the end of it, you can also express your thanks to all those who provided you substantial support, assistance, guidance or help in the completion of the study/dissertation work. However, if you have little to say about the contribution of your research project, you can omit 'Preface', and instead you label the page as ***'Acknowledgements'***. Your acknowledgements should be brief and simple. Here, you need to remember that a long list of overenthusiastic acknowledgements with full of flattery is not in a good taste. Your acknowledgements should sincerely recognize the persons, groups and institutions to whom you are indebted to for providing academic guidance, administrative support and facilities. Generally researcher's name is mentioned at the end of Preface/Acknowledgements.

v) **Table of Contents page:** The 'Table of Contents' page follows the Preface/Acknowledgements page. 'Table of Contents' page lists all the components under the three sections of the report1 Dissertation, starting from Preface/Acknowledgements. ***So,*** first 'Preface' or 'Acknowledgements' is mentioned (though this page is prior to Table of Contents page), then 'List of Tables' and 'List of Figures' (if any) are mentioned (though these pages come next to 'Table of Contents' page). Note that the preliminaries (preface or acknowledgements, list of tables and list of figures) are mentioned without any serial number before them but with page numbers usually indicated with small Roman numbering against them on the right side. Next are mentioned the major divisions of the 'Body of report' section usually in the serial order with number indicating: the introduction and other chapters along with their sub-sections, if any. At the end are mentioned 'Bibliography' and the 'Appendices', without any serial number before them but indicating the respective page numbers against them on the right side. 'Format of Table of Contents'is in fact the Format of the Report/Dissertation (See Appendix – VI, already mentioned above).

II) Body of the Report

The main body of the report contains the following parts or sub-sections.

1) Introduction/Background

This is the first chapter of your Report/Dissertation. Under this part, you should introduce the research area and the problem in proper context hackground and in convincing manner to stimulate and sustain the reader's interest and appreciation. It should be clear, complete, reasonably comprehensive and concrete. You can also include sub-heading *'Rationale'* to present review of the related studies, identify the gaps in research and establish the need for undertaking the present study in the light of the given context hackground. Thus, the 'Introduction' or 'Background', as you may prefer, becomes the title of the first chapter of the 'Body of your Report'. If you think you have lot of review of related literature to present, you can even put *'Review of Related Literature'* as second chapter, followed by Statement of the Problem. Otherwise 'Rationale' as sub-headmg under first chapter is good enough.

2) Statement of the Problem

In this sub-section (i.e. next chapter of the Body) you can formulate, define, analyse, and state the nature of the problem with research questions, objectives, hypotheses and delimitations. You will mention the exact title of the problem and provide the operational definitions of the terms used in the title.

Further, you will highlight the scope and significance of the study highlighting the delimitations and limitations as well.

3) Design of the Study/Methodology of the Study

This part of the report explains the design of the study or the methodology of the study in detail. Here, you will describe the research method used for the conduct of the study, the nature of the population, the size of sample, the method of sampling, the choice of tool and/or technique of data collection, the process followed in selecting/developing the relevant tool, procedure followed for collection of data, the methods employed in data analysis along with reasons for selecting the same, and how data are organized, analysed and presented for analysis.

4) Analysis and Interpretation of the Data

This sub-section/chapter is the crux of the research report. You can present it in one chapter or you may even divide the same into a few chapters, as may be necessary, keeping in view the nature of data and its analyses. You can present the data in the form of tables and figures/diagrams along with textual interpretation or discussion of the analysis and results/findings. If the tables are complex and lengthy you can place them in appendices; this will help you to continue with textual discussion or interpretation without much break in-between. In the textual discussion, you need to avoid translation of data given in tables and figures into text or words. It should rather point out important facts and relationships that exist between them so as to give clear meaning to the data and form certain conclusions and generalizations about the data. Any weaknesses or limitations in the study pertaining to the research design, tools, population or sample, or collection/recording and processing of data that have come to light during the course/ process of the research/dissertation work should be reported frankly along with the manner in which certain factors, if any, you felt may have affected the findings of the study.

5) Summary, Conclusions and Suggestions

In this sub-section/Chapter, you will present the gist of the previous sections of the 'Body of the Report'. In the summary, you may highlight the gist of the background and review of related literature, a brief re-statement of the problem, objectives and hypotheses of the study, a short description of the methodology of the study, and discussion of findings. After so summing-up, you will highlight the conclusions of the study. The conclusions presented must be concise, based on the findings and discussion related to research questions, the objectives and hypothesis(es), if any, of the study. The conclusions should leave the reader with the impression of completeness of the study and of positive gain. Finally, you will offer the suggestions for further research. The conclusions may provide not only answers to the questions raised but also suggest gaps in the existing knowledge regarding the questions requiring further answers. Here, you may list the unanswered questions as well as those that arose in the process of study which also call for further research by others concerned in the area.

III) Reference section

The reference section includes bibliography (references) and appendices. The bibliography follows the main body of the report. It is a record of those sources and materials that have been referred for the study. If the number of references is large, the researcher may divide the bibliography into various sub-sections, one for books, one for journals, one for other periodicals, one for websites, etc. For details on how to write references, please refer to Unit 23 of MES-016.

'Bibliography' is followed by Appendices. Here, you can put all the appendices in proper order as they were mentioned in the body of the report. It should include all the essential supporting materials that were unwieldy to include in the body of the report. These materials include copies of the tools used in the study such as tests, questionnaires, interview schedules, list of respondents, raw data, lengthy tables of analysis, etc., as are mentioned in the body of report.

4.4.2 Style of Report Writing

Study report/Dissertation should be presented in creative, logical and concise manner using simple, common words, appropriate sentence structures and technical words, whenever required. Its language should be formal and straightforward. Use of personal pronouns such as I, we, you, our and us should be avoided. If you are referring to yourself as researcher, then you should use the expression as "the researcher" or "the investigator", instead of mentioning as 'I'. And, without first giving the expanded version and putting its abbreviation in parenthesis, use of abbreviations/acronyms, except some universally acceptable ones such as IQ, MA, and the like should be avoided in the main text of the research report. In the footnotes, the tables and the bibliography, some standard abbreviations, should be used to conserve space. A researcher should be familiar with and master the standard abbreviations, viz. et al, op. cit., ibid, ed., eds., fig, etc.

Numbers of less than three figures, rounded-off numbers and numbers that begin the sentences are spelled out, except in statistical discussions in which they are used frequently. Fractions are also spelled out unless they are part of longer numbers. Numbers/numerals/figures are used for decimals and percentages, but word 'percent' is spelled out, e.g. 12 percent. To ensure continuity of the text, neither the standard statistical formulae nor the computational procedures are included in the research report.

A good dictionary, Roget's Thesaurus and a spelling guide should be made use of by the researcher to correct avoidable mistakes. The past tense should be used when referring to what the researcher or other researchers have done/found. The present tense should be used when the researcher is referring the reader to the tables and charts that are presented before him and when he is presenting general truths and well established principles. If necessary, standard grammar book such as by Wren and Martin may be consulted.

4.4.3 Typing/Word Processing the Report

The written report should be typed by a professional typist or a data entry operator. When the entire report is typed, you should proof-read each page personally and ensure that corrections, if any, are carried out properly. Extra care is to be taken in this regard, if the report is typed on manual type-writer. If it is word processed in computer, the corrections can be carried out easily, accurately and effectively and lot of effort and time can also be saved. While retyping a page on the manual type-writer, care should be taken to accommodate the material in such a way that the last line on the page comes even and link continued properly to the succeeding page. Many problems related to typing can be overcome with great ease if you get your dissertation word processed in the computer. Since word processing on the computers is made easy, if you know typing, it is advisable that you type your own report in the computer, and with some assistance by computer operator, wherever required.

4.4.4 Binding and Submission of the Dissertation

The last activity you perform in the process of accomplishing your dissertation work is to take clearly printed copies of your report, get the same bounded and submit the requisite number of copies to the institution or the university. For the detailed check-list you need to check at the submission stage, please see Appendix – X.

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6. APPENDICES

Different appendices **(Appendix –** I to **Appendix –** X) mentioned at various places above are given in the pages that follow.

APPENDICES

Appendix – I

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

SCHOOL OF EXTENSION AND DEVELOPMENT STUDIES

PROFORMA FOR APPROVAL OF DISSERTATION SUPERVISOR, EVALUATOR OF DISSERTATION REPORTS AND EXPERT FOR VIVA-VOCE RELATED TO MAEP-001 OF MASTER OF ARTS IN ADULT EDUCATION (MAAE) PROGRAMME

1. Name of the Guide: (Prof./Dr./Mr./Ms.) .....
2. Sex: .....
3. Designation (Professor/Reader/Lecturer/Other academic) and Discipline
   .....
4. Present Status: Working/Retired: .....
   i) If working, whether permanent/ad hoc: .....
5. Official Address: .....
   .....
   ..... PIN: ☐☐☐☐☐☐
6. Residential Address:
   .....
   .....
   ..... PIN: ☐☐☐☐☐☐
7. Telephone Numbers (Office): .....
   (Residence): .....
   (Mobile): .....
8. E-mail Id: .....
9. Educational and Professional Qualifications:

S.No	Degree	Name of the University	Year	Subjects	Specializations
1)					
2)					
3)					
4)					
5)					

10. Teaching Experience

Classes Taught	Name of the Institution	Teaching Experience (in years)
M. Phil in ..... (please specify discipline)		
M.A. in ..... (please specify discipline)		

11. Years of experience of supervising/guiding Dissertation at M.A. (Education)/M.Ed/M.A. (Adult Education / Andragogy) or MA in other discipline/subject (in years): .....

    If other discipline/subject, please specify the same: .....

12. Areas of Specialisation: .....

    .....

    .....

13. Are you already an approved/empanelled supervisor for the dissertation work of students of MA (Education) / MEd / MAEDS programmes of IGNOU. Yes / No

14. Are you enrolled in Master of Arts in Adult Education (MAAE) Programme of IGNOU? Yes / No

I hereby declare that the information given above is correct. And, I also hereby give my consent to be the supervisor for the students of Master of Arts in Adult Education (MAAE) programme for their dissertation work. I also hereby give my consent to be evaluator of dissertation and expert for viva-voce examination of MAAE programme.

Place :
Date : Signature:

15. For use at the Programme Study Centre

I hereby verify that Prof./Dr./Mr./Ms ..... is working as a faculty/academic staff member (Professor / Reader / Lecturer or other academic of equivalent position ..... (name of the institution) on permanent/ad hoc basis or is a retired Professor/ Reader / Lecturer or other academic of equivalent position from ..... (name of the institution). I recommend him/her for empanelment as a Dissertation Supervisor for Master of Arts in Adult Education (MAAE) programme and also as an evaluator of dissertation and expert for viva-voce examination of MAAE programme.

Place: Programme-in-Charge
Date: (Signature and Stamp)

16. For use at the Regional Centre of IGNOU

Based on the recommendation made by the Programme-in-Charge, PSC Code: ....., the above verified person is recommended for approval and empanelment as a Dissertation Guide for Master of Arts in Adult Education (MAAE) programme and also as an evaluator of dissertation and expert for viva-voce examination of M.A.(Education).

Place: Regional Director
Date: (Signature and Stamp)

Eligibility for Dissertation Supervisor

- Any person who has already supervised and/or is supervising the dissertation work of students of MA (Education) / MEd / MAEDS programmes of IGNOU.

OR

- ✓ Any person who possesses MPhil/PhD Degree and has supervised and/or is supervising dissertation work of students of MA(Education) / MEd / MA(Adult Education / Andragogy) of any University/Institute recognized by UGC.

OR

- ✓ Any faculty member of Department/Centre/School of Education / Educational Studies / Adult Education / Adult and Continuing Education / Extension / Extension Studies / Development Studies / Extension and Development Studies / Non-Formal Education / Lifelong Learning / Rural Development / Population Studies / Geography / Sociology / Psychology / Social Work / Political Science / Legal Studies of any University / Institute recognized by UGC who possesses MPhil/PhD Degree and has supervised and/or is supervising dissertation work or is eligible to supervise dissertation work of students of their respective Department / Centre / School / Institute.

OR

- ✓ Any permanent academic staff member of IGNOU working at any of its Regional Centre who has minimum experience of five years in a position not below that of Lecturer or equivalent position, after obtaining PhD Degree in Education / Educational Studies / Adult Education / Adult and Continuing Education / Extension / Extension Studies / Development Studies / Extension and Development Studies / Non-Formal Education / Lifelong Learning / Rural Development / Population Studies / Geography / Sociology / Psychology / Social Work/ Political Science / Legal Studies, and involved in implementation of MAAE/ MA(Education) / MEd / MAEDS programmes of IGNOU under any one of its Regional Centres.

OR

- ✓ Any person who is an academic counsellor at or a Programme In-Charge (PIC) of a Programme Study Centre (PSC) of MAAE / MA(Education) / MEd / MAEDS programmes of IGNOU and has minimum of five years ,experienceafter obtaining PhD and working as permanent faculty of that PSC.

Maximum number of students whose Dissertation work is being supervised by a supervisor shall not exceed five.

Sample Research Proposal-1

Title: Problems and Prospects of Implementation of Adult Education Programmes (PGDAE, PGCAE and MAAE) of IGNOU: A Case Study of Regional Centre, Trivandrum

(Descriptive Survey)

Background and Rationale

Although the term 'Adult Education' was first coined in the English language in 1851, the provisions for the education of adults were available since time immemorial (Hudson, 1851). In India, which is renowned for its learning and educational institutions from ancient days, a variety of educational opportunities were available to the people. The sacred literature, especially, the ***Vedas, Upanishads,*** *Dharma Sutras* and the ***Aranyakas*** bear testimony to the importance accorded to the acquisition of knowledge. The word ***Veda*** is derived from the word *Vid* which signifies 'knowledge par excellence'. Notwithstanding the importance accorded to the acquisition of knowledge in ancient India, the prevalence of caste system among Hindus greatly restricted its access to the priestly and royal classes (Dube, 1990). The colonial policy of encouraging the education of upper classes was also not conducive for spread of education among the masses (Shah, 1999).

In independent India, education became open to every citizen, as a matter of right. Of course, the range and quality of access to formal education by different social groups even today varied widely. Adult education has been recognised as an alternative means of enhancing access to education of the deprived and dissemination of knowledge to the masses in the context of socio-economic and political development and welfare of the individuals, the communities, and the nation at large. Adult education occurs in all informal, formal and non-formal situations/contexts of learning. As an informal education, it dates back to the beginning of the human culture, as formal education it owes its expansion to the efforts of institutionalization of learning,.and as non-formal education it has become flexible system of learning in the recent past which has the potential to continue to be so in all the times to come.

Adult education has become increasingly popular because of its characteristic features of: being learner-centred, relevant and flexible, need-based, problem-solving, purposive, systematic, community-specific, culture-specific, experiential, awareness-building, activity-based, goal-directed, participatory, action-oriented, dynamic, change-orientedltransformative, network-building, welfare and development-oriented, quality-of-life improvement-oriented education for empowerment of adults and their communities. Adult education, as such, is very essential to address the diverse issues and problems in different spheres of life – social, economic, cultural, political, environmental, health, developmental and welfare, among others. Learn or perish has, thus, become the order of the day for adults, as the stakes of adults of all age-groups who do not learn are very high. If they are to survive, the adults are required to acquire: i) ***literacy of diverse types*** – basic language literacy, scientific literacy, economic literacy, technological literacy, computer literacy, visual literacy, information literacy, multicultural literacy, glbbal literacy, legal literacy, and so on; ***ii) awareness of various things*** — about one's self, community, society and the nation; about individual, relational, and collective roles and responsibilities; about social,

economic, political, cultural, environmental, developmental, health, hygiene, and other aspects; about peace, welfare, and harmonious growth and development of the individuals, family, community, nation and the world; and *iii) **functionality of various types and kinds*** — application of knowledge, skills, attitudes, practices, resources, etc., at individual, group, community, corporate, national and international levels for addressing the felt-needs of diverse communities of adults, for solving their problems, for promoting their own and larger public participation in various activities and for bringing out social, economic, cultural, political transformation, and for raising the standard or quality of life of the individuals, community, nation and the world (Lakshmi Reddy, 2009, pp.32-35).

All the adult communities — students (other than those in the school system), teachers of all types at all levels of formal and non-formal education, employees/workers (in formal and non-formal sectors), politicians, legislators, parliamentarians, governors, ministers of different ranks, bureaucrats, lawyers, judges, social activists, free-lancers, the unemployed youth and so on — are involved in the development and welfare activities of the nation in their different capacities and forms. The nature, level and range of involvement and contribution of these communities largely depend upon their socio-economic and political status as well as their role in influencing various processes, policies, programmes, schemes, etc., including their implementation at different levels either as policy makers, *functionaries* or beneficiaries of various types. There is need for mutual understanding, appreciation and articulation of each other's concerns and role in all their relevant contexts in promoting individual and collective development and welfare of all these communities and groups. This is the common and essential perspective of adult education in a democratic country like India as all these communities are expected to behave in mature manner in the larger interest of all these communities and the nation.

Notwithstanding the well-planned policies, schemes and programmes with adequate budget, their success ultimately depends upon the nature, quality and magnitude of qualified, properly trained and competent citizenry constituting the above mentioned communities – the collective human resources of the country. No doubt the in-service education/training of the personnel of various formal and non-formal programmes/schemes is essential required for their success. Yet, these personnel operate in limited contexts and the rest of adult communities who are not part of these programmes and are not able to utilise their personal, community, societal and national resources to make their due contribution at different levels are also to be involved in nation-building activities. They are all to be provided a comprehensive adult educational orientation and training so as to transform them into well-trained citizenry for wholesome success all national policies and programmes. Such quality human resource, the mature and well-trained citizenry, who can effectively address the demands of the nation in rest of all the settings — formal, non-formal and/or informal — is equally essential for realisation of the fullest potential of India, the largest democracy and the second most-populated country in the world. Since it continues to suffer from serious problems and issues of poverty, illiteracy, education, population, infrastructure and inequalities in development and lack of trained citizenry and functionaries for implementation of diverse policies, programmes, schemes, etc, even a word on the need and magnitude of adult education for professional development, capacity building, and orientation and training of the citizenry will be an over emphasis. As the review of related literature presented below reveals there have also been studies that highlighted inadequacies in implementation of even the limited number of adult education programmes that operated at different scales and levels.

A Brief Review of Related Studies: There are evaluation reports that highlighted the successes and shortcomings in implementation of adult education programmes such as Gram Shikshan Mohim of Maharashtra (Planning Commission, Government of India, 1964) and Farmers' Training and Functional Literacy (Directorate of Adult Education, 1972). Murthy (1988) focused on the factors responsible for the effective implementation of the National Adult Education Programme in Andhra Pradesh. Sundarapandian (1993, pp.16-24) presented a brief review of the Total Literacy Campaigns organised under National Literacy Mission in the States/Union Territories of Kerala, Pondicheny, West Bengal, Andhra Pradesh, Rajasthan, Orissa, Madhya Pradesh and Tamil Nadu highlighting the difficulties faced in their implementation and offerred suggestions for overcoming them. Singh (1997, pp.21-27) presented a critique of the Total Literacy Campaign efforts with emphasis on inadequacy of efforts in respect of women's literacy in India. Vasudeva Rao (1999, pp.30-39) assessed the literacy achievement of adult learners and consequent improvement in literacy rate of Nellore District of Andhra Pradesh. He also studied the views and opinions of the learners regarding certain aspects and issues of implementation of the Total Literacy Campaign. Surapa Raju (2002, pp.34-47) highlighted the strengths and major weaknesses of Akshara Sankranthi Programme implemented in Viziayanagaram district of Andhra Pradesh. Nayana Tara (2004, pp.40-55) evaluated the functioning of Jan Shikshan Sansthans with focus on their problems and offered suitable recommendations including the need for training of the manpower or development of human resource for enhancing their performance in implementation of different programmes meant for educational, vocational and occupational development of literates, neo-literates, semi-literates, and non-literate persons. All these call for professional development and capacity building programmes in adult education to supply adequate trained manpower for successful implementation of adult education programmes of different scale and at different levels.

Talking about adult education in Indian Universities, Shah (1997, pp.77-88) presented an elaborate account of series of failures and disappointing notes of experiences spread over twenty years of Adult Education Unit of Jawaharlal Nehru University. He attributed the failures to the triad of predominant organisational character of the University, the background of the students and the shifting nature of changes in the characteristic leadership of the University. Whatever the reasons could be, it presented the miserable failure of (Adult Education Unit of) Jawaharlal Nehru University to launch professional development programmes in adult education. This is one extreme. On the other extreme is the Department of Adult and Continuing Education of Sri Venkateswara University, which started regular course of Post-Graduate Diploma in Adult Education in 1973 with annual intake of 30 students, discontinued it later to start Master of Arts in Adult Education course in 1978-79 with an intake of 20 students per year. It produced 233 Dissertations/Project Works, 16 M.Phils and 27 PhDs spread over 17 years from 1978-2005 (See Adinarayana Reddy, 2006). It is thus a pioneer and a success story of its kind in the country till recently. But this Department too, as it stands today (sic), had landed its M.A. in Adult Education course in doldrums due to internal wrangles. While Departments of Adult and Continuing Education in University of Madras, University of Kerala, University of Delhi, Andhra University, Manipur University, North-Eastern Hill University, among others, are running academic programmes — either MA in Adult Education/Andragogy/Adult and Continuing Education or Post-Master's Diploma or Post-Graduate Diploma or Certificate in Adult Education — the author could not access any published accounts of the above kind. Further, there is no uniformity in syllabi and curricular activities of even the M.A. courses/programmes of these Departments. Thus, it is an established fact that the Units/Centres/Departments of Adult and Continuing Education established in different Universities

in India, over the time, have failed to adequately address, in sustained manner, the needs of professional development and capacity building in adult education at national level.

Initiative of Zndira Gandhi National Open University (ZGNOU): As a step towards addressing the felt-need at the national level and with the collaborative efforts of adult educationists from Jawaharlal Nehru University, UNESCO (UIL) and IGNOU, Post-Graduate Diploma in Adult Education (PGDAE) was launched by IGNOU w.e.f. July 2009 session: Later, IGNOU took further initiative to launch Post-Graduate Certificate in Adult Education (PGCAE) and Master of Arts in Adult Education (MAAE) in July 2011. While PGDAE and MAAE programmes are currently offered only once in a year (i.e. for the session that commences in July), PGCAE programme is offered twice (i.e. in both July and January sessions) every year. These three programmes (PGRAE, PGCAE and MAAE) are offered at national level. However, it is IGNOU Regional Centre, Trivandrum (RC Code 14) which took pioneering step to establish State Resource Centre, Kerala as a Programme Study Centre (PSC Code 40009 P) for implementation of these three programmes. The first batch of MAAE Programme students who are now in their second year are also likely to appear in their term-end examination in June 2013. Given this context of these programmes under Trivandrum Region, it is right time to obtain the feedback on the problems and prospects of implementation of these programmes under this Regional Centre so as to strengthen these programmes under this Region. Thus, it would also serve as a case study of implementation of these programmes under Kerala Region which can provide an understanding of the problems and prospects thereof.

Generally speaking, case study is a useful way to systematically look at a specific case, collect data, analyse and interpret findings within the context and report results. The case study research method should, however, not be confused with the use of case studies as a teaching tool (Anderson, 2001, p.152). "A case study (also known as a case report) is an intensive analysis of an individual unit (e.g., a person, group, or event) stressing developmental factors in relation to the context" (Bent Flyvbjerg, 2011). As the review presents, there are no studies available on recently started PGDAE, PGCAE and MAAE programmes of IGNOU. Since no study has been undertaken so far to obtain proper feedback on implementation of these programmes under Trivandrum Region, this study would give an idea of suitable inputs required for strengthening these programmes.

Statement of the Problem

It is in the above stated background and rationale, the study of implementation of adult education programmes, viz. PGDAE, PGCAE and MAAE under Trivandrum Region assumes great significance. Hence, a research study, titled *"Problems and Prospects of Implementation of Adult Education Programmes (PGDAE, PGCAE and MAAE) of IGNOU: A Case Study of Regional Centre, Trivandrum"* is proposed. It attempts to address the following research questions.

Research Questions

1) Whether the enrolment of students for PGDAE, PGCAE and MAAE programmes is satisfactory according to the expectations of Regional Centre, Trivandrum and the concerned Programme Study Centre'?

2) What are the problems in implementation/delivery of PGDAE, PGCAE and MAAE programmes as experienced by the staff of the concerned Regional Centre and Programme Study Centre and in completion of these programmes by the students?

3) What are the prospects of these programmes under Trivandrum region as perceived by the students of these programmes and the staff involved in implementation of these programmes?

4) What are the ways and means of furthering the prospects of the students and the programmes plus strengthening the efforts of the Regional Centre and the Programme Study Centre in this regard?

Objectives of the Study

Following are the objectives of the proposed study:

1) To examine the enrolment patterns of students for PGDAE, PGCAE and MAAE programmes at the Programme Study Centre (Code 40009 P) in particular and under Regional Centre Trivandrum in general;

2) To study the level of satisfaction of concerned staff of Regional Centre (Code 14) and of the Programme Study Centre (Code 40009 P) with the existing enrolment patterns of students for these programmes;

3) To identify the problems of the Regional Centre (Code 14) and of the Programme Study Centre (Code 40009 P) in delivering/implementing these programmes with special reference to their courses with practical components, among others:

4) To study the problems faced by the students in pursuing these programmes with special reference to their courses with practical components, among others;

5) To assess the prospects of these programmes under Trivandrum Region in particular and in Kerala in general, as perceived by the students of these programmes and the staff of Regional Centre (Code 14) and of the Programme Study Centre (Code 40009 P) involved in implementation of these programmes; and

6) To seek suggestions of the students of these programmes and the staff involved in implementation of these programmes for enhancing the reach of these programmes as well as strengthening their implementation.

Operational Definitions of the Terms

1) Implementation: It includes all actions taken by the Regional Centre and the Programme Study Centre in putting the programmes (PGDAE, PGCAE and MAAE) into practice, as planned; or the processes followed in carrying out, execution, or practice of these programme-plans to achieve the desired effects or ends.

2) Problems: These are the difficulties, troubles, set-backs and bottle-necks faced by the students and the staff in respect of implementation of PGDAE, PGCAE and MAAE programmes.

3) Prospects: This is the forecast of the situation when left as it is and also the likely changes that may happen in the situation when there are suitable interventions in these programmes.

4) PGDAE: Post-Graduate Diploma in Adult Education programme launched by IGNOU w.e.f. July 2009 session.

5) PGCAE: Post-Graduate Certificate in Adult Education programme launched by IGNOU w.e.f. July 2011 session.

6) MAAE: Master of Arts in Adult Education programme launched by IGNOU w.e.f. July 2011 session.

7) Case *study:* It is an intensive analysis of implementation problems and prospects related to PGDAE, PGCAE and MAAE programmes under IGNOU Regional Centre, Trivandrum through effective feedback about factual position/situation as well as opinions, views, comments, criticism and suggestions of the concerned for improvement of the situation.

Delimitations of the Study

1) The study will be delimited to IGNOU Regional Centre, Trivandrum (RC Code 14) the Programme Study Centre (PSC Code 40009 P) of IGNOU.

2) The study will be further delimited to the students enrolled for PGDAE, PGCAE and MAAE programmes and the staff (academic and non-academic) of Regional Centre, Trivandrum (RC Code 14) and the Programme Study Centre (PSC Code 40009 P) who were and/or have been involved in implementation of these programmes.

3) The study will also be delimited to the existing records and information available with the above RC and PSC and also the data collected from the students and the staff mentioned under delimitation 2) above.

Methodology of Study

The methodology of the study comprising research method, population, sample, tools, procedure of data collection and data analysis will be as follows.

Research Method: Descriptive survey method will be adopted for the present study.

Population and sample: All the students enrolled for PGDAE, PGCAE and MAAE programmes and all those staff (academic and non-academic) members of Regional Centre, Trivandrum (RC Code 14) and the Programme Study Centre (PSC Code 40009 P) who were and/or have been involved in implementation of these programmes will be thepopulation, which together may be about 100. The entire population, being small in size, will be covered in the study.

Tools and techniques: Questionnaire and small group focused interview will be the tools and techniques that will be used for the study. Three separate questionnaires – *first one* to be administered on the students; second one to be administered on the concerned staff of Regional Centre; and third one to be administered on the concerned staff of Programme Study Centre – will be developed by the researcher. There will be both open-ended and close-ended questions in these questionnaires.

Two focused group interviews will be held — One with the concerned staff of the Regional Centre only, and, the other, with the concerned staff of the Programme Study Centre only — to obtain qualitative data for an in-depth analysis and insight into the problems and prospects related to the programmes under study.

Procedure of Data Collection: List of the students along with their contact details as well as the staff involved with promotion and implementation of these programmes will be collected from the above mentioned RC and PSC. Thus, the secondary data will be collected from the official records available at the said RC and PSC with a request that the data/information sought is for the purpose of the study only.

Primary data, both quantitative and qualitative, will be collected for the study by administering the three questionnaires that will be specially developed for the students, the staff at RC and the staff at PSC and also by conducting two focus group interviews, which the researcher will do himself. The questionnaires will be sent to the students and the staff concerned through surface mail and will be received back from them within the maximum period of two months. The researcher will personally seek permission of the Regional Director of RC and the Programme In-Charge of the PSC for holding interview with concerned staff respectively. Proper notes of the interview responses will be taken. And, if possible, the same may be either audio recorded or video recorded, which ever may be convenient at the time of these group interviews.

Procedure of Data Analysis and Interpretation: The data obtained will be analysed using both quantitative and qualitative techniques of data analysis. Quantitative data obtained from close-ended questions will be analysed using simple method of percentage analysis and central tendencies. The qualitative data/information collected through open-ended questions and through group interview will be analysed through content analysis. The findings will accordingly be interpreted, including the personal reflections on the findings based on qualitative data.

Format of Report/Dissertation

The report of the study, called dissertation, will be presented in five chapters, viz. 1) Background and Rationale for the study, 2) Statement of the Problem, 3) Methodology of Study, 4) Analysis and Interpretation of Data, and 5) Summary, Conclusions and Suggestions.

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Sample Research Proposal-2

Title: Documentation of Literacy Materials for Semi-literate and Neo-literate Adults in the State of Andhra Pradesh for Enabling Building of their E-Resource (WWW-based) Materials

(Descriptive Documentary Survey Method)

Background and Rationale

India not only has the distinction of being multi-cultural, multi-religious, multi-lingual, largest democratic country but also has dubious distinction of being the home of largest numbers of poor, hungry and illiterate people of the world. There has been no dearth of measures – laws, policies, schemes and programmes – for reduction of poverty, illiteracy and population growth in independent India. But the fact is, poverty, illiteracy and population growth till date remain the core problems of the nation impinging upon its developmental and welfare efforts. Though India has ***now almost reached*** the threshold level of literacy rate of 75%, that is considered essential for sustaining the developmental efforts, it is imperative that the literacy skills acquired by semi- and neo-literate adults are sustained and promoted as a step towards their lifelong learning.

As per the provisional population totals of 2011 Census, India has literacy rate of 74%. Yet, it has 272,950,015 illiterate population aged 7 years and above (http://www.imaginrnor.com/census-of-india-2011.html). This is so in spite of several important adult literacy/education programmes implemented since independence, which include: Community Development Programme (1951-66); Farmers' Functional Literacy Projects (1967-68); Workers' Education (The Scheme of Shramik Vidyapeeths in 1967); Non-Formal Education for Youth (1975); National Adult Education Programme (1978 to 1990) an umbrella programme that included programmes such as Mass Programme of Functional Literacy (MPFL), Rural Functional Literacy Project (RFLP), State Adult Education Programmes (SAEP) and Adult Education through Voluntary Agencies, among others; National Literacy Mission (1988-2009), and Saakshar Bharat (2009). Government Departments, Universities, State Resource Centres, Regional Resource Centres/Units and voluntary organizations, among others, have been involved in these programmes. But the beneficiaries of these programmes – the semi-literate and neo-literate adults – could not sustain their learning efforts in the absence of adequate and effective follow-up programmes or efforts to supplement their learning.

Whatever the literacy materials that were developed in the form of Primers (prior to beginning of National Literacy Mission) and later in the name of IPCL (Improved Pace and Content of Learning) Primers during and after NLM till date have no doubt been used for making the illiterate adults literate, irrespective of different degrees of success in different regions in different States/UTs. Similarly, wide-range of post-literacy and continuing education materials have been developed by channelizing the energies of different experts. But, with the formal closure or ending of these programmes all these different Primers including IPCL Primers and other literacy, post-literacy and continuing education materials so developed in different parts of the country in different languages have not become accessible to the semi- and neo-literates and also to all others who were not the participants of these programmes, but can effectively use them for their benefit, if the same are accessible. It is therefore essential to see that the h i t s of such colossal

efforts are restored and made available to such categories of learners to whom they belong and are useful in long-lasting manner.

Brief Review of Related Studies: A study by Puri and Kaur (1996, pp.19-25), through descriptive survey research, ascertained the perceptions of volunteer teachers and neo-learners about the efficacy of Improved Pace and Content of Learning (IPCL) Primers and also about their aspects such as appearance, size of letters, place of illustrations and the contents including in-built evaluation, among others. Sundarapandian (1999, pp.48-56) analysed the needs and interests of neo-literates in post-literacy reading materials in Madurai district of Tamil Nadu. The study by Lakshmi Reddy and Krishna Mohan Rao (1993, pp.70-82) highlighted the efforts made by Telugu daily newspapers — Eenadu and Udayam in Nellore district, and Andhra *Prabha* in Chittoor district of Andhra Pradesh – which carried a quarter-page special for promotion of post-literacy among the neo-literates interested in reading the same at the Jana Chaitanya Kendras (JCKs) in these districts, as a part of continued efforts of National Literacy Mission that was launched in 1988. The study provided an insight into the problems of distribution of these newspapers to JCKs, their accessibility to neo-literates, and the reactions of neo-literates and monitors of JCKs on the level of content, language, presentation and coverage of diverse themes relevant to neo-literates. Kumaraswamy and Eswaraiah (2003, pp.53-61) presented a case study of post-literacy and continuing education materials in Chittoor district keeping in view the National Literacy Mission Guidelines of 1995 for preparation, production and distribution of books for the neo-literates. They presented the perceptions of the *preraks* on various aspects of neo-literate literature – coverage, relevance, get-up, mode of supply, adequacy and utility — and based on their perceptions identified areas on which additional material was required for neo-literates. Rajan (2004, pp.68-75) assessed the books meant for neo-literates, which were supplied to the Continuing Education Centres (CEC) and Nodal Continuing Education Centres (NCECs), with special reference to the Grade levels of these books, the areas and concepts covered by them, and their adherence to prescribed quality norms at different grades. The study also identified the future needs and requirements of the beneficiaries with regard to CE materials at these centres in the state of Tamil Nadu. Lakshmi Reddy (2012, pp.28-45) highlighted the need to initiate the reading habits among the illiterates if their society is illiterate, or to promote or further their reading habits if their society is literate by facilitating them to put their literacy skills to continuous use. He elucidated a national strategy for promotion of reading habits among the illiterates and literates with special emphasis on the nature and form of material required for the purpose and what Open Universities can specially do to make India a literate and reading society.

Need and Significance of the Study: The literacy materials (basic, post-literacy and continuing education) so developed and used for adults form rich learning and reading resources for them even today, provided these materials can be put together and made easily accessible to all adults within and outside the boundaries of the programmes. It calls for documenting all these materials, pooling them together and building their e-resources (www-based) for use at any time by all adults – illiterate, semi-literate, neo-literate, and other literates. With the increasing access to technology at the homes and in the society at large such e-resource of these materials will be useful to: i) the illiterates because, if they want to become literate (by learning at their own homes or at the homes of others with assistance of any one of their choice); ii) to the semi-literates and neo-literates who want to sustain and promote their literacy levels through their self-learning; and iii) to the other literates who want to continue their learning through their independent learning from these materials. Perhaps, the developments in information and communication technology, more so in the front of the e-resource (www-based) building, can be

used effectively for providing enhanced and universal and all time access to all the needy and interested to learn on their own or with minimum guidance of others, as may be required.

It is therefore very relevant and important to identify a wide variety of literacy, post-literacy and continuing education materials that were already developed and used, and existing at different places in different parts of the country so as to put them together in a strategic perspective of making them accessible to all the concerned as e-resource (www-based material) in future. Such efforts can be undertaken in every State/Union Temtory with focus on building such e-resources of these materials of respective state language, either as an independent exercise of State/UT concerned or as part of a national strategy in this respect. As the review above reveals, till date, there are no studies that exhaustively document these materials in such strategic perspective for building such e-resource, nor there are any such efforts going on currently. However, to start with, and trigger to such efforts in other parts of the country or to influence the policy makers to come out with such a strategy, present study is proposed to be undertaken in Andhra Pradesh with special reference to these materials in Telugu language.

Statement of the Problem

The title of the proposed study is "Documentation of Literacy Materials for Semi-literate and Neo-literate Adults in the State of Andhra Pradesh for Enabling Building of their E-Resource (www-based) Materials". It attempts to address the following research questions.

Research Questions

1) What were/are the various adult literacy/education programmes implemented in the state of Andhra Pradesh and what were/are the agencies involved in implementing these programmes?

2) What are the titles of basic literacy primers, post-literacy and continuing education print materials developed and used by different agencies for promotion of literacy and its sustenance among adults as part of implementation of these programmes?

3) Whether the copies of these materials or the details thereof are available with the concerned agencies? If not, which related source/office might be having at least a copy of each of such material for making it available for procuring them either free of cost or on payment of its price?

4) Which is the proper/resourceful agency in the state that can either sponsor/facilitate or undertake by itself the pooling of a copy of each of these printed materials based on their particulars that can be made available through this study?

5) Which is the suitable agency that can effectively undertake the task of building e-resource (www-based material) of the pool of these printed materials identified for the benefit of all the intended clientele/user-groups – illiterates, semi-literates, neo-literates and other literates?

Objectives of the Study

Following are the objectives of the proposed study:

1) To identify various adult literacy/education programmes implemented in the state of Andhra Pradesh since its formation in 1956.

2) To identify different agencies involved in implementation of these programmes.

3) To identify the titles and other particulars/details of primers and other literacy materials including post-literacy and continuing education materials developed, printed and used as part of implementation of these programmes.

4) To ascertain the availability of printed copies of these materials with the concerned agencies.

5) To identify the ways and means of obtaining a copy of these materials which are available either free of cost or on payment of its price, as the case may be.

6) To identify suitable agency in the state which can sponsor/facilitate collection/pooling of these materials, or can directly procure by itself a copy of each of these identified printed materials.

7) To identify suitable agency that can effectively undertake the task of building e-resource (www-based materials) of these pooled print materials for the benefit of illiterate, semi-literate, neo-literate and other literate adults.

8) To identify, alternatively, any resourceful agency which can directly undertake itself the entire task of collecting/pooling these materials and building e-resource (www-based materials) of these identified print materials.

Operational Definitions of the Terms

Literacy Materials: The literacy materials are the primers, readers, post-literacy and continuing education materials in Telugu language specially developed, printed and used for promoting basic literacy, post-literacy and continuing education among adults in Andhra Pradesh.

Semi-literate: A Telugu speaking adult who has recently acquired the skills of reading, writing and arithmetic with understanding in Telugu language and who is not fully confident/capable of using these skills himself/herself and sometimes requires assistance or guidance of others to facilitate effective use of these skills.

Neo-literate: A Telugu speaking adult who has recently acquired the skills in reading, writing and arithmetic with understanding in Telugu language and who is fully confident/capable of using these literacy skills himself/herself even without any assistance or guidance of others to facilitate effective use of these skills.

E-resource materials: These are the e-versions of all the existing printed literacy materials to be built on world wide web (www) by collecting and putting together all the materials documented in this study, as a part of ensuring their preservation as well as their accessibility as e-resource (www-based) material to all illiterate, semi-literate, neo-literate and other literate adults at any time and place of their choice and convenience for imparting and/or promotion of their literacy skills by practising them either under the guidance of persons of their choice or on their own, depending upon their ability.

Delimitations of the Study

1) The study will be delimited to only those literacy materials developed, printed and used in Telugu language as part of implementation of adult education programme in the State of Andhra Pradesh.

2) The study will be delimited to those printed materials which are available with relevant agencies and other sources and whose details are easily identifiable and/or accessible with reasonable efforts for their documentation.

3) The study will be delimited to only literacy materials (basic, post-literacy and continuing) available in print form/medium only.

Methodology of Study

Since the study is based on the documentary datalinformation, it depends on secondary sources such as the basic literacy, post-literacy and continuing education materials only.

Research Method: Documentary survey method will be used for the present study.

Sources of data – population and sample: Broadly, the literacy materials developed and used by different agencies as part of implementation of adult education programmes in the State of Andhra Pradesh for promotion and sustaining of literacy among adults include: basic literacy materials such as Primers including IPCL Primers, post-literacy materials and continuing education materials developed and used by different implementing agencies such as University Departments1 Centres of Adult, Continuing Education and Extension, State Department of (Adult) Education/ State Directorate of Adult Education, State Resource Centres, Regional Resource Centres, District Resource Units, Zilla Saksharatha Samitis, Voluntary Organisations, Continuing Education Centres, Jan Shikshan Sansthans and other relevant bodies existed then and/or existing now and involved in these programmes. All the basic literacy, post-literacy and continuing education materials of various agencies as are available and may be accessible will be the source of documentary data. Hence, all these agencies who have developed, printed and used these materials will be both the population and sample for the study. This is so because the entire state is intended to be covered and hence all the agencies involved in respect of these materials for enabling building their e-resource (www-based materials).

Tools: Specially developed questionnaire will be used for the study. The questionnaire will have both ?lose-ended and open-ended questions to obtain comprehensive details covering different aspectslparticulars of the intended materials.

Procedure of Data Collection: To start with, a comprehensive survey of literature on history of adult education programmes in Andhra Pradesh as well as current status regarding implementation of adult education programmes will be undertaken. In so doing, a comprehensive list of agencies involved in adult education along with the nature of their involvement and contact details1 particulars of each agency will be prepared. Regarding current programmes other sources will be explored to identify the agencies involved in implementation. Based on such information, a questionnaire containing open-ended and close-ended questions will be specially developed for the study. It will have questions related to the type of agency, nature of its involvement, its role in developing the materials, the type of materials (basic literacy, post-literacy and continuing education) developed/printed and used, their titles, year of publication, size, areas covered, priced/ free for distribution, their availability, agencies that sponsored its development, etc. Further, information will be sought from them about any other agency/agencies involved in development, printing and use of any such materials in their local areas. Information will also be sought about the potential sponsors who can facilitate pooling of these materials and/or building e-resources (www-based) of such materials at state level. The questionnaire will be mailed to the concerned agencies. Electronic despatch using the cheapest means of cominunication such as e-mail will also be used as an alternative in this regard. The data collected will be purely based on secondary

and authentic source as it relates to the relevant printed materials that exist. Thus, the secondary data will be collected from concerned agencies with a request that the data/information sought is purely for the purpose of the intended study only.

Procedure of Data Analysis and Interpretation: The data/information obtained will be analysed using both quantitative and qualitative techniques of analysis. The nature of the materials (basic literacy, post-literacy and continuing education), their number, titles, and broad areas/themes covered, programme for which they were developed, agency-wise list, year-wise list, list of free-for-distribution materials, list of priced materials, places of their availability, etc will be prepared for documentation. Wherever possible, percentage analysis regarding quantitative contribution of the materials, and mean, median and mode will be used in the analysis. The qualitative data/ information collected through open-end questions covering the contact information of the agencies, full titles, and other details of the materials, contact addresses/places of their availability, procedure of obtaining them along with details mode of payment of price, if any, and details of the suggested resourceful/potential agencies that may be interested in sponsoring or facilitating the pooling of these material and/or building the e-resources (www-based materials) of these print materials will be accordingly analysed and interpreted.

Format of Report/Dissertation

The report of the study, called dissertation, will be presented in five chapters, viz. 1) Background and Rationale for the Study, 2) Statement of the Problem, 3) Methodology of Study, 4) Analysis and Interpretation of Data, and 5) Summary, Conclusions and Suggestions.

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List of Some Suggested Problems/Topics for Dissertation Work

1) A study of learning needs and choices of illiterate male and female adults in rural areas.

2) Attitude of BPL learners towards learning of literacy and adult education programmes.

3) A study of gender disparity in participation of adults in adult education programmes.

4) Organisational and motivational problems of adult participants and functionaries in implementation of adult education programmes.

5) Attitudes and practices of adult education volunteer-instructors to adult education programmes.

6) A study of locally sustainable community development practices followed in rural areas.

7) Impact of adult education programmes on women in rural and tribal areas.

8) A study of difficulty level of alphabets of mother tongue as perceived by neo-literates.

9) A study of difficulty level of alphabets of mother tongue as perceived by adult education volunteers/ instructors.

10) A study of factors motivating the adult learners to join adult education centres.

11) A rating scale for motivation of adult education functionaries.

12) A comparative study of the impact of adult education programmes in rural and tribal areas.

13) A study of relationship between literacy learning and adoption of improved farm practices.

14) Teaching effectiveness of 'Improved Pace and Content of Learning' Primers'.

15) A comparative study of effectiveness of two literacy primers – single primer and IPCL primers.

16) An analysis of selected literacy primers.

17) A study of reasons for drop-out of adult learners from adult education (literacy) centres.

18) A study of felt-needs for income-generating activities and education of women in rural areas.

19) Adult education and electronic media (Television and Movies): A study of social change and consequences in rural areas.

20) A study of political awareness among adults in villages and tribal areas.

21) A study of media bias (print and electronic) in influencing election outcomes as perceived by adults attending adult education centres.

22) A study of legal literacy among men in rural and tribal areas.

23) A study of legal literacy among women in rural and tribal areas.

24) Problems of women's education in villages and tribal areas.

25) Opinion of adults towards functioning of adult education centres.

26) Utilisation of educational facilities available in rural and tribal areas by respective communities in these areas.

27) Literacy achievement of adults attending adult education centres.

28) Attitude of women towards literacy learning and education.

29) Farmers' awareness and adoption of farm technology.

30) Knowledge and attitudes of farmers towards high-yielding varieties of seeds.

31) Training needs of farmers in relation to high-yielding varieties of paddy.

32) Attitude, practices and job-satisfaction of grass-root level adult education functionaries.

33) A study of de-facto participation of adults and organisers at adult education centres.

34) A comparative study of educational need-patterns of adults in rural, urban and tribal areas.

35) Benefits of literacy as perceived by neo-literates.

36) A comparative study of attitude of adults of Hindu, Muslim and Christian religions towards fertility regulation (family planning).

37) Identification of educational needs and aspirations of rural and tribal communities.

38) Reading interests of neo-literates in rural, tribal and urban areas.

39) Impact of attendance of adult learners at adult education centres on their achievement.

40) Knowledge of developmental programmes (developmental literacy) among BPL people.

41) A study of factors affecting adult learners' participation in educational, development and welfare programmes.

42) A case study of village leadership contribution to literacy promotion in selected villages.

43) A comparative study of effectiveness of different visual aids on adults' learning.

44) Developing community-based participatory curriculum for community action and development.

45) Relevance of Paulo Freire's educational philosophy to practice of adult education in India.

46) A study of barriers to women's participation in adult education programmes.

47) A study of factors affecting community access to field functionaries of various developmental and welfare programmes.

48) Awareness and preferences of adults to Information and Communication Technologies.

49) Impact of Radio and Television broadcast on agricultural practices.

50) A study of viewers' perceptions of television media abuse by political parties and media managers.

51) A study of functioning of Jan Shikshan Sansthans in _____ (Name of District).

52) A study of implementation of Equivalency Programmes by State Resource Centre in _____ (Name of State).

53) A study of implementation of Quality of Life Improvement Programmes by Jan Shikshan Sansthans in _____ (Name of District).

54) A study of implementation of Individual Interest Promotion programmes by Jan Shikshan Sansthans in _____ (Name of District)..

55) A study of implementation of Skill Development and Income Generation programmes by Jan Shikshan Sansthans in _____ (Name of District).

56) Implementation of Mahila Samakhya Programme in _____ (Name of Block) in _____ (Name of District).

57) A case study of contribution of Department of Adult, Continuing Education and Extension of _____ (Name of University) in promotion of adult education.

58) A case study of _____ (Name of an NGO) in promotion of adult education in _____ (Name of State).

59) Implementation of Saakshar Bharat programme in _____ (Name of District).

60) A study of availability and utilization of library facilities in rural areas of _____ (Name of District).

61) A critical analysis of IPCL Primers of _____ (Name of State).

62) An analysis of reading materials of semi-literates and neo-literates in _____ (Name of District).

63) A study of rural folklore/folk literature in _____ (Name of District/Region) of _____ (Name of State).

64) A study of recreational practices in remote rural and tribal areas in _____ (Name of District).

65) A study of styles and techniques of social networking among rural and tribal communities in _____ (Name of District).

66) A study of work and life satisfaction among rural people in _____ (Name of Panchayat) of _____ (Name of Distsrict).

67) A study of customized information needs of rural and tribal communities.

68) A study of functioning of Gram Panchayats in _____ (Name of Block) of _____ (Name of District).

69) A study of the contribution of Self-Help Groups in implementation of Swarnajayanthi Grama Sarojgar Yojana (SGSY) Scheme in _____ (Name of District).

70) Impact of Providing Urban Amenities in Rural Areas (PURA) in _____ (Name of Panchayat) of _____ (Name of District).

71) Impact of Mahatma Gandhi National Rural Employment Guarantee Scheme on families Below Poverty Line.

72) A comparative study of preferences of selected target groups to different extension methods.

73) A study of factors of marginalization of selected communities in _____ (Name of Panchayat/ District).

74) A comparative study of attitudes of urban and rural people to population issues.

75) A study of survival and sustainable practices of urban slumdwellers.

76) Health and sanitation problems of slum-dwellers in _____ (Name of city).

77) Educational problems of slum children in _____ (Name of city).

78) Socio-economic problems of homeless poor migrants in _____ (Name of city).

79) A comparative study of basic minimum per capita expenditure per day of the people in remote villages and slum-dwellers in a Metropolitan city.

80) An evaluative study of implementation of Sarva Shiksha Abhiyan in _____ (Name of Block/District).

81) A study of felt-needs of rural people about cultural, sports and recreational infrastructure in villages.

82) Employment, health and social security needs of agricultural labourers in _____ (Name of Block/ District).

83) Causes and consequences of industrial decimation in Proddatur town and surrounding areas in Kadapa district of Andhra Pradesh.

84) A study of utilization of local resources for domestic production and consumption of energy in rural areas.

85) Local practices of solar energy exploitation in rural and tribal areas.

86) People's perceptions of issues and problems of political parties and their impact on governance.

87) A study of problems of unorganized workforce in urban areas.

88) A study of functioning of public distribution system in rural areas as perceived by its clientele/ target groups.

89) A study of women's attitudes towards their participation in agricultural activities/processes.

90) A study of the causes of marginalization and exclusion of selected Dalit groups.

91) People's perceptions of regional parties in politics and their dynamics in Andhra Pradesh.

92) An experiment to demonstrate the functioning of Gram Sabha: A case study of problems and effects in a model village.

93) A study of causes and effects of rural out-migration with special reference to incident villages.

94) Impact of Self-Employment Programmes in small towns and villages.

95) Impact of Wage-Employment Programmes in rural areas in _____ (Name of District).

96) A study of displacement and resettlement of villagers in _____ (Name of District).

97) Impact of micro-finance on development of rural people in _____ (Name of District).

98) A study of functioning of Self-Help Groups in _____ (Name of Panchayat/District).

99) A study of impact of Mahila Samakhya Programme on SC and ST communities in _____ (Name of District).

100) Impressions of beneficiaries of Housing Schemes/Programmes for the poor.

101) A study of problems of "De-notified" and "Nomadic Tribes" in _____ (Name of District/ State).

102) Factors affecting development of Particularly Vulnerable Tribal Groups in _____ (Name of District/State).

103) A study of the beneficiaries of Village Grain-Bank Scheme in Tribal villages of _____ (Name of District).

104) Factors influencing development of Primitive Tribal Groups in _____ (Name of District).

105) Homelessness and unemployment problems of migrants in _____ (Name of Metropolitan city).

106) Problems and issues of child-labour among slum-dwellers in _____ (Name of city).

107) Arresting marginalization and exclusion: Reactionary and reformist perspectives of the affected groups in _____ (Name of District/Area).

108) A study of impact of Integrated Housing and Slum Development programme in _____ (Name of city).

109) Implementation of National Policy for Urban Street Vendors in NCT of Delhi.

110) A study of infant and maternal mortality in tribal villages of _____ (Name of District).

111) A study of problems of passengers commuting by Delhi Transport Corporation buses.

112) A comparative study of advantages and disadvantages of Bus Rapid Transport (BRT) and Non-BRT routes in Delhi Road Transport System as perceived by commuters.

113) A study of problems of inter-face between DTC and Delhi Metro services.

114) A study of impact of Rashtriya Swasthya Bima Yojana on BPL persons/families.

115) A comparative study of attitudes of members of small families towards joint family and vice-versa.

116) Advantages and disadvantages of emerging family patterns in a Metropolitan city.

117) A comparative study of problems and advantages of small families in urban and rural areas.

118) A study of causes and consequences of maladjustment among rural youth.

119) Attitudes and behaviour of urban adolescents towards their peers of opposite sex.

120) A study of behavioural patterns of well-adjusted adolescents in urban areas.

121) A comparative study of awareness of AIDS among slum-dwellers in a Metro city and the poor in remote rural areas.

122) A comparative study of attitudes and behaviour of urban and rural elite towards People Living with HIV/AIDS (PLWHA).

123) A study of gender inequity and inequality among children of elite class in urban and rural areas as practiced by the parents.

124) A study of gender inequity and inequality among children of poor families in rural and urban areas as practiced by the parents.

125) A comparative study of gender inequity and inequality among children of elite and poor families in rural and urban areas as perceived by children.

126) A study of gender inequity and inequality in family planning practices among the poor families in rural areas.

127) A comparative study of gender inequity and inequality in family planning practices among the elite class in urban areas.

128) A comparative study of gender inequity and inequality in family planning practices among the poor and the elite in urban and rural areas.

129) Knowledge, attitudes and practices of recently married couple to family planning.

130) Rural people's awareness and assertion of fundamental rights.

131) Awareness of rural people about right to education, employment and information.

132) A study of peoples' understanding of the concept of crime, proportionality of punishment and general exceptions to criminal liability.

133) People's knowledge and understanding of the differences between crime and tort.

134) Awareness among the poor of legal aid and its utilisation for justice.

135) Parents' awareness of rights of children and their protection in India.

136) Awareness among rural women about their rights and protection.

137) Awareness among the persons with disabilities about their rights and protection.

138) Awareness among the rural people of role, powers and responsibilities of Gram Sabha.

139) Awareness of Dalits and Tribals about their rights.

140) Awareness of unorganized workforce about measures existing for their protection.

141) Older persons' and senior citizens' awareness and assertion of their tights and privileges.

142) Landholders' awareness of the process of land acquisition and compensation.

143) A study of organisational and administrative problems of open and distance learning system.

144) Impact of media and technology on preparation of self-learning materials.

145) Comparative effectiveness of different designs of self-learning materials.

146) A study of problems of instructional transaction and evaluation in open and distance learning.

147) A study of problems and issues of learner support services in ODL system.

148) Assessment, evaluation and research in open and distance learning: A Review

14.9) Critical analysis of trends and shifts in open and distance learning at national level.

150) Attitude of adults towards Law Courts and delivery of justice in India.

School of Extension and Development Studies
IGNOU, Maidan Garhi, New Delhi-110068

PROFORMA FOR APPROVAL OF MAEP-001 DISSERTATION PROPOSAL OF MASTER OF ARTS IN ADULT EDUCATION (MAAE)

Note: i) Please ensure that all entries in the proforma are correctly filled-m.

ii) The filled-in proforma along with the dissertation proposal should be submitted to the concerned Regional Director for approval.

(For Office use only)

Dissertation Proposal No.: .....

(To be filled in by the student)

Enrolment No. . .....

Study Centre . .....

Regional Centre . .....

E-mail Id of the Student : .....

Student's Telephone No. : .....

1. Name and Address of the Student: .....
.....
.....

2. Title of the Proposal for Dissertation: .....
.....

3. Name and Address of the Supervisor : .....
.....

Signature of the Student
Date: .....

Signature of the Supervisor
Date: .....

For Office Use only

Approved Not approved

.....
Signature, Designation, Stamp of the Dissertation Proposal Evaluator
Date: .....

(If not approved, please give reasons thereof, along with suggestions, if any, on a separate sheet for reformulating the proposal)

.....
Signature of the Regional Director and Stamp
Date: .....

Suggestions, if any, for Reformulating the Dissertation Proposal

Research Proposal for MAEP-001 Dissertation Work

(**Note:** 1) The student will develop the proposal covering the following broad aspects and attach the proposal to the proforma for approval)

2) If the student has identified a person to be approved as his/her supervisor, then the student has also to submit the duly filled in format given at Appendix – I for necessary approval. (i.e. This is required only if the person identified is not in the list of already approved supervisors).

TITLE: .....

.....

I) Background and Rationale

II) Statement of the Problem

i) Title of the Problem

ii) Research Questions

iii) Objectives of the Study

iv) Hypotheses (If any)

v) Operational Definitions of the Terms

vi) Delimitations of the Study

III) Methodology of Study

i) Research method

ii) Population and Sample

iii) Research Tool(s)

iv) Procedure of Data Collection

v) Procedure of Data Analysis and Interpretation

IV) Format of Report/Dissertation

V) References

(Format of 'Table of Contents' in Dissertation)

TABLE OF CONTENTS

Contents **Page**

- Major findings of the study and brief discussion of results
- Conclusions of the study and their implications
- Suggestions for further research

Bibliography

- Books
- Journals
- Dissertations/Theses
- Reports

Appendices

- Approval of Dissertation Proposal
- Tools and techniques used
- Raw data and certain Tables, if any (mentioned but not given in Chapter IV)
- Any new materials developed for research

(Note: Please ensure that corresponding page numbers are given against the contents)

(Specimen of the Cover Page of Dissertation)

TITLE OF THE STUDY: _____

(Put the title of your Dissertation here)

A Dissertation submitted to Indira Gandhi National Open University in partial fulfilment of the requirement for the award of Degree of

MASTER OF ARTS
IN
ADULT EDUCATION
(MAAE)

by

Name of the Candidate:

Enrolment Number:

Name of the Supervisor:

(Month and Year of Submission)

School of Extension and Development Studies
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
Maidan Garhi, New Delhi-110068

Appendix – VIII

DECLARATION

I hereby declare that the Dissertation entitled .....

.....

..... (Write the title in Block letters) submitted by me in partial fulfilment for the award of the Degree of the Master of Arts in Adult Education (MAAE) to Indira Gandhi National Open University (IGNOU), New Delhi is my original work and has not been submitted earlier to IGNOU or to any other institution for fulfilment of the requirement for any course of study. I also declare that no chapter of this dissertation either in whole or in part is lifted and incorporated.

Place: .....

Date: .....

Signature: .....

Name of the Candidate: .....

Enrolment No.: .....

Address: .....

Appendix – IX

CERTIFICATE

This is to certify that Mr./Miss/Mrs. .....,

student of Master of Arts in Adult Education (MAAE) programme from Indira Gandhi National Open University, New Delhi, has worked under my supervision and guidance for his/her Dissertation for the Course MAEP-001. His/her Dissertation entitled .....

.....

..... which he/she is submitting hereby is his/her genuine and original work.

Place: .....

Date: .....

Signature: .....

Name of the Supervisor: .....

Address: .....

Checklist for Submission of Dissertation

- The dissertation should be typed or word-processed in one and half space on single side, 12 pt. in A-4 size (29 x 21 cm) paper.
- The student should attach a copy of the approved proposal (See **Appendix –** V) along with the bound copies of dissertation.
- The cover page and the first page of the dissertation should have title of the study, name of the researcher, enrolment number, full address, name of the supervisor, name of the University, and month and year of submission (Please see specimen of cover page/first page at **Appendix –** VII).
- A declaration fiom the student to the effect that the dissertation submitted in part fulfilment of the requirements of the Degree of Master of Arts in Adult Education is the original work and it has not been submitted earlier to IGNOU or any other university or institution must also be included in his/her dissertation (Please see proper format at **Appendix – VIII).**
- A certificate fiom the supervisor stating that the Dissertation has been done under his/her supervision and is a genuine and original piece of work done by the student should also be included in his/her dissertation (Please see proper format at **Appendix – IX).**
- The binding of the Dissertation should be done with hard cover page. The student should get three copies of dissertation bound.
- Two copies of dissertation reports should be mailed by Registered/Speed Post or submitted by hand to: The Regional Director of the concerned Regional Centre. In the case of submitting the Dissertation Report by hand, the student should obtain fiom the concerned Regional Centre an acknowledgement of receipt of the same.
- The copies of dissertation submitted to IGNOU will not be returned to the student. Hence, the student is advised to keep the third copy of dissertation as a personal copy for his/her own record and reference purpose.