Ahmednagar Jilha Maratha Vidyaprasarak Samajas

New Law College, Ahmednagar

Study Material For

Legal Research Methodology

Course No.LW- 103

LL.M.First, SEM I

Two year credit system pattern 2014-15

By

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Academic year

2019-20

Compulsory Paper Credits: 4

Legal Research Methodology

Objectives

I) Introduction

II) Scientific Methods & Legal Research.

III) Research Design and its components :

IV) Research tools:

V) Research Techniques:

VI) Data Processing:

VII) Computerized research:

VIII) Report writing:

The main objective of this course is to acquaint the student of law with the scientific method of social science research. This course is expected to pr de the knowledge of the technique of selection, collection and interpretation of primary and secondary data in socio-legal research.Emphasis would be laid on practical training in conducing research in this course.a) Significance of Research

b) Meaning and concept of research

a) The science of research and scientific methodology (Theory, facts, definition and concepts, variables etc. i.e. characteristics of scientific methodology)

b) Socio-legal research and legal research models.

c) Doctrinal and non-doctrinal research.

d) What is a research problem? Formulation of research problem.

a) Hypothesis: Its role, definition, criteria of a workab e hypothesis and its sources.

b) Major steps of preparation of research design.

a) Observation, Interview, Questionnaire (Utility and limitations and methods of using these tools)

a) Use of case studies and surveys.

b) Sampling techniques:

i. Design of sample

ii. Its uses and advantages in research.

iii. Random sampling, simple random, stratified random, sysstematic random.

iv. Non-random sampling, haphazard, availability and purposive etc.

c) Scaling Techniques – Types, utility, modus operandi (a) Elementary Statistics, design &stages in statistical investigation and interpretation and Preparing Diagrams & graphs.

d) Content analysis.

a) Data Collection, Data processing and analysis and interpretation of data.

b) Socio-metrics and Jurimetrics.

c) Inductions and deductions.

a) A study of legal research programmes such as Lexis and west law coding

b) Online & offline sources and techniques of e-legal research.

a) Research report & techniques of writing research work.

b) Citation rules and modes of legal writing.Page 20 of 70

Suggested reading:.

1) Wilkinson – Bhandarkar – Research Methodology.

2) Young, Pauline V. – Scientific Social Survey and Research.

3) Berelson B : Content Analysis in Communication Research.

4) Jain S. N. : Legal Research and Methodology.

5) Earl Babi – Research Methodology.

6) Good & Halt : Research Methodology (And relevant Websites)

Contents

LEGAL RESEARCH METHODOLOGY

Meaning and definition of Research:

Searching it again and again means Re-search. Research is defined as human activity based on intellectual application in the investigation of matter. The primary purpose for applied research is discovering, interpreting, and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe. Research can use the scientific method, but need not do so.

Research is an art of scientific investigation. It is regarded as a systematic efforts to gain new knowledge. The dictionary meaning of research is "a careful investigation or enquiry especially through search for new facts in any branch of knowledge". Definition of Research Research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting,organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

M Stephenson and D Slesinger defined research in the Encyclopedia of Social Sciences as "The manupulation of things, concepts or symbols for the purpose of gerneralizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art."

"Research is an organized and systematic way of finding answers to questions" Systemactic because there is a definite set of procedures and steps which you will follow. There are certain things in the research process which are always done in order to get the most accurate results. Both quantitative and qualitative researchers would agree that not all quantitative research is well planned and well executed and it is observed that many questionnaires are hastily and poorly written; Some surveys have a 2% response rate; and some researchers use convenience rather than random samples. One approach to the problem of poor quantitative research is to use qualitative research.The qualitative researcher's solution is to use qualitative methods, such as in-depth interviews of individual's or even reporting the researcher's own conscious experience. Some qualitative researchers use quantitative methods,some quantitative researchers use qualitative methods. Most quantitative researchers use qualitative methods as exploratory tools. For example, when trying to get a hypothesis for a study, the quantitative researcher probably will search the literature. Some researchers

conduct a pilot study prior to the full length research. Such study may involve having one's friends participate in the study and asking them about their impressions of the study. The pilot study may even involve having the researcher take the role of a participant. There are substantial differences between the two methods. The differences stem primarily from the fact that qualitative methods are not objective. Consequently, the non-objective evidence that qualitative researchers consider "data" (themes that the investigator senses, the investigator's subjective impressions, etc.) is not what quantitative researchers consider "data." Given the strong tradition of objective methods in psychology and the success of quantitative methods in psychology, it is unlikely that qualitative methods will replace quantitative methods. Wilkinson T S had rightly pointed out in his book Methods and techniques of social research. He says The researcher is constantly concerned with researching the accepted conclusions of his field, i.e. the theories with differing levels fogernerality and degrees of confirmation existing at a given point of time. He does this researching by probing for facts of the empirical world that confirm one or several predictions generated by his accepted conclusions, his acceptance, a consequence of his assumptions about the correctness of the existing theories."

The research process involves the following steps. Though the step order may vary depending on the subject matter and researcher, the following steps are usually part of most formal research, both basic and applied:

· Formation of the topic

· Hypothesis

· Conceptual definitions

· Operational definitions

· Gathering of data

· Analysis of data

· Test, revising of hypothesis

· Conclusion, literation if necessary

Significance of Scientific Social Research

The findings of any sort of research provides the basis for making new policies in our economic system. It helps in solving various operational and planning problems of business and industry. It is an aid to decision making. It establishes the relation between variables. It is important for social scientists in studying social relationships and in seeking answers to various social problems.It provides a basis for innovation and facilitates the process of thinking, analysis, evaluation and interpretation of various situation. The purpose of the research should be clearly defined. Common concepts should be used that can be understood by all. Research procedure should be explained in detail. Research design should be carefully planned. Researcher should declare all the possible errors and their possible impact on finding.

Veteran scientist C.A. Moser says about social research as "Social research is a systematized investigation to gain new knowledge about social phenomenon and problems."

According to P.V. Young: "Social research is a scientific undertaking which by means of logical methods, aim to discover new facts or old facts and to analyze their sequences, interrelationships, casual explanations and natural laws which govern them."

Characteristics of scientific social research :

• It is directed towards the solution of problems. The ultimate goal is to discover cause-and-effect relationship between social problems.

• It emphasis the development of generalizations, principles or theories that will be helpful in predicting future occurrences.

• It is based upon observable experience or empirical evidence.

• It demands accurate observations and description.

Researchers may choose from a variety or non qualitative description of their observations.

• It involves gathering new data from primary sources or using existence data for new purpose.

• Although social research activities may at time be somewhat random and unsystematic, it is more often characterized by carefully designed procedure that\ applies rigorous analysis.

• It requires expertise. The researcher knows what is already known about the problem and how others have investigated.

• It strives to the objective and logical applying every possible test to validate the procedure employed, data collected and conclusion reached.

• It involves the guests for answer to unsolved problems.

• It is characterized by patient and unhurried activity.

Researcher must expect disappointment and discouragement as they pursue the answer to difficult question

• It is carefully recorded and reported. Each important term is defined, limiting factors are recognized, procedures are described in detail, reference are carefully documented, results are objectively recorded and conclusions are presented with scholarly caution and restraint.

• It is interdisciplinary in nature

• It sometimes requires courage.

Objectives of social research

*To facilitate the understanding of human behavior.

* To acquire knowledge about social phenomena, events, issue, problems etc.

*To identify functional relationship existing in the social phenomena.

* To find out the natural laws that regulates or directs social phenomena.

*To standardize the society concept, e.g. culture, struggle, generation gap, social distance etc.

*To formulate solution to social problems.

* To maintain social organization, remove social tension, misconception, etc

* To develop social revival plan.

There are two types of Social Research: Basic and Applied Research Pure or Basic research:

It is also called fundamental research. It is undertaken to improve our understanding of certain problems that commonly occur in social setting and how to solve them. It undertaken for sole purpose of adding to our knowledge that is fundamental and generalizable. This type of research may have no immediate or planned application. But it may later used in further

research of an applied nature. Its objective is therefore, is not apply the findings to solve immediate problems at "It is persistently opening our eyes to the social reality, simplifying the mysterious within the seemingly common place in social life and shattering its garments of make believe by which pious hands have hidden their uglier features. The obvious function of research is to add new knowledge to its existing store, but its power of cleansing our minds of cliches and removing the rubbish of inapplicable theory are equally notable. Scientific research is a cumulative process... it is also a rejective process, especially in social sciences.. understanding can be advanced not only by gains in knowledge but also by discarding outworn assumptions." The following research entitled "Comparative study of Doordarshan and Zee Television News" , is a basic type of research which is carried out for seeking knowledge about the government controlled news channel and the private news channel and study various aspects of these news channels. Meaning and Definition of Research Methodology: The basic concept of research methodology refers to the way in which companies conduct their research and how they collect the data they need. Whenever a company or organization needs to investigate a particular area of their business dealings, they need to adapt the most suitable research methodology for the job. Research methodology typically involves a full breakdown of all the options that have been chosen by a company in order to investigate something. This would include the procedures and techniques used to perform the research; as well as any of the terminology and explanations of how these methods will be applied effectively. Many areas of research methodology may simply be referring to a generic path or method that a company will apply in order to retrieve the information they need. Research methodology is the way in which researchers specify how they are going to retrieve the all-important data and information that companies will need to make vital decisiaons.

The Review of literature, importance of Research topic and Objectives

A research topic is essentially the specific problem area which requires an investigation. However, topic selection is not an easier job. It demands for rigorous mental exercise. It takes of great deal of searching problem topic. In university students need to submit a topic in a proposal form to his thesis advisor. Wilkinson T S in his book- Methodology and techniques of social research says, "Personal values play an important role in the selection of a topic for research. Social scientists with different values tned to choose differenct topics for investigation. Of course, personal values are not hte only determinent in selecting a topic for inquiry; social conditions do often shape the preference of investigators in a subtle and

imperceptible way. There are also a number of powerful inducements to selection of one topic rather than another." Alkoff R L had mentioned five component of a problem as follows:

1)Research- consumer 2) Research-Consumer objectives, 3) Alternative means to meet the objectives 3) Doubt in regard to selection of alternatives and 5)There must be one or more environments to which the difficulty of problem pertains.

Many a time the researcher confront a problem in the day to day life when he might be studying some different topic. While investigation one topic the researcher gets an insight for another topic and concentrates on that for further research. Some times a problem comes to mind while discussing or observing a particular topic or while going through the relevant literature on the subject.Similarly discussions with the persons with practical experience in the field fo study also inspires to select a particular topic and reach the conclusion. But for sure, a research problem begins with a problem or a difficulty and the research is done for finding the solution for that problem. Some times the problems are selected from the point of view of economical gains as in the applied research. This type of research is going on globally in every field of science.

Sources of topic

• A problem of the student's own interest based on his experience , judgment, etc.

• Articles in different publications such as newspaper, journals, magazine, etc.

• Library and other research studies.

• Text/ reference book.

• Advisor's suggestions.

• Visiting organizations and interacting with the authorities.

Guidelines for topic selection

• The student should immediately begin to think about his topic selection.

• The size of the topic should not be too broad or too small.

• The topic chosen should not be too complex.

• Material and data on the topic should be available.

• Topic should be researchable.

Format of the research proposal

1. Title:

It is the broad heading of the research proposal. It should be clearly stated at the beginning. The title should represent the proposed study. It should be short and unnecessary term should be avoided.

2. Background information:

This part of proposal gives useful information of the study that introduce briefly about it. It includes:

• Background of the problem.

• Description of the topic in general and how the researcher developed in it.

• Background information on the organization to be studied.

• Relevance of the proposed study.

3. Statement of the problem:

This is often a declarative statement but may be in the question form. This attempts to focus on a stated goal 18 that gives direction to the research process.It must be limited enough in scope to make definite conclusion possible. The major statement may be followed by minor statement. This part includes:

• Statement of general problem which being investigated.

• Statement of detailed problem such as different variables and their associations.

4. Significance of the problem:

It is important that researcher point out how the solution to the problem or answer to the question can influence related theory or practice. i.e. the researcher must demonstrate why it is worth the time, effort and expenses required to carry out the proposed research. Failure to include this step in the proposal may well leave the researcher with a problem without significance- a search for date of little ultimate value.

5. Definitions, assumptions, limitations and delimitations

• The researcher should define all unusual terms that could be misinterpreted. The variables to be considered should be defined in peripheral form.

• The researcher should clearly state the assumptions of the study. Assumptions are statements or what the researcher believe to be facts but cannot verify.

• The researcher works within some conditions called limitations. They are those conditions beyond the control of researcher that may be restriction on the conclusion of the study.

• Applications to other situations. It includes constraint like time, money, data, source, etc they must be clearly stated.

• The researcher should also state the boundaries of the study. They are called delimitations.

6. Theoretical framework/ review of related literature:

This part contains a summary of the writings of recognized authorities and of previous research. This is called literature review. It provides evidence that the researcher is familiar with what is already known and what is unknown and untested. Once effective research is based upon post knowledge, this step helps to eliminate the duplications of what has been done and provides useful hypothesis and suggestions for

significant investigation. This part should contain the following:

• The variables considered relevant to the study should be identified.

• A clear explanation of relationship between those variables should be explained.

• The theorized relationship as visualized by researcher should be presented.

. Statement of hypothesis / objective:

It is appropriate here to formulate hypothesis. They offer tentative answer to a question. It includes the followings:

• Statement of research hypothesis which the researcher will try to test. In the case of exploratory or descriptive studies, the specific objectives of the study should be presented The statement or hypothesis / objectives in advance or the data gathering process is necessary for an unbiased investigation.

Research methods:

This section consists of three parts:

• **Subjects:**

The subject section details the population of the study from which the researcher plans to select the sample. It defines sample size and sampling methods.

• **Procedures:**

The procedures section outlines the research plan/design. It describes in detail what will be done, how it will be done, what data will be needed and what data gathering device will be used.

• **Data analysis**:

This section describes the method of data analysis. It performs test of hypothesis. The statistical tools to be applied are to be mentioned.

9. Reference/bibliography:

The published sources of information and literature consulted in the course of proposal preparation should be alphabetically listed.

SELECTION OF TOPIC FOR PRESENT RESEARCH

The topic selected for the present research is "Comparative study of Doordarshan and Zee Television News" . In the 21 st century, the people from the Mass Communication and Journalism saw a new medium for effective communication and that is the Television. In the initial years of Television in India, only one channel exists and that was National Doordarshan. Obviously,the Doordarshan was, since begining controlled by the government. All the stuff on this television was shaped on the behest of the government. As of the programmes on Doordarshan, there was just the broadcast of few hours in a day in its early days. Gradually the time of broadcast went on increasing with the breakfast TV and then afternoon broadcast. Now it is not only round the clock but also saturated with various channels for various viewers. National telecasts were introduced in 1982. In the same year, colour TV was introduced in the Indian market with the live telecast of the Independence Day

speech by then prime minister Indira Gandhi on 15 August 1982, followed by the 1982 Asian Games being held in Delhi. Now more than 90 percent of the Indian population can receive

Doordarshan (DD National) programmes through a network of nearly 1400 terrestrial transmitters and about 46 Doordarshan studios produce TV programs today. Once private television channels were allowed in the 1991, Doordarshan has seen a steep decline in viewership in homes with Cable and Satellite Television which in 2002 was just at 2.38% for DD National. 18 While it earns significant advertising revenue due to the compulsory feed given to it by the highest bidder to national events including cricket tournaments, there has been a proposal to give it funds by imposing a license fee to own a television in India like the BBC. However this is unlikely to be imposed keeping in view the financial constraints

of the average Indian viewer. Taking advantage of the growth of the satellite television audience, a number of Indian satellite based television services were launched between 1991 and 1994, prominent among them ZeeTV, the first Hindi satellite channel. By the end of 1994 there were 12 satellite based channels available in India, all of them using a handful of different satellites. This number was expected to double by the end of 1996, with a number of Indian programmers and international media companies like Turner Broadcasting, Time-Warner, ESPN, CANAL 5 and Pearsons PLC, seriously considering the introduction of new satellite television services for India. With the political, social and economic landscape changing facades, Subhash Chandra, created Zee Telefilms Limited in October 1992. This enterprise was to act as the chief content provider for Zee TV - India's first Hindi satellite channel. Zee Telefilms Limited (ZTL) is now known as Zee Entertainment Enterprises Limited (ZEE). Very early in the aftermath of launching ZTL, Subhash Chandra entered into a joint venture with the STAR group of companies. This pact was to augment television broadcasting in India and deliver higher quality of programming content. In another development around the same time, media mogul, Rupert Murdoch's News Corp Limited acquired the rights to distribute STAR's satellite TV content. This made News Corp a de facto partner of ZEE that has established a very strong consumer connect and is governed by a set of values that holds them in good stead in the face of changing viewer environments.

In the above scenario, it is evident that for the first time in the Indian history, the government controlled Television Doordarshan had got a competitor from the private sector initiated by Subash Chandra. In this context the researcher felt that it is important to study and investigate the claims of the Doordarshan that it is a public broadcast for the welfare of the common men so the topic "Comparative study of Doordarshan and Zee Television News" was selected for

study. Similarly it was important to see what the first Television channel from the private sector going to do? Was it really going to compete with the Doordarshan in all types of programmes including the news or not? The Researcher felt that instead of studying all the programmes on the Doordarshan and the Zee Television, it would be better to study about the News telecast and broadcast by these two television one from the private sector and the other,government controlled. It was criticized by the media critics that the Doordarshan is the channel for 'propagand and publicity of the government'. On this background, the researcher was curious to know how the moral values of journalism and public welfare can be preserved in the era of competition and high production cost of the stuff of news and current affairs. The researcher also felt important to study the use of language of news, the coverage given to various topics,the footage, tehrepeatation of the stories, the investigative stories and their frequency, the news presenters, the use of the modern information –technology equipments in the news gathering. Besides this, it was also seen that both the Doordarshan and the Zee television present a lot of programmes on current affairs, studio shows, live telecast, field dispatches,video conferencing, uplink facilities and similar programmes. In this way it was deemed that the topic "Comparative study of Doordarshan and Zee Television News" was important not only for the people and professional from the field of journalism and mass communication but also for the common men, rather masses.

Objectives of Research

The objectives of the research entitled "Comparative study of Doordarshan and Zee Television News" are as follows:

1) To know about the popularity of the Doordarshan and Zee Television News among the viewers.

2) To find out likes and dislikes of various sects of society regarding the Television News Channels, especially Doordarshan and Zee Television news.

3)To examine the public welfare content on Doordarshan and Zee Television news and the utility stories and programmes for the masses.

4) To study the changing styles of news presentation on the Doordarshan and Zee Television news and the view of common men about it.

5) To find out that the news and current affairs programmes on Doordarshan and Zee Television news are telecast for which section of the society and how frequently.

6) To examine comparatively the video footage given by Doordarshan and Zee Television news in various bulletins to various topics.

7) To study comparitively, about the news values of the Doordarshan and Zee Television news that are given priority by the channel

8) To accumulate the views of the audience regarding the credibility and reliability of Doordarshan and Zee Television news.

9) To study the language of the Doordarshan and Zee Television news and see its impact on the viewers, use of language and usage of words from other languages in their bulletins and current affairs programmes.

10) To study about the current topics taken for discussion by Doordarshan and Zee Television news on various occasions and see whether such topics are useful for the viewers and the people, on the whole.

11) To study the speed of filing and delivering on air, the important stories.

12) To study and compare the 'Electronic Features' of Doordarshan and Zee Television news.

13) To inquire about the angles given to various stories and the reasons for giving such angles.

14) To examine what is given priority by Doordarshan and Zee Television news? Public welfare of saleable value?

15) To study the difference between a private owned news channel and the government controlled channel.

16) Critically examine the 'Scoops', 'Exclusive', Sting operations and special stories of Doordarshan and Zee Television news.

17) Comparatively studying the coverage given to the stories on subjects like social, cultural, agriculture, child rearing, health, environment, education, developmental, sports, weather and other topics.

18) Coverage given to regional, national and international issues on Doordarshan and Zee Television news.

19) Comparing the use of latest technology by Doordarshan and Zee Television news like using O B Vans, ENG, SNG, uplinkage, video conferencing, live coverage, satellite telecast etc.

20) Examining the use of Logo's, signature tune, graphics, titling (scrolling),animation, caricatures,dramatization by Doordarshan and ZeeTelevision news.

REVIEW OF LITERATURE:

Research is a continuous process so the researcher cannot avoid earlier research work. He/she must start with earlier work and should note down all such research work, published in books, journals or unpublished thesis. This will give the researcher the guidelines for research . He should collect information in respect of earlier research work. He should enlist them in the given below:

Author/researcher, Title of research /Name of book ,Publisher, Year of publication, Objectives of his study, Conclusion/suggestions. Then he can compare this information with his study to show separate identity of his study. He must be honest to point out similarities and differences. (http://www.mbaknol.com/research-methodology/contents-and-layout-of-research report). Literature review is most important to identify the problem of the study, which can be solved by collection of data. It is very important to know that the work is doing by researcher in a research should not be repeated again. Literature review observes about the work that it is doing, is repeating unintentionally. (http://wiki.answers.com/Q What_are_the_ importance_of_ literature_review_in_research_writing).

"Research is made in order to inform people with new knowledge or discovery. However, it is not to be expected that everybody would willingly believe what you are tackling in your whole research paper. Thus, what you can do to make your research more credible will be to support them with other works which have spoken about the same topic that you have for your research. This is where literature review comes in. You can even have literature sources in works such as stories, comments, project, speech, article, novel, poem, essay, program, theory, and others. This is why literature review involves scanning the pages of any published literature like books, newspaper, magazine, website, webpage, collection, paper, pamphlet, and the like where you may be able to find any reference to the same topic that you are researching on. This time, "literature'" does not exclusively refer to the poetic rendition of

words, like that of Shakespeare alone" (http://primedissertations.com/blog/importance-of-literature-review)

The literature review is important because:

It describes how the proposed research is related to prior research and shows the originality and relevance of your research problem. Specifically, your research is different from others.

It justfies your proposed methodology and demonstrates your preparedness to complete the research. The literature review is one of the important academic requirements. The literature review is a critical discussion and summary of statistical literature that is of 'general' and 'specialized' relevance to the particular area and topic of the research problem in statistics.

You should spend a lot of time on your literature review because if you do it well, you can use most of it in your dissertation. Once you have a preliminary list of references, you now have to read this material. This process is 'time-consuming' (takes a lot of time) because you will have to read a large amount of statistical research. You must realize that not every reference will contain material that is relevant to your research problem. This is a necessary part of the process: Keep what is relevant and ignore what is irrelevant. It is better to read something that is not directly related to your dissertation than miss a reference that is important and relevant to the dissertation. While you are reading, keep notes about the assumptions made and the important results. Good notes help when you begin to write the literature review. Try to determine the methodology used by the author. This will be helpful when you want to describe how your research is related to prior research. For example, is your research an extension or modification of this author's research? General references (e.g., textbooks) can provide useful information on the research area (such as response surface methodology (RSM), survey sampling (SS), statistical quality control (SQC)) and on a more focused research area (such as optimal designs in RSM, adaptive cluster sampling is SS, accelerated testing in SQC). General references, however, are not very useful or provide very little information on your research topic. Some general references will be journal articles that are related to your research topic but have lower importance. Finding research materials: Libraries provide guidance on accessing information from a large number of sources. Typically, the library at your university includes internet searching and access of databases published statistical literature. I also recommend spending some time browsing (searching) the shelves in the library. After you have located a book in your preliminary list of references, look at the neighboring books on the shelf. You may find another good general reference.

Even though most of your references should be available to download from the internet through your library, there will be references (such as conference proceeding, articles from journals that no longer exist, articles published in languages other than English, technical reports) that one cannot get immediately. For this research on the topic “Comparative study of Doordarshan and Zee Television News” , the researcher had tried hard to find and scan all the possible research that were done earlier done by various experts. For this, the researcher had gone through various books, journals and various sites on the internet. Some research done on the Television and the electronic media were learnt during the literature survey and review of the earlier studies. The research done earlier are as follows:

* “Invasion from the skies: the impact of foreign television on India” was the research carried out by UshaManchanda. The findings showed that 78.7 per cent of the respondents regularly watch news and current affairs programs on television. The most viewed news and current affairs programs are: AajTak (a Hindi news & current affairs program on Doordarshan channel DD2) followed by The (English) News (on Doordarshan channel DD1), Zee News (A mix of Hindi and English news and current affairs program on Zee TV), Star News and the English news channel — BBC World service. More than two-thirds of the respondents rely on television and newspaper for their daily news updates . However, the newspaper still remains as the source of news on which most people depend, followed by television.

* “Relatively higher numbers of respondents are satisfied with programs on “channels other than Doordarshan” for their technical quality, entertainment value, credibility of information and overall performance . For overall performance, 91.1 per cent said they were satisfied with “channels other than Doordarshan”, whereas 67.6 per cent were satisfied with Doordarshanchannels.A striking majority (84-85 per cent) of the respondents said that Doordarshan programs had improved over the past five to seven years. A similar number of respondents wanted Doordarshan to improve further. Opinion varied about how Doordarshan programs should change from “needs to broadcast more entertainment programs” to “improve technical quality” and “show more educational and meaningful programs” .*Another study related to the news channels showed the following results. The research was carried out in some of the metropolitian cities. AajTak was observed to have a relatively high top-of-mind recall in Ambala (non metro) compared to metropolitan cities of New Delhi and Mumbai.Amongst 323 respondents who had indicated their top-of-mind recall for news channels, AajTak was found to lead the pack with 66% followed by Star News, Zee News and NDTV

* Television Audience Measurement (TAM) car.ried out yet another research on “Unconventional ways to understand In-Home TV viewing behavior”- Eliciting responses through game play and fusing it with TAM TV Panel data. TAM Media Research, India's TV Viewership measurement and analysis house is all set to strike the victory gong for the third time in a row at the ESOMAR Asia Pacific Conference scheduled to be held in Tokyo, Japan

ESOMAR, the World Association of Research Professionals has formally informed TAM India office that its Research Paper on "Unconventional ways to understand In-Home TV viewing behavior - Eliciting responses through game play and fusing it with TAM TV Panel data" has been short listed for a final presentation in Tokyo. This is the first ever study undertaken on this subject anywhere in the world. The study will benefit Advertisers and Broadcasters. Another research witnessed a lot of activity in the News channel arena at the regional level. However, the heartening fact for the news broadcasters is that the quantum of news telecast and the consequent news viewing presents a classical case of economics, wherein increased supply has been matched by a rise in demand. With increase supply (read launch of news channels), the time spent on News channel viewing has also registered an increase at an all-India level.

*Another research was carried out by Prasad S Shetty, Bureau IT Administration, CIBIL on the topic “Should news channels get into the TRP race?”

*Ravish Kumar carried on research on “How long can news channels rely on merely TRPs?”. He is a famous Indian television journalist, blogger and currently the Executive Editor at NDTV India, a Hindi News channel since the last 15 years. He had also been a Feature Editor. He has also won several awards including RamnathGoenka Award for Excellence in Journalism.

*“Indian news channels lose credibility over TRP” was the topic of one research carried out by www.merinews.com. Thefindings showed that the electronic media has become more of a circus. It just does not follow any journalistic ethics. Viewers are now fed up with the insensitive sensationalism shown by various channels and have demonstrated their dissatisfaction on many occasions.

*The topic for research by www.quora.com was, “How much do CNN or other news channels spend on marketing research?”

*Review of BBC News & BBC Parliament" Qualitative Research Findings was the research by TWResearch for the BBC Trust.

*The study on the topic, "What India is watching was based on the Share of news genre in the English news genre (%) carried out by TAM in 2010.

*Satindra Kumar and Surjit Singh had done a study on the topic "Vaibility of news channels in India" (http://www.oppapers.com/essays/Viabiliy-Of-News-Channels-In-India/609032). After the study on the Current Scenario of the Inidan News Channels is very encouraging. They concluded that, "Over 100 applications are pending with the information and broadcasting ministry for licence to start new TV channels. Currently, 454 Indian TV channels are on air, according to the list put up by the ministry on its website. Four months ago, the ministry had cleared 22 new TV channels. The additional requirements could include the financial viability of channels, a more rigorous background check of the profile of operators and their commitment to the welfare of employees, ministry sources said." It is said that Indian viewers now spend more time watching news than reading news, as TV news channels in India have been competing with each other for more viewership. They have been targeting specific viewers by producing interactive and sensational types of news programs for vying for public attention and ultimately to improve their television rating points (T.R.P.) (also see, Prasad Mahapatra 2005). However, there has been severe public criticism of their programs resulting in a decline in the confidence level of the public. Some recent public opinion surveys reveal that the Indian news channels often resort to bias reporting, create insensitivity, contain inaccuracies, promote sensationalism and trivialization in news content, have conflicts of interest and a lack of depthlessness in their news and views stories. Further

more, they are also criticized that "the channels tend to miss out on important stories in this scramble for eyeballs. 'Hardly 25 percent of national news bulletins are about health, education, development, welfare, environment, etc.'" (Yadav and Sharma 2006).(http://worldpress.org/Asia/2696.cfm)The suggestions on the basis of findings by the World Press were as follows:

* "Realize that investigative journalism involves more than just string operations."

* "The focus on revenues from advertisement should be shifted to news and bringing more news to the doorsteps of the public."

* "The coverage of political news should not be restricted to the mainstream political parties alone."

* "Apart from politics, films, and sports, the coverage should be extended to developments in the fields of art, culture, science, literature, etc. since they also make news."

* "The so-called reality shows peeping into private lives of individuals (even ordinary folks) is scandalous, is not journalism, and should be discouraged, if not altogether banned."

* "The channels need advertisement revenue—but not at the cost of interruption every three to five minutes. In one hour, they can have 30 minutes uninterrupted coverage, 10 minutes advertisements run, and 20 minutes analysis. This is just an example. News has to be continuous with maximum one break for few seconds."

* "The technical team must be equipped with the state of the art and must support the newsreaders. In certain live programs, we invariably see the audio signals of anchors at various cities or locations not reaching, whereas the video is visible (or vice versa)."

* "The response from the anchors must be spontaneous and not wait for the readers' signals to reach them. The time gap for their response is irritating."

* "The quality of impartial reporting must be enhanced."

* "At no time should they telecast scenes that can only be viewed with people of good heart conditions."

* "Where exactly we are failing and to highlight regularly?"

* "News on women's education and development should be focused more.

These are news channels and not entertainment channels. They should cut down Bollywood related programs, which do not offer any career development values to us."

* "Stop making socially undesirable characters as national heroes. Less exaggeration or avoid undue importance given to politicians/political drama."

Meaning and concept of research

This topic deals with methodology of the study, which comprises with the followings:

- Meaning of Research
- Problem of the study
- Research Design
- Objectives of the Study
- Universe of the Research
- Sample Size determination
- Data collection strategy
- Classification of measurement of Scales
- Analysis of Data through Statistical tools

Meaning of Research

Research in common parlance refers to a search for knowledge which can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. Research comprises of creative work undertaken on a systematic basis in order to increase the stock of knowledge. Research is a visualize fact that a detailed study is required in each practical situation for better results. In other words, a research is an organized set of activities to study and develop a model or procedure /technique to find the results of a realistic problem supported by literature and data such that its objectives are optimized and further make recommendations/interferences for implementation. According to Clifford Woody, research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulated hypothesis. D. Slesinger and M. Stephenson in the Encyclopedia of Social Sciences define research as "the manipulation of things, concepts or symbols for the purpose of generalizing, to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice."

A broad definition of research is given by Godwin Colibao "In the broadest sense of the word, the definition of research includes any gathering of data, information, and facts for the advancement of knowledge." The Advanced Learner's Dictionary of Current English lays down the meaning of research as "a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Redman and Morley define research as a "systematized effort to gain new knowledge." Some people consider research as a movement, a movement from the known to the unknown. It is actually a voyage of discovery. We all possess the vital instinct of inquisitiveness for, when the unknown confronts us, we wonder and our inquisitiveness makes us probe and attain complete understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method, which man employs for

obtaining the knowledge of whatever the unknown, can be termed as research.

Research Problem

Defining a research problem properly and clearly is a crucial part of a research study and must in no case be accomplished hurriedly. It needs to follow the following steps:

- Statement of the problem
- Understanding the nature of the problem.
- Surveying the existing literature
- Developing the ideas through discussion.
- Drawing correct conclusions.

In the present study the problem under examination is present research “A Comparative Study of Stress Management in Private and Public Banking Sector in Delhi NCR” is aimed to investigate the current stress level of employees among bank employees in Delhi and NCR.81

Today workplace stress is becoming a major concern for the Banking employees. Stress is a universal element and individuals in every work of life have to face it. The employees working in different organizations have to deal with stress. Especially Bankers are under a great deal of stress due to many antecedents of stress. These stresses contribute to decreased organizational performance, decreased employee overall performance, decreased quality of work, high staff turnover, and absenteeism due to health problems such as anxiety, depression, headache and backache. Stress comprises of six components of job stress: Lack of administrative support, excessive work demand, problematic customer relations, co-

worker's relationship, family & work life balance and riskiness of job were examined in this study. Stress has become a part of life for the employees, as life today has become so challenging and complex in balancing home and workplace where it is impossible to avoid stress. Stress management should really need to be included as an important agenda in current scenario. As banking industry is the fastest growing industry in India .The pressure of target oriented industry is somehow increasing stress among employees. In the background of above information the present study is undertaken to identify the situations that causes stress, determine the factors that improves motivation of bank employees in bank, identify the effects of stress in terms of emotional, physical and mental level and evaluate the progress and success rate of stress management programs offered by different private and public sector banks in Delhi and NCR.

Meaning of Research Design

Once the research project is identified and defined clearly, the next stage is to design the research. Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing hypotheses and their operational implications to the final analysis of data. A structure is the framework, organization, or configuration of the relations among variables of a study. A research design expresses both the structure of the research problem and the plan of investigation used to obtain the empirical evidence on relations of the problem. The research design for the purpose of the study has been drafted and the steps have been taken in a systematic manner. The research design explains how the research process is carried out. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine the relevance to the research purpose with economy in procedure. In fact research design is the conceptual structure within which research is conducted. It constitutes the blueprint for the Claire Selltiz and Others; Research Methods in Social Science, 1962, p. 50.

collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from working the hypothesis and its operational implications to the final analysis of data. The research design provides a complete guidelines for data collection. Following are the essence of a research design:

- Selection of Research Approach

 Design of Sampling Plan

 Design of Experiment

 Design of Questionnaire

Survey method has been used in the research design. The survey of concerning literature happens to be the most simple & fruitful method of formulating precisely the research problem or developing hypothesis. Hypothesis stated by earlier researchers or authors have been reviewed and their usefulness has been evaluated as a basis for further research. The formidable problem that follows the task of defining the research problem is the preparation of a design of the research study, popularly known as "research design". A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In fact, the research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.

Research objectives

The general objective of the study is to investigate the current stress level among bank employees in Delhi and NCR.

 To identify situations that causes stress.

 To determine the factors that improves motivation in the banks.

 To identify emotional, physical and mental effects of stress.

 To evaluate the progress, goal and success of stress management programs adopted by private and public sector banks and to find out how the methods adopted by private sector banks are different from public sector banks.

 To analyze the contribution of over load, authority, conflict and lack of support from colleagues to the job stress among bank employees in Delhi and NCR.

The objective of the study is to explore the stress related problems of bankers and finally the impact of stress on employees life . For this purpose 300 questionnaires were filled by the bankers from the Delhi NCR. The results show that all the components of stress cause great

stress in bankers and then decrease their performance. Although the findings are applicable to professional life, a generally accepted theory of stress has not been developed. There is need

for a clear conceptual definition, including how stress relates to cognate concepts like work stress, job stress, workloads, environmental stressors, and health. Several previous overviews on relevant topics began with the assumption that the basic propositions are obscure and varied, making a discussion of analyzed problems difficult. The workplace stems from ambiguity in the conceptual definition of occupational stress, which often differs from study to study".

Universe

The Stress is prevailing more in metro cities. So, the selected universe is employees of Public sector and Private sector Banks in Delhi and NCR. The sample has been selected 300 respondents randomly which has been categorized among male and female respondents.

Sample Planning and Size Determination

Design of a Sampling plan is a mechanism by which the sampling units of a study are selected from the sampling frame of the population. The selection of the sampling plan in a study in turn affects the cost and to conduct the study and reliability of inferences of the study. Hence, it should be selected with the utmost care. For the purpose of the analysis,

Legal research

Legal research means research in that branch of knowledge which deals with the principles of law and legal institution. There are three main sources of law, viz. legislation, precedent and custom. Juristic writings are another though secondary source of law and their importance is dependent in the fact whether it is given due recognition by the Courts or the legislature or jurists in solving problems or not. The content of these sources of law change with the changing requirement of the society and if these changes are not taken into account in interpreting the law, the existing law is bound to be doomed. The aim of law is, therefore, to regulate the human behaviour in the present day society and hence, legal research must be directed to the study of the relationship between the world of the law and the world that the law purports to govern.

Objective of Legal Research.

Law may be termed as a behavioral science as it regulates human behaviour. It is expressed in words which are used in a particular context. Whatever be the source of law, it cannot provide remedy for all the situations and for all the time to come. Changes in society demand

that law should move with the time if it has to remain alive and active and it can remain alive, active and useful, if it is aware of its lacunae and takes step to overcome it with the passage of time, The object of legal research, therefore is to find out lacunae or deficiencies in the existing laws and to suggest suitable measures to eliminate them. If there is an area for 6 Dr. H. N. Tewari, "Legal Research Methodology"p.38

which there is no law at all the objective of legal; research would be suggest suitable legislation for that area; but if there is a law for that area but due to one reason or the other, it does nor work, its aim would be to suggest reform in the existing law so as to make it workable. Thus the significance of legal research lies in the submission of proposal for reform in the existing law be it enacted, customary or judicial. However, this should not be the end or the sole objective of legal; research. When research in undertaken as a part of the process of law reform, it is undertaken for making suggestion for improvements in the law on concrete and easily identifiable matters and the formulation of those proposals in the precise terms. This is very significant and governing factor in the area of legal research. Research is an enquiry for the verification of a fresh theory or for supplementing prevailing theories by new knowledge . Since every knowledge is the extension of an existing knowledge , no research can be said to be absolutely new. A researcher while undertaking a project for his work possesses much of information about it and while conducting research, he proceeds onward to acquire more information about it and formulates certain hypothesis on that basis. Thus it is a continuous process of acquiring knowledge through enquiry into existing laws.

The following may be taken as objectives of legal research:

i) to discover new facts;

ii) to test and verify old facts;

iii) to analyse the facts in new theoretical framework

iv) to examine the consequences of new facts or new principles of law; or judicial decisions

v) to develop new legal research tools or apply tools of other disciplines in the area of law;

vi) to propound a new legal concept

vii) to analyse law and legal institutions from the point of view of history;

viii) to examine the nature and scope of new law or legal institution;

ix) to ascertain the merits and demerits of old law or institution and to give suggestion for a new law or institution in place of a old one;

x) to ascertain the relationship between legislature and judiciary and to give suggestion as to how one ca assist the other in the discharge of one's duties and responsibilities; and

xi) to develop the principles of interpretation for critical examination of statutes.

Significance of Legal Research:

In modern time law has assumed much significance. It provides for and dominates almost all activities of human beings, it has been accepted that law is perhaps most important instrument of social change, When an individual deals with his property or he enters into employment or he causes injury to some one, he fails to pay his dues or he deals with his spouse and children or the Government affects his property or his personal rights, he comes in contract with law and wither he or his opponent obtains remedy in accordance with the existing law and where there is not law, according to the discretion of the Court. The significance of research may, based on justice, equity and good conscience, thus, be summed up as follows:

1. It helps the Government in formulating suitable laws in pursue its economic and social policies. Dr. H. N. Tewari, "Legal Research Methodology"p.510

2. It helps in solving various operational and planning problems pertaining to business and industry and tax.

3. It helps the Courts in solving the problem without much delay and in such a way that the problem may not recure at all or at least in bear future.

4. It helps the legal practitioner in taking a decision as to how he should tackle the

problem in hand. Dr. H. N. Tewari, "Legal Research Methodology"p.8

Objectives of Socio- legal Research:

This term can be conceptualized in three principal ways. First, a legal system can be said merely as an aggregate of legal norms, as a sum of its parts. In this conception, the typical questions are : what makes a system out of a vast and heterogeneous mass of normative materials ? By what concepts and criteria can we identify the existence of a legal system ? How is the unity of the systems to be established ? Secondly, legal systems can be conceived as systems of social behaviour, of roles, status and institutions, as involving patterned interactions between the makers; interpreters, breakers, enforces and compliers of the norms

of law. Thirdly, legal systems may be equated with social control system, involving differential bases of social authority and power, different normative requirements and sanctions and distinctive institutional emplaces. Thus the distinction here is among social control systems supported and/or maintained under auspices of the state and those under auspices of non-state groups or associations. Hence research in criminal justice system would be incomplete without looking into the social behaviour, of roles and status and institutions involved in the administration of criminal justice. In this unit a researcher will be able to understand the method s of socio – legal research, its sources and various areas where the socio-legal research can be applied.

Objectives

By reading this unit a reader will be able to -

• Understand the perspectives of Socio – legal Research.

• Know the methods of Collection of data in socio-legal research.

• Identify the primary and secondary sources of data relating to socio-legal research.

• Understand original material sources of law and documentary.

• Acknowledge, Limitations of data.

• Apply sociomen try in socio-legal Research.

Perspectives of socio –legal Research

There are rich tradition of legitimacy of the legal and political …… articulated in the Indian Constitution as amended by the Parliament and insterpreted by our Supreme Court. It is

necessary to reflect on the sociological thought dealing with ‘anomic’ alienation , legitimacy, violence and criminal justice normlessness. Little or no effort is made in the research to integrate theoretical perspectives an “ anomic” in the Indian literature on social deviance. Whether we vein anomic in Durkheimian terms as entailing “ Overweening ambition” and breakdown or regulatory norms or in Mertonian terms as disjunction between “ cultural goals” and “ socially structured ” opportunity or mercy in terms of “ differ opportunity or mercy in terms of “ differentials in the availability of illegitimate means”, a vast range of Indian materials on criminology needs theoretical perspectives generated by “ anomic” theorizing. Related to this. Is the problem of violence in relation to political and legal order. We need to think about the shifting boundaries of permissible and proscribed violence in Indian society of the capabilities and responses of legal political orders to inter –group and intra-group violence, and of the viability of the legal – political ideological controls over the deployment of permissible violence by the agents of law and order. Roscoe pound continued to define and reiterate throughout his lifetime of dedication to sociological jurisprudence his view of law as an instrument of maximum satisfaction of de- facto human demands, with least friction and waste. The criminal justice research of the socio-legal aspects must be in these and other theoretical background which in Unit + I we have already noted.

COLLECTION OF DATA IN SOCIO-LEGAL RESEARCH

Collection of data is regarded as fascinating phase of research. Through the collection and handling of information, the researcher begins to feel the actual excitement of research. A researcher can either collect the data himself or rely on others for their collected data or information available with them. In both the cases, there is a great need for data of high quality. This requires great skill and experience. A datum is what is observed, is manifest or phonotypical. Data in socio-legal studies, as in other sciences, are based on our sense-observations. The word ‘observation’

Formal unstructured Systematic

Observation

Unstructured

Interviews

Open–ended

Questionnaires

Formal structured Experiments Structured

interviews

Structured

questionnaires

Primary and Secondary Sources of Data

Data collection is related to : (i) Primary and secondary sources data, (ii) Census and sampling techniques, and (iii) Methods of data collection.

The sources of legal data can be classified on several grounds, such as, reliability, personal efforts, availability and so on. On the basis of reliability they may be broadly divided into two categories : Primary data, and secondary data. Some divided the sources of data into documentary source and, field sources. Lundberg classified them as historical source and field sources. The techniques of collection are of two types : Census and sampling (for detailed study see the Chapter ' Sampling Design. (2) Interview schedules, (3) Questionnaires, (4) Project techniques and case study methods. (For detailed study see the Chapters " Observation, Interview, Questionnaire and Case Study Methods).

The sources data collection are of two types – Primary or internal or field sources; and (ii) Secondary sources.

(a) Primary or field source or internal source of data .- It is original information collected for the first time. It is also called as internal source of data as the data is collected directly from the subjects. They are obtained from living persons directly related to the problem or through observation. This primary sources can again be sub-divided into : (a) Direct Primary, and (b) Indirect Primary.

(i) Direct primary sources : The researcher personally goes and observes events, things, behaviour, activities and so on. He has to display great skill and objectivity.

Observation can be of three sub-types : (i) participant observation, (ii) non-participant observation, and (iii) quasi – participant observation. Direct. Observation is the best, but difficult. In some cases it may be either legally inadmissible or physically impossible.

(ii) Indirect primary sources : As the researcher cannot observe things which occurred long back, he needs to contact those persons who have made observations

Formal unstructured Systematic

Observation

Unstructured

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Open–ended

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(2) Case law, having its source in precedent. – Precedent is defined as " a previous instance or case which is, or may be taken as an example of rule for subsequent cases, or by which some similar act or circumstances may be supported or justified. In the judicial field, it means the guidance or authority of past decisions for future cases. Only such decisions as lay down some new rule or principle are called judicial precedents. The first general rule of doctrine precedent is that each court is absolutely abounded by the decisions of the courts above it. The second rule is that to a certain extent higher courts are bound by their own decisions.

(3) Customary law, having its source in custom .- Customs are the most important source of law. But with the progress of the society, they gradually diminish and legislation and judicial precedents become the main sources. In every legal system and at all the stages of legal development there are some customs accepted by the society. The customs having sanction are those customs which are enforced by the State. Legal customs operate on a binding rule of law. They have been recognized by the courts and have become a part of the law of the land. They are enforced by the courts and have become a part of the law of the land. They are enforced by the courts.

(4) Conventional law, having its source in agreement.- The conventional law are those customs which govern the parties to an agreement. Parties agree to them. Such customs are

binding not due to any legal authority independently possessed by them, but because it has been the contract between the parties to it. There is a bulk of conventional law in every country.

(**5) Statutory interpretation**. –The law which comes into being through legislation is called enacted or statute law. It is for the courts to apply these formulas to specific cases. The court has to ascertain the meaning of the letters and expressions of the enactment for its application. This process of ascertaining the meaning of the letters and expressions by the court is called interpretation.' In this process the judge exerts very considerable influence on the statute law. The interpretation is mainly of two kinds : (i) literal and (ii) liberal. The principle of literal interpretation is that the judge should not go beyond the letters of the statute in order to ascertain the true intention.

(6) Codification - Codification means promulgation, compilation, collection and systematization of the body if law in a coherent form by an authority in a State competent to do so. In India, there are the code of Manu, Yajnavalkya, Brihaspathi, Narada, Parashara, etc. These various codes applied in different parts of the country. In modern times the Indian Law Commission drafted a number of codes such as Indian Penal Code, The Civil Procedure Code, etc. The Law Commission made comprehensive and voluminous recommendations of which many have been implemented.

There are other sources of law like : (1) morals and equity and (2) opinions of experts. All these sources are available in documentary form in general and legal libraries.

CASE LAW AS A SOURCE OF LAW

The legal practitioner, judge, researcher of law after involved in search of law to be applied to a case in hand because " no lawyer knows more than a relatively infinitesimal part of the law, nor does any judge". But they have to know how to find law and where to find law.

Lawyers draw relevant proposition of law to be applied in a case in hand from two important sources : the judgments made by higher courts, i.e., the precedents and the legislations. One cannot find out a law applicable to a fact situation covered by a single source of law. Often the legal proposition to be applied in a fact situation cannot be drawn from a particular source of law. A sound knowledge3 in substantive and procedural laws enables a lawyer to identify relevant facts of a case from a mountain of facts made available to him by a client. On the identification of relevant facts and the law to be applied thereto a

lawyer uses his logic to correlate them. A precedent is primarily a case law which serves as an authority for deciding a similar case. In many instances, case –laws have played an important part in the interpretation of statutes. Case –law consists of the3 rules and principles stated and acted upon by judges in giving decisions. In a system based on case –law, a judge in a subsequent case has to decide the case before him in the same way as that in which the previous case was decided unless he can give a good reason for not doing so. That means, cases must be decided the same way when their material facts are the same. Of course, it does not require that all the facts should be the same. Case law consists of the rules and principles stated and acted upon the judges in giving decisions. The case laws are the necessary subject-matter in any doctrinal enquiry because the law declared by Supreme Court and High Courts binding the subordinate courts. The Indian law is largely a system of case law. That is, the decision in a particular case constitute 'precedent'. According to the doctrine of precedent it is not everything and by a judge when giving judgment that constitutes precedent. But only the reason for the decision given in the judgment constitute precedent. So, the reason stated in the judgment of an appeal case becomes a necessary subject – matter of inquiry and analysis by a lawyer. Case laws are the secondary source of data to the researchers. While reading the case laws, the researcher may come across a problem of legal issue and he can form a hypothesis, run an empirical inquiry and thus conduct the research. Case laws are the evidential source for the arguments in deductive analysis. The lawyers, judges and researchers use case laws for their logical argumentation. Thus the case laws become the documentary source of data in legal studies.

DOCUMENTARY SOURCE OF DATA FOR SOCIO-LEGAL STUDIES (Secondary sources of Data)

Data can be made available from different sources. P.V. Young has classified the data into two groups : (1) Documentary, and (2) Field sources. Documentary sources include material already collected whether published or unpublished. Such data can be obtained from libraries and from persons and public documents. A legal document is anything that contains matters of socio-legal importance. Most of the documents are not specially prepared for the stud y of the present problem.

Documents can be divided into two categories : (i) Primary, and (ii) Secondary. Primary

documents provide primary data collection and compiled by the same authority that originally prepared those documents. Secondary documents provide data that has been

transcribed or compiled from original sources. All documents are not available in published form. The published documents were categorized by John Madge into : (i) personal documents, and (ii) public or official documents.

(1) Personal documents (direct source).- Personal documents include all such written material as is written by an individual to narrate his views upon personal relationship or social phenomena. Most of these documents are written from personal point of view. There are many kinds of personal documents such as : (i) life histories, (ii) diaries, (iii) letters and (iv) memories.

Life histories includes all biographical material, even autobiographies. The author of a life history includes all biographical material, even autobiographies. The author of a life history records his personal views about contemporary happenings. Such writings prove a useful source of material for researchers. Diaries are another important source of information. In a diary events are recorded in a regular manner. In a diary, the author's personal experiences are reflected. Letters are another valuable tool of the socio –legal researcher. They contain the facts of the phenomena. But letters have their own limitations. Some persons write their memories in which they record some of the main events of their social life.

IMPORTANCE OF PERSONAL DOCUMENTS

The personal documents express the inner- most feelings of the heart of the writer and at times, these documents throw light on such aspects of life as would have been difficult to know through observation or interview. They, generally, are more reliable both as regards the description of the subject as well as the feelings of the writer. They contain the perfect type of socio-legal material necessary to characterize the life of social group.

LIMITATIONS OF PERSONAL DOCUMENTS

(1) The availability of personal documents may be difficult if they contain some confessions which are likely to damage his reputation.

(2) Unreliability of the data may be there due to personal bias of the writer.

(3) Personal documents do not provide a representative sample and the document may not be considered as a valid one.

PUBLIC DOCUMENTS OR OFFICAL DOCUMENTS

Public documents also supply a huge fund of information. They deal with different subjects and are usually published by various institutions, organizations and associations. Records, parliamentary debates, judgments, etc. are regarded important public documents. These documents are easily available and, to a large extent, also reliable. The public documents may be in the form of unpublished records and published documents. A good deal of information regarding socio-legal problems is now collected and released for publication by the Government.

DOCUMENTARY SOURCES OF LEGAL MATERIAL

(1) Central legislative Material in Gazettes of India. –Generally, all current legislative materials such as Bills, Acts, Rules, Notifications, etc. are published in the Gazette of India.

The relevant portions of the 'Gazette of India ' dealing with legislative material can be of much use for a researcher.

(2) Official Publications of Central Acts.- 'Indian Code ' is one of official publications containing all the Acts in force in India. 'Acts of Parliament' is another publication containing all the bare Acts passed in a particular year.

(3) Private Publications :- The privately published case reports may have a section dealing with Central as well as State legislative materials. The All India Reporter' is one of such reputed legal periodicals. The publishers of 'All India Reporter '. Have published 'AIR Manuals' in multiple volumes. These' volumes contain Central and State legislative materials. Madras Law Journal has also published a manual known as Civil Court Manual.

(5) Departmental Publications. – A few Government departments do publish manuals from time to time giving the latest rules and notifications on their respective subjects. ' Central Excise manual', are some of them to be mentioned.

(6) Delegated legislation - Statutory materials concerning delegated legislation can be found in the 'Gazette of India ' and State Gazettes.

(7) The publication like. ' Constituent Assembly Debates', 'Lok Sabha and Rajya Sabha Debates' may offer information regarding the pre-legislative discussions in the research area.
(8) "The Federal Court Reports, (1939 -50) and 'Supreme Court Reports'(Since 1950) published the cases decided by them. Private publications like " All India Reporter",

'Supreme Court Journal', 'Supreme Court Cases' also report the case decisions of the Supreme Court. The case decisions of High Courts are also published in 'All India Reporter', Madras Law Journal, Bombay Law Reporter, etc.

(9) Specialized Law Reporter – The following are reports specialized on certain branches giving information on specialized branches :

(i) Labour Law Journal

(ii) Labour and Industrial Cases.

(iii) Industrial Court Reporter.

(iv) Criminal Law Journal.

(vi) Company cases and Sales Tax cases, etc.

(10) Academic Law Journals .- " The Journal of Indian Law Institute ". 'Indian

Journal of International Law ' are some of the journals which carry research articles. 'Academy Law Review', 'The Administrator', 'Banaras Law Review', 'Civil and Military Law Journal', etc. also belong to this category.

(11). 'Citators' and 'Digests' help a researcher to locate topic – wise materials.

(12) 'Index to Legal Periodical' and 'Index to Foreign Legal Periodicals ' may help the researcher to find the article relevant to his research and locate the name of the journal, volume and number in which that has been published.

(13) Law Libraries are the workshops to the legal researcher. Law library is not just a place where books and periodicals are housed, but it is a place where books are classified and placed in an orderly manner so as to provide easy access to the researcher.

IMPORTACE OF DOCUMENTS

(1) They can help to save time, money and energy. No need to purchase books. There is no need to go from place to place as they are available in a library.

(2) Data is collected periodically, making the establishment of trends over time possible.

(3) The documentary sources does not require the cooperation of the individuals about whom the information is desired.

(4) There will be no scope for the bias of the investigator.

(5) Available records may be used to supplement or to check information gathered specifically for the purpose of a given investigation.

(6) Past event can be known from the documentary source.

(7) They can be quoted as authoritative.

LIMITATIONS OF DOCUMENTARY DATA

(1) Non- reliability of data .- It may be that the data might have been deliberately twisted because the researcher had a stake in a particular result or he was not equipped with the knowledge of methodology.

(2) Non – suitability of data. –Even if the data is accurate, it may not be suitable for the purpose of present study. The data may be old and out of date.

(3) LACK OF DIRECT CONTACT – As he depends on documents, there is lack of direct contact with the people whom we are going to study.

METHOD OF USING LIBRARIES AND THE USE OF COMPUTER

(A) USE OF LIBRARIES

Legal research inevitably involves the use of the books, pamphlets, periodicals and documentary materials in libraries. General source materials have to be consulted for the necessary background knowledge of the problem to be investigated. Knowledge of the findings of previous findings in the similar cases is also required by the legal researchers. All these source materials are numerously available in a library. Use of the library is a must to any researcher. Hence, a researcher should know how to use the resources of libraries. He should understand the ways in which libraries organize their collections and with a knowledge of basic bibliographic and reference materials. The general procedure of maintaining libraries is the same in any library because all libraries organize their collections on the same general principles and provide similar resources for users. All the libraries have a system of subject classification, a card catalogue, and certain bibliographic and reference materials.

(B) LIBRAY CARD CATALOGUE

When you enter a library, a researcher has to go directly the card catalogue. At the entrance of the library a shelf contains the card catalogue in alphabetical order according to the first word on the Card. The card catalogue is an index which lists all the publications in the library collection, by author, by subject, and often by title. In looking up material by subject, it is necessary to look under the heading which describes the subject most specifically. To find a publication by author in the card catalogue, it is advisable to know the given names as well as the surname of the author. There may be several authors with identical or similar names, and it sometimes happens that some of the authors have written books on the same subject. The information appearing on the face of the cards is the call number

Socio-metry in Socio-legal Research

In socio – legal studies the researcher has to quantify the data which is otherwise qualitative in nature. The quantification of the data facilitated the establishment of scientific laws of scaling technique. Scale is a device by which we measure things. Measurement concerns the assignment of numbers to objects to represent amounts of a property possessed by all of the objects. There are two types of scales in socio-legal studies: (1) those concerned with social behaviour and personality, and (2) those used to measure certain other aspects of the cultural and social environment. Definition of Scale .-"For a given population of objects, the multivariate frequency distribution of a universe of attributes will be called a scale if it is possible to device from the distribution a quantitative variable with which to characterize the objects such that each attribute is a simple function of the quantitative variable." In this definition, the "Population of objects" refers to the subjects of an investigation. The "Universe of attributes" refers to a class of quantitative variables associated with these objects that defined for study. These variables may be of any type of qualitatively record observations. The quantitative variable that is derived in this manner is called a " Scale score".

Properties of scale scores. –The scale scores possess the following properties :

(1) The recorded observations on a large number of variables in the defined universe can be summariesd by a single score which will reproduce the original records with a specified degree of reproducibility.

(2) Individuals can be arranged in a rank order on the sc ale score in a manner that will be consistent with their rank order on any of all of the variables in the defined universe of attributes.

(3) The scale score can be used to predict any outside variable or criterion whatsoever with a degree of accuracy as high as can be attained by the direct use of all of the variables in the defined universe, as in a multiple regression equation with the external criterion as the defendant variable.

(B) TYPES OF RATING OR INTENSITY SCALES

The rating or attitude scales have the object of assigning individuals to position with different numerical values in order to make possible the distinctions of degree. The following are some of the major types or rating scales in which the rater places the person or object being rated at some point along the continuum, a numerical value being assigned to each point.

(1) Graphic rating scale .- In this scale, the rater indicates his rating by simply placing a check at the appropriate point on a line that runs from one extreme of the attribute to the other. The scale points with brief descriptions may be indicated along the line, their function is to serve as a guide to the rater in localizing his rating. This scale is relatively easy to use through certain precautions like avoiding the use of end statements that are extreme, and making the descriptive statements as close as possible to the numerical scale.

(2) Itemized rating Scale. – In this scale, the rater selects one of the limited number of categories (usually five or seven categories) that are ordered in terms of their scale position. This scale provides a central neutral point with equal number of categories on either side. This scale consists of a series of items describing a particular act and the rater selects on which best describes the act. One could obtain reliable ratings categories are properly defined.

(3) Comparative rating scale. – In this scale, the rater gives relative rating. The positions on the rating scale are expressly defined in terms of a given population or social group.

(**4) Rank –Order Scale**. – In this scale, rank of each one of the individuals in relation to one another on the characteristic is being measured.

(C) RATING TECHNIQUES

There are forced choice rating technique and self –rating. Technique in the use of scales.

(1) Forced choice rating technique – In this technique pairs of items are chosen which have equal popularity but different discriminating power. Two such pairs are combined in a tetrad. The rater is required to say which item in the tetrad is most like the individual and which is least like the individual. The major difficulty in this technique is that the four items in the tetrad may not be comparable.

(2) Self –rating technique .- This technique is used where the individual himself gives rating on the attribute measured. Sometimes the individual may be unaware of the presence of an attribute being measured in himself or where aware, may be unwilling to reveal its presence. This method has proved useful.

(D) ATTITUDE SCALES.

In this approach, the individual does not directly describe himself in terms of his position on the dimension in question, rather he expresses his agreement or disagreement with a number of statements relevant to the issue. On the basis of his responses, he is assigned a score or numerical value. This technique has been generally used in measurement of attitudes. The attitude scales are constituted of various statements. Or tems relevant to an issue. The individual subjects respond in a particular manner to these statements. To these modes of response, particular scores are assigned.

TYPES OF ATTITUDE SCALES

There are three types of techniques of attitude scales. They are :

(1) Technique of differential scales (Judgment method). – The way in which a scale discriminates among individuals depends on the way in which the scale is formulated and the method of scoring employed. IN some scales, the statements / items form a gradation of such a nature that the individual agrees with only one or two of these and disagrees with the remaining statements on either side of those agreed to such scales in which a person's response fixes his position, are called the differential scales. L.L. Thurstone used this type of scale. That scale consists of a number of statements whose position of the scale has been determined by a ranking operation performed by judges. Various methods of securing

judgments of scales – position have been used viz., the method of paired comparison, the method of equal – appearing intervals, and social distance technique, etc.

(2) Technique of summated rating : R.Liket Formulated this technique. In this scale respondent indicates his several degrees of agreement or disagreement with each item that constitutes the scale instead of indicating his agreement for only a few items. Each response is given a numerical score indicating his degree of agreement or disagreement based on a three – point or five – point response category. The sum of the scores of the individual responses to all the separate items given his total score which is interpreted as representing his position or the scale of favorable and unfavorable attitude towards the object.

(3) Technique of cumulative scales (Scaloram Method). – In a cumulative scale, the times are related to one another in such a way that ideally an individual who replies favourably to item two also replies favourably to item one, the individuals who reply favourably to item three also replies favourably to item one and two. Sometimes the items as they appear in the scale are arranged in the order of favourableness, Sometimes they are arranged at random. Ordinarily, no attempt is made to determine whether the intervals between items are equal..Thus, in practice, cumulative scales are ordinal scales. L. Guttman used this technique. It is known as the scalogram method. The general procedure to determine whether or not the responses of subjects to items from the scale is known as scalogram analysis. It is based on an analysis of the response patterns of the subjects to a set of items where a response pattern denotes the set of responses to items given by a subject. In practice, scalogram analysis can be most accurately described as a procedure for evaluating sets of statements or existing scales to determine whether or not they meet the requirements of a particulars kind of scale. Each one of the methods has its own advantages , refineness of the procedure, scoring and analytical nature. Each of them has its own disadvantages also in terms of time consumed, feasibility of certain measurements and complexity involved through cumbersome scaling procedure. The use of any particular technique depends on the nature of research and the type of data.

(E) PROBLEMS IN PREPARING SCALES

(1) Definition of Continuum. – The phenomena in question should be scalable. The scalability of a phenomena is dependent upon continuum. The various factors to be measured must be logically interrelated and should be in form of continued measurement rather than

strong facts here and there. In selecting the determinant factors one has to include only such items which are clear, unambiguous and are essential points on the scale.

(2) Reliability - A scale may be said to be reliable when it given the same measurement under similar conditions. Retest method, multiple form method and split half method are being used to test the reliability of scale.

(3) Validity. – A scale can be said to be valid when it correctly measures what it is expected to measure. Validity should not be confused with the reliability of the Scale. Reliability is achieved when there is uniformity of measurement but validity depends upon the correct measurement. If a scale makes equal error every time, it would be reliable but certainly it would not be valid. Reliability is achieved when the scale is free from erratic measurements, it is valid only when the measurement is real and correct. Goode and Hatt have given the following criteria for validity of a scale :

(i) It should stand to our commonsense reason.

(ii) It should stand on the judgment of a number of persons.

(iii) It should tally the experience of persons who are known to hold a particular opinion with the known. Fact.

(iv) All or most of the tests should show the same result.

(4) Problem of weights. – If all the attributes involved are not of equal importance, they must be provided with proper weights. On the basis of the commonsense test and the validity test, the weights have to be decided.

(5) Difficulties in scaling – The following difficulties are experienced in preparing scale

(i) The socio –legal phenomena are very complex and cannot easily be quantitatively defined.

(ii) There is no universally accepted measure of values.

(iii) Human behaviour is constantly changing.

(iv) Human beings are most heterogeneous in nature.

(v) Most of the social phenomena are intangible in nature.

(vi) Socio- legal phenomena cannot be put to laboratory type test.

In terms of statistical methodology, scales of all kinds can be subsumed under the following headings :

(i) Arbitrary scales.

(ii) Scales in which the item's scale values and other characteristics are

determined by a panel of judges.

(iii) Scales based on item analysis.

(iv) Scales constructed in accordance with the "Scale analysis" technique devised by LiuisGuttman.

(F) DISADVANTAGES OF RATING SCALES

There are the following disadvantages in the use of rating scales :

(1) There is room for systematic error in one's rating through the influence of personal bias of the rater or raters which is commonly referred to as Hole effect'.

(2) Another type of constant error is the 'generosity error' where the rater develops a tendency to over –estimate the desirable qualities of the rater whom he likes.

(3) There is another type of error known as ' contrast error' where there is a tendency on the part of the rater to see others as opposite to himself on a trait.

(A) SOCIOMETIC TECHNIQUE

In socio – legal research, the researcher has, often, to study group behaviour. The socio-metric technique has been developed by J.L. Moreno to study the closed community. Sociometry is the measure of assessing the attractions and repulsions within a given group. It usually involves each member of the group privately specifying a number of other persons in the group with whom he would like to engage in some particular activity and a number of persons with who he would not like to participate in the activity.

Moreno has advocated the following requirements of the sociometric test :-

(1) the limits of the group should be indicated to the subjects;

(2) the subjects should be permitted an unlimited number of choices or rejections ;

(3) the subjects should be asked to indicate the individuals they choose or reject in terms of specific criteria;

(4) results of the sociometric questions should be used to restructure the group;

(5) the subject should be permitted to make their choices and rejections privately without other members of the group being able to identify the responses; and

(6) the questions used should be ranged to the level of understanding of the members of the group.

(B) CHARACTERISTICS OF A GOOD SOCIO – METRIC SCALE

(1) Reliability - There must be interjudge consistency in socio –metric scale. The socio metric scale should be consistent over time. Consistency in equivalent forms of measurement is necessary. Internal consistency is essential.

(2) Validity – The degree to which a test is capable of achieving specified aims is defined as its validity. If the sociometric investigator limits his interest to a measure of interpersonal choice, intelligent concept of face validity is equally relevant here. Secondly, criterion-related validity is important when there is an identifiable criterion variable. Lastly, when a test is designated to measure some hypothetical quality construct validity must be determined by the network of relationships between test performance and variety of relevant measures.

(3) Simplicity – The scale should be simple and intelligible even to the common man. A simplest scale creates confidence in the minds of the people and the scale thus derived is more acceptable to the people.

(4) Universality – The scale should be widely applicable as possible. The various attributes of socio-legal phenomena differ from place to place according to difference in culture, religion and social values. Too much universality may impair the precision and validity of a socio-metric scale.

(5) Practicability – Practicability implies that factors which are included for the construction of the scale must be capable of being measured and gathered.

(6) Based on norms – For all purposes of comparisons we have to use norms or standards with which the measurement is to be compared.

(7) Properly weighted :- Every item included in the scale is not of some importance. Unless proper weights are attached various attributes, their total measurement would not be representative one.

There are, in addition to the above, certain characteristics of socio-metric tool that make it a desirable and useful instrument.

(1) The subjects should express themselves spontaneously in their choice of companions.

(2) Directions should be clear about tools and situations and the methods of recording choices.

(3) The Confidential nature of choices made should be emphasized.

(4) Each student would have a companion out of the choices given by him.

(5) The word test cannot be used anywhere because it is associated with right and wrong answers and would probably distort the meaning of the choices of the students.

(C) TECHNIQUES OF SOCIOMETRY

The following are some of the techniques which deserve consideration :

(1) Sociometric self –rating or related analysis.- It is an extension of the sociometric test which involves the use of sociometric self-rating on prediction of one's sociometric choice. A further step has been to ask subjects to guess all the sociometric choices of all members of the group. The accuracy with which the individual perceives the choice and rejections of his associates and the conditions under which systematic distortions of these perceptions take place appear to be important additional variables in the sociometric situation. Moreno mentioned this method.

(2) Scaling method – Gardner and Thompson constructed a reliable set of scales designed to elicit the individual's ratings of member of the group in terms of their capacity to satisfy the needs of affiliation playmirth, occurrence and achievement, recognition. The scales involved a series of forced choice comparisons of group members and resulted in a rating on each variable from each subject, for each other member of the group.

(3) Group preference record – This is a variation of the sociometric techniques

which requires the members of the group to respond in terms of like, dislike or reference to every member of the group.

(4) Multirelationalsociometric survey.- By this method it is possible to establish a large number of meaningful indices for the classification of rational patterns in an organization. In this adaptation two classes of criteria are utilized, that is organizational 'goal-directed' and 'non –goal directed'.

(5) Estimate of time - This procedure requires the investigator to ask the members of the group to estimate the proportion of time given a finite limit; that they would like to spend interacting with the other members of the group in a given activity.

(6) "Guess who" technique - This technique involves presenting the subjects with various behaviour descriptions and asking them to " guess who" among the members of the group this description best fits. This technique possesses advantage as it is slightly more indirect and the intent of the investigator is less apparent to the subjects.

(D) PROCEDURE OF CONSTRUCTING SOCIOMETRIC SCALES

The following steps are taken for the construction of socio-metric scales :-

(1) Selection of institution – This first step in the selection of the institution, organization behaviour or the community that has to be measured. The institution must be clear –cut standard and stable to afford valid generalizations about it.

(2) Selection of aspect to be measured – We have to select the particular aspects to be measured. We can never hope to provide single scale for measurement of every aspect. Various measurements may be combined in the indices.

(3) Selection of component attributes - Most of the socio-legal institutions are complex in nature. They are capable of being measured unless they have been broken up into meaningful component parts. It may be done by factor analysis or on the basis of internal consistency.

(4) Weighing of attributes – Even when the component attributes have been selected, they have to be properly weighed in order to provide a more precise and accurate measurement.

(5) Standardization of Scale –The scales based on one sample is tried on another sample, may create some difficulty regarding validity and precision as no sample can be regarded as fully representative of the universe. Necessary changes are made in the scale on the basis of new experience. The scales should be adjusted and modified to remove the discrepancy. After successive trials, the scale becomes fully valid and reliable .It then becomes a standard scale.

(E) ANALYSIS OF SOCIOMETRIC DATA

To analyze social-choice data, there are the following methods :

(1) Graphic method – Moreno Presented a method, the sociometric, for summarizing the choices and rejections among members of a group. It employs geometric figures to represent members of the group and various kinds of lines, joining the figures to represent choices and rejections. Its purpose is to discover group structure and the relation of a group member to the group as a whole.

(2) Simple quantitative method – Sociometric data are summarized completely in the sociograms but an equally complete method of the summarization is the N X N table or matrix, in which N refers to the number of subjects.

(3) Scores and derived indices. – Moreno's book "Who Shall Survive?" includes the explicit formulation of a number of indices and implicitly assumes a large number. The number of mutual choices in a group serves as the basis of several indices. The sum of acceptance plus the sum of rejections divided by one less than the group size is an index for social intensity.

(4) Statistical methods – statistical techniques are widely used in analysis of sociometric data both to test the significance of observed findings and to provide derived scores of indices.

(5) Limitations – The limitations a researcher employing sociometric technique ought to be familiar with : (a) the manner of employing these techniques, and (b) shortcomings inherent in the very nature of socio-metric techniques.

(F) ADVANTAGES

(1) Sociometry is a simple, economical and materialistic method of observation and data collection through questionnaires and schedules . It is easy to administer

(2) It has the virtue of considerable flexibility. It can be adapted to a wide variety of research.

(3) It improves social – relations. The socimetry is highly useful in identifying leadership, attitudes, beliefs and values.

(4) It provides relatively acceptable indices for a large number of empirical concepts.

(5) It has implications for action research.

(6) It has interdisciplinary popularity

Objectives of Socio- legal Research:

This term can be conceptualized in three principal ways. First, a legal system can be said merely as an aggregate of legal norms, as a sum of its parts. In this conception, the typical questions are : what makes a system out of a vast and heterogeneous mass of normative materials ? By what concepts and criteria can we identify the existence of a legal system ? How is the unity of the systems to be established ? Secondly, legal systems can be conceived as systems of social behaviour, of roles, status and institutions, as involving patterned interactions between the makers; interpreters, breakers, enforces and compliers of the norms of law. Thirdly, legal systems may be equated with social control system, involving differential bases of social authority and power, different normative requirements and sanctions and distinctive institutional emplaces. Thus the distinction here is among social control systems supported and/or maintained under auspices of the state and those under auspices of non-state groups or associations.

Hence research in criminal justice system would be incomplete without looking into the social behaviour, of roles and status and institutions involved in the administration of criminal justice. In this unit a researcher will be able to understand the method s of socio – legal research, its sources and various areas where the socio-legal research can be applied.

Objectives

. By reading this unit a reader will be able to -

• Understand the perspectives of Socio – legal Research.

• Know the methods of Collection of data in socio-legal research.

• Identify the primary and secondary sources of data relating to socio-legal research.

• Understand original material sources of law and documentary.

• Acknowledge, Limitations of data.

• Apply socio –men try in socio-legal Research.

Perspectives of socio –legal Research

There are rich tradition of legitimacy of the legal and political …… articulated in the Indian Constitution as amended by the Parliament and insterpreted by our Supreme Court. It is necessary to reflect on the sociological thought dealing with 'anomic' alienation , legitimacy, violence and criminal justice normlessness. Little or no effort is made in the research to integrate theoretical perspectives an " anomic" in the Indian literature on social deviance. Whether we vein anomic in Durkheimian terms as entailing " Overweening ambition" and breakdown or regulatory norms or in Mertonian terms as disjunction between " cultural goals

and " socially structured " opportunity or mercy in terms of " differ opportunity or mercy in terms of " differentials in the availability of illegitimate means", a vast range of Indian materials on criminology needs theoretical perspectives generated by " anomic" theorizing. Related to this. Is the problem of violence in relation to political and legal order. We need to think about the shifting boundaries of permissible and proscribed violence in Indian society of the capabilities and responses of legal political orders to inter –group and intra- group violence, and of the viability of the legal – political ideological controls over the deployment of permissible violence by the agents of law and order. Roscoe pound continued to define and reiterate throughout his lifetime of dedication to sociological jurisprudence his view of law as an instrument of maximum satisfaction of de- facto human demands, with least friction and waste. The criminal justice research of the socio-legal aspects must be in these and other theoretical background which in Unit + I we have already noted.

COLLECTION OF DATA IN SOCIO-LEGAL RESEARCH

Collection of data is regarded as fascinating phase of research. Through the collection and handling of information, the researcher begins to feel the actual excitement of research. A researcher can either collect the data himself or rely on others for their collected data or information available with them. In both the cases, there is a great need for data of high quality. This requires great skill and experience. A datum is what is observed, is manifest or phonotypical. Data in socio-legal studies, as in other sciences, are based on our sense-observations. The word 'observation'

Formal unstructured Systematic

Observation

Unstructured

Interviews

Open–ended

Questionnaires

Formal structured Experiments Structured

interviews

Structured

questionnaires

Primary and Secondary Sources of Data

Data collection is related to : (i) Primary and secondary sources data, (ii) Census and sampling techniques, and (iii) Methods of data collection.

The sources of legal data can be classified on several grounds, such as, reliability, personal efforts, availability and so on. On the basis of reliability they may be broadly divided into two categories : Primary data, and secondary data. Some divided the sources of data into documentary source and, field sources. Lundberg classified them as historical source and field sources.

The techniques of collection are of two types : Census and sampling (for detailed study see the Chapter ‘ Sampling Design. (2) Interview schedules, (3) Questionnaires, (4) Project techniques and case study methods. (For detailed study see the Chapters “ Observation, Interview, Questionnaire and Case Study Methods).

The sources data collection are of two types – Primary or internal or field sources; and (ii) Secondary sources.

(a) Primary or field source or internal source of data .- It is original information collected for the first time. It is also called as internal source of data as the data is collected directly from the subjects. They are obtained from living persons directly related to the problem or through observation. This primary sources can again be sub-divided into : (a) Direct Primary, and (b) Indirect Primary.

(i) Direct primary sources : The researcher personally goes and observes events, things, behaviour, activities and so on. He has to display great skill and objectivity.

Observation can be of three sub-types : (i) participant observation, (ii) non-participant observation, and (iii) quasi – participant observation. Direct. Observation is the best, but difficult. In some cases it may be either legally inadmissible or physically impossible. (ii) Indirect primary sources : As the researcher cannot observe things which occurred long back, he needs to contact those persons who have made observations

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(2) Case law, having its source in precedent. – Precedent is defined as " a previous instance or case which is, or may be taken as an example of rule for subsequent cases, or by which some similar act or circumstances may be supported or justified. In the judicial field, it means the guidance or authority of past decisions for future cases. Only such decisions as lay down some new rule or principle are called judicial precedents. The first general rule of doctrine precedent is that each court is absolutely abounded by the decisions of the courts above it. The second rule is that to a certain extent higher courts are bound by their own decisions.

(3) Customary law, having its source in custom .- Customs are the most important source of law. But with the progress of the society, they gradually diminish and legislation and judicial precedents become the main sources. In every legal system and at all the stages of legal development there are some customs accepted by the society. The customs having sanction are those customs which are enforced by the State. Legal customs operate on a binding rule of law. They have been recognized by the courts and have become a part of the

law of the land. They are enforced by the courts and have become a part of the law of the land. They are enforced by the courts.

(**4) Conventional law, having its source in agreement.-** The conventional law are those customs which govern the parties to an agreement. Parties agree to them. Such customs are binding not due to any legal authority independently possessed by them, but because it has been the contract between the parties to it. There is a bulk of conventional law in every country.

(5) Statutory interpretation. –The law which comes into being through legislation is called enacted or statute law. It is for the courts to apply these formulas to specific cases. The court has to ascertain the meaning of the letters and expressions of the enactment for its application. This process of ascertaining the meaning of the letters and expressions by the court is called interpretation.' In this process the judge exerts very considerable influence on the statute law. The interpretation is mainly of two kinds : (i) literal and (ii) liberal. The principle of literal interpretation is that the judge should not go beyond the letters of the statute in order to ascertain the true intention.

(6) Codification - Codification means promulgation, compilation, collection and systematization of the body if law in a coherent form by an authority in a State competent to do so. In India, there are the code of Manu, Yajnavalkya, Brihaspathi, Narada, Parashara, etc. These various codes applied in different parts of the country. In modern times the Indian Law Commission drafted a number of codes such as Indian Penal Code, The Civil Procedure Code, etc. The Law Commission made comprehensive and voluminous recommendations of which many have been implemented.

There are other sources of law like : (1) morals and equity and (2) opinions of experts. All these sources are available in documentary form in general and legal libraries.

CASE LAW AS A SOURCE OF LAW

The legal practitioner, judge, researcher of law after involved in search of law to be applied to a case in hand because " no lawyer knows more than a relatively infinitesimal part of the law, nor does any judge". But they have to know how to find law and where to find law. Lawyers draw relevant proposition of law to be applied in a case in hand from two important sources : the judgments made by higher courts, i.e., the precedents and the legislations. One cannot find out a law applicable to a fact situation covered by a single source of law. Often the legal

proposition to be applied in a fact situation cannot be drawn from a particular source of law. A sound knowledge3 in substantive and procedural laws enables a lawyer to identify relevant facts of a case from a mountain of facts made available to him by a client. On the identification of relevant facts and the law to be applied thereto a lawyer uses his logic to correlate them. A precedent is primarily a case law which serves as an authority for deciding a similar case. In many instances, case –laws have played an important part in the interpretation of statutes. Case –law consists of the3 rules and principles stated and acted upon by judges in giving decisions. In a system based on case –law, a judge in a subsequent case has to decide the case before him in the same way as that in which the previous case was decided unless he can give a good reason for not doing so. That means, cases must be decided the same way when their material facts are the same. Of course, it does not require that all the facts should be the same. Case law consists of the rules and principles stated and acted upon the judges in giving decisions. The case laws are the necessary subject-matter in any doctrinal enquiry because the law declared by Supreme Court and High Courts binding the subordinate courts. The Indian law is largely a system of case law. That is, the decision in a particular case constitute 'precedent'. According to the doctrine of precedent it is not everything and by a judge when giving judgment that constitutes precedent. But only the reason for the decision given in the judgment constitute precedent. So, the reason stated in the

judgment of an appeal case becomes a necessary subject – matter of inquiry and analysis by a lawyer. Case laws are the secondary source of data to the researchers. While reading the case laws, the researcher may come across a problem of legal issue and he can form a hypothesis, run an empirical inquiry and thus conduct the research. Case laws are the evidential source for the arguments in deductive analysis. The lawyers, judges and researchers use case laws for their logical argumentation. Thus the case laws become the documentary source of data in legal studies.

DOCUMENTARY SOURCE OF DATA FOR SOCIO-LEGAL STUDIES (Secondary sources of Data)

Data can be made available from different sources. P.V. Young has classified the data into two groups : (1) Documentary, and (2) Field sources. Documentary sources include material already collected whether published or unpublished. Such data can be obtained from libraries and from persons and public documents. A legal document is anything that contains matters

of socio-legal importance. Most of the documents are not specially prepared for the stud y of the present problem.

Documents can be divided into two categories : (i) Primary, and (ii) Secondary. Primary

documents provide primary data collection and compiled by the same authority that originally prepared those documents. Secondary documents provide data that has been transcribed or compiled from original sources. All documents are not available in published form. The published documents were categorized by John Madge into : (i) personal documents, and (ii) public or official documents.

(1) Personal documents (direct source).- Personal documents include all such written material as is written by an individual to narrate his views upon personal relationship or social phenomena. Most of these documents are written from personal point of view. There are many kinds of personal documents such as : (i) life histories, (ii) diaries, (iii) letters and (iv) memories.

Life histories includes all biographical material, even autobiographies. The author of a life history includes all biographical material, even autobiographies. The author of a life history records his personal views about contemporary happenings. Such writings prove a useful source of material for researchers. Diaries are another important source of information. In a diary events are recorded in a regular manner. In a diary, the author's personal experiences are reflected. Letters are another valuable tool of the socio –legal researcher. They contain the facts of the phenomena. But letters have their own limitations. Some persons write their memories in which they record some of the main events of their social life.

IMPORTANCE OF PERSONAL DOCUMENTS

The personal documents express the inner- most feelings of the heart of the writer and at times, these documents throw light on such aspects of life as would have been difficult to know through observation or interview. They, generally, are more reliable both as regards the description of the subject as well as the feelings of the writer. They contain the perfect type of socio-legal material necessary to characterize the life of social group.

LIMITATIONS OF PERSONAL DOCUMENTS

(1) The availability of personal documents may be difficult if they contain some confessions which are likely to damage his reputation.

(2) Unreliability of the data may be there due to personal bias of the writer.

(3) Personal documents do not provide a representative sample and the document may not be considered as a valid one.

PUBLIC DOCUMENTS OR OFFICAL DOCUMENTS

Public documents also supply a huge fund of information. They deal with different subjects and are usually published by various institutions, organizations and associations. Records, parliamentary debates, judgments, etc. are regarded important public documents. These documents are easily available and, to a large extent, also reliable. The public documents may be in the form of unpublished records and published documents. A good deal of information regarding socio-legal problems is now collected and released for publication by the Government.

DOCUMENTARY SOURCES OF LEGAL MATERIAL

(1) Central legislative Material in Gazettes of India. –Generally, all current legislative materials such as Bills, Acts, Rules, Notifications, etc. are published in the Gazette of India.

The relevant portions of the 'Gazette of India ' dealing with legislative material can be of much use for a researcher.

(2) Official Publications of Central Acts.- 'Indian Code ' is one of official publications containing all the Acts in force in India. 'Acts of Parliament' is another publication containing all the bare Acts passed in a particular year.

(3) Private Publications :- The privately published case reports may have a section dealing with Central as well as State legislative materials. The All India Reporter' is one of such reputed legal periodicals. The publishers of 'All India Reporter '. Have published 'AIR Manuals' in multiple volumes. These' volumes contain Central and State legislative materials. Madras Law Journal has also published a manual known as Civil Court Manual.

(5) Departmental Publications. – A few Government departments do publish manuals from time to time giving the latest rules and notifications on their respective subjects. ' Central Excise manual', are some of them to be mentioned.

(6) Delegated legislation - Statutory materials concerning delegated legislation can be found in the 'Gazette of India ' and State Gazettes.

(7) The publication like. ‘ Constituent Assembly Debates’, ‘Lok Sabha and Rajya Sabha Debates’ may offer information regarding the pre-legislative discussions in the research area

(8) “The Federal Court Reports, (1939 -50) and ‘Supreme Court Reports’(Since 1950) published the cases decided by them. Private publications like “ All India Reporter”, ‘Supreme Court Journal’, ‘Supreme Court Cases’ also report the case decisions of the Supreme Court. The case decisions of High Courts are also published in ‘All India Reporter’, Madras Law Journal, Bombay Law Reporter, etc.

(9) Specialized Law Reporter – The following are reports specialized on certain

branches giving information on specialized branches :

(i) Labour Law Journal

(ii) Labour and Industrial Cases.

(iii) Industrial Court Reporter.

(iv) Criminal Law Journal.

(vi) Company cases and Sales Tax cases, etc.

(10) Academic Law Journals .- “ The Journal of Indian Law Institute “. ‘Indian Journal of International Law ‘ are some of the journals which carry research articles. ‘Academy Law Review’, ‘The Administrator’, ‘Banaras Law Review’, ‘Civil and Military Law Journal’, etc. also belong to this category.

(11). ‘Citators’ and ‘Digests’ help a researcher to locate topic – wise materials.

(12) ‘Index to Legal Periodical’ and ‘Index to Foreign Legal Periodicals ‘ may help the researcher to find the article relevant to his research and locate the name of the journal, volume and number in which that has been published.

(13) Law Libraries are the workshops to the legal researcher. Law library is not just a place where books and periodicals are housed, but it is a place where books are classified and placed in an orderly manner so as to provide easy access to the researcher.

IMPORTACE OF DOCUMENTS

(1) They can help to save time, money and energy. No need to purchase books. There is no need to go from place to place as they are available in a library.

(2) Data is collected periodically, making the establishment of trends over time possible.

(3) The documentary sources does not require the cooperation of the individuals about whom the information is desired.

(4) There will be no scope for the bias of the investigator.

(5) Available records may be used to supplement or to check information gathered specifically for the purpose of a given investigation.

(6) Past event can be known from the documentary source.

(7) They can be quoted as authoritative.

LIMITATIONS OF DOCUMENTARY DATA

(1) Non- reliability of data .- It may be that the data might have been deliberately twisted because the researcher had a stake in a particular result or he was not equipped with the knowledge of methodology.

(2) Non – suitability of data. –Even if the data is accurate, it may not be suitable for the purpose of present study. The data may be old and out of date.

(3) LACK OF DIRECT CONTACT – As he depends on documents, there is lack of direct contact with the people whom we are going to study.

METHOD OF USING LIBRARIES AND THE USE OF COMPUTER

(A) USE OF LIBRARIES

Legal research inevitably involves the use of the books, pamphlets, periodicals and documentary materials in libraries. General source materials have to be consulted for the necessary background knowledge of the problem to be investigated. Knowledge of the findings of previous findings in the similar cases is also required by the legal researchers. All these source materials are numerously available in a library. Use of the library is a must to any researcher. Hence, a researcher should know how to use the resources of libraries. He should understand the ways in which libraries organize their collections and with a knowledge of basic bibliographic and reference materials. The general procedure of maintaining libraries is the same in any library because all libraries organize their collections on the same general principles and provide similar resources for users. All the libraries have a

system of subject classification, a card catalogue, and certain bibliographic and reference materials.

(B) LIBRAY CARD CATALOGUE

When you enter a library, a researcher has to go directly the card catalogue. At the entrance of the library a shelf contains the card catalogue in alphabetical order according to the first word on the Card. The card catalogue is an index which lists all the publications in the library collection, by author, by subject, and often by title. In looking up material by subject, it is necessary to look under the heading which describes the subject most specifically. To find a publication by author in the card catalogue, it is advisable to know the given names as well as the surname of the author. There may be several authors with identical or similar names, and it sometimes happens that some of the authors have written books on the same subject. The information appearing on the face of the cards is the call number

Socio-metry in Socio-legal Research

In socio – legal studies the researcher has to quantify the data which is otherwise qualitative in nature. The quantification of the data facilitated the establishment of scientific laws of scaling technique. Scale is a device by which we measure things. Measurement concerns the assignment of numbers to objects to represent amounts of a property possessed by all of the objects. There are two types of scales in socio-legal studies: (1) those concerned with social behaviour and personality, and (2) those used to measure certain other aspects of the cultural and social environment. Definition of Scale .-"For a given population of objects, the multivariate frequency distribution of a universe of attributes will be called a scale if it is possible to device from the distribution a quantitative variable with which to characterize the objects such that each attribute is a simple function of the quantitative variable." In this definition, the "Population of objects" refers to the subjects of an investigation. The "Universe of attributes" refers to a class of quantitative variables associated with these objects that defined for study. These variables may be of any type of qualitatively record observations. The quantitative variable that is derived in this manner is called a " Scale score".

Properties of scale scores. –The scale scores possess the following properties :

(1) The recorded observations on a large number of variables in the defined universe can be summariesd by a single score which will reproduce the original records with a specified degree of reproducibility.

(2) Individuals can be arranged in a rank order on the sc ale score in a manner that will be consistent with their rank order on any of all of the variables in the defined universe of attributes.

(3) The scale score can be used to predict any outside variable or criterion whatsoever with a degree of accuracy as high as can be attained by the direct use of all of the variables in the defined universe, as in a multiple regression equation with the external criterion as the defendant variable.

(B) TYPES OF RATING OR INTENSITY SCALES

The rating or attitude scales have the object of assigning individuals to position with different numerical values in order to make possible the distinctions of degree. The following are some of the major types or rating scales in which the rater places the person or object being rated at some point along the continuum, a numerical value being assigned to each point.

(1) Graphic rating scale .- In this scale, the rater indicates his rating by simply placing a check at the appropriate point on a line that runs from one extreme of the attribute to the other. The scale points with brief descriptions may be indicated along the line, their function is to serve as a guide to the rater in localizing his rating. This scale is relatively easy to use through certain precautions like avoiding the use of end statements that are extreme, and making the descriptive statements as close as possible to the numerical scale.

(2) Itemized rating Scale. – In this scale, the rater selects one of the limited number of categories (usually five or seven categories) that are ordered in terms of their scale position. This scale provides a central neutral point with equal number of categories on either side. This scale consists of a series of items describing a particular act and the rater selects on which best describes the act. One could obtain reliable ratings categories are properly defined.

(3) Comparative rating scale. – In this scale, the rater gives relative rating. The positions on the rating scale are expressly defined in terms of a given population or social group.

(4) Rank –Order Scale. – In this scale, rank of each one of the individuals in relation to one another on the characteristic is being measured.

(C) RATING TECHNIQUES

There are forced choice rating technique and self –rating. Technique in the use of scales.

(1) Forced choice rating technique – In this technique pairs of items are chosen which have equal popularity but different discriminating power. Two such pairs are combined in a tetrad. The rater is required to say which item in the tetrad is most like the individual and which is least like the individual. The major difficulty in this technique is that the four items in the tetrad may not be comparable.

(2) Self –rating technique .- This technique is used where the individual himself gives rating on the attribute measured. Sometimes the individual may be unaware of the presence of an attribute being measured in himself or where aware, may be unwilling to reveal its presence. This method has proved useful.

(D) ATTITUDE SCALES.

In this approach, the individual does not directly describe himself in terms of his position on the dimension in question, rather he expresses his agreement or disagreement with a number of statements relevant to the issue. On the basis of his responses, he is assigned a score or numerical value. This technique has been generally used in measurement of attitudes. The attitude scales are constituted of various statements. Or items relevant to an issue. The individual subjects respond in a particular manner to these statements. To these modes of response, particular scores are assigned.

TYPES OF ATTITUDE SCALES

There are three types of techniques of attitude scales. They are :

(1) Technique of differential scales (Judgment method). – The way in which a scale discriminates among individuals depends on the way in which the scale is formulated and the method of scoring employed. IN some scales, the statements / items form a gradation of such a nature that the individual agrees with only one or two of these and disagrees with the remaining statements on either side of those agreed to such scales in which a person's response fixes his position, are called the differential scales. L.L. Thurstone used this type of scale. That scale consists of a number of statements whose position of the scale has been

determined by a ranking operation performed by judges. Various methods of securing judgments of scales – position have been used viz., the method of paired comparison, the method of equal – appearing intervals, and social distance technique, etc.

(2) Technique of summated rating : R.Liket Formulated this technique. In this scale respondent indicates his several degrees of agreement or disagreement with each item that constitutes the scale instead of indicating his agreement for only a few items. Each response is given a numerical score indicating his degree of agreement or disagreement based on a three – point or five – point response category. The sum of the scores of the individual responses to all the separate items given his total score which is interpreted as representing his position or the scale of favorable and unfavorable attitude towards the object.

(3) Technique of cumulative scales (Scaloram Method). – In a cumulative scale, the times are related to one another in such a way that ideally an individual who replies favourably to item two also replies favourably to item one, the individuals who reply favourably to item three also replies favourably to item one and two. Sometimes the items as they appear in the scale are arranged in the order of favourableness, Sometimes they are arranged at random. Ordinarily, no attempt is made to determine whether the intervals between items are equal..Thus, in practice, cumulative scales are ordinal scales. L. Guttman used this technique. It is known as the scalogram method. The general procedure to determine whether or not the responses of subjects to items from the scale is known as scalogram analysis. It is based on an analysis of the response patterns of the subjects to a set of items where a response pattern denotes the set of responses to items given by a subject. In practice, scalogram analysis can be most accurately described as a procedure for evaluating sets of statements or existing scales to determine whether or not they meet the requirements of a particulars kind of scale. Each one of the methods has its own advantages , refineness of the procedure, scoring and analytical nature. Each of them has its own disadvantages also in terms of time consumed, feasibility of certain measurements and complexity involved through cumbersome scaling procedure. The use of any particular technique depends on the

nature of research and the type of data.

PROBLEMS IN PREPARING SCALES

(1) Definition of Continuum. – The phenomena in question should be scalable. The scalability of a phenomena is dependent upon continuum. The various factors to be measured

must be logically interrelated and should be in form of continued measurement rather than strong facts here and there. In selecting the determinant factors one has to include only such items which are clear, unambiguous and are essential points on the scale.

(2) Reliability - A scale may be said to be reliable when it given the same measurement under similar conditions. Retest method, multiple form method and split half method are being used to test the reliability of scale.

(3) Validity. – A scale can be said to be valid when it correctly measures what it is expected to measure. Validity should not be confused with the reliability of the Scale. Reliability is achieved when there is uniformity of measurement but validity depends upon the correct measurement. If a scale makes equal error every time, it would be reliable but certainly it would not be valid. Reliability is achieved when the scale is free from erratic measurements, it is valid only when the measurement is real and correct. Goode and Hatt have given the following criteria for validity of a scale :

(i) It should stand to our commonsense reason.

(ii) It should stand on the judgment of a number of persons.

(iii) It should tally the experience of persons who are known to hold a particular opinion with the known. Fact.

(iv) All or most of the tests should show the same result.

(4) Problem of weights. – If all the attributes involved are not of equal importance, they must be provided with proper weights. On the basis of the commonsense test and the validity test, the weights have to be decided.

(5) Difficulties in scaling – The following difficulties are experienced in preparing scale :19

(i) The socio –legal phenomena are very complex and cannot easily be quantitatively defined.

(ii) There is no universally accepted measure of values.

(iii) Human behaviour is constantly changing.

(iv) Human beings are most heterogeneous in nature.

(v) Most of the social phenomena are intangible in nature.

(vi) Socio- legal phenomena cannot be put to laboratory type test. In terms of statistical methodology, scales of all kinds can be

subsumed under the following headings :

(i) Arbitrary scales.

(ii) Scales in which the item's scale values and other characteristics are

determined by a panel of judges.

(iii) Scales based on item analysis.

(iv) Scales constructed in accordance with the "Scale analysis" technique

devised by LiuisGuttman.

(F) DISADVANTAGES OF RATING SCALES

There are the following disadvantages in the use of rating scales :

(1) There is room for systematic error in one's rating through the influence of personal bias of the rater or raters which is commonly referred to as Hole effect'.

(2) Another type of constant error is the 'generosity error' where the rater develops a tendency to over –estimate the desirable qualities of the rater whom he likes.

(3) There is another type of error known as ' contrast error' where there is a tendency on the part of the rater to see others as opposite to himself on a trait.

(A) SOCIOMETIC TECHNIQUE

In socio – legal research, the researcher has, often, to study group behaviour. The socio-metric technique has been developed by J.L. Moreno to study the closed community. Sociometry is the measure of assessing the attractions and repulsions within a given group. It usually involves each member of the group privately specifying a number of other persons in the group with whom he would like to engage in some particular activity and a number of persons with who he would not like to participate in the activity.

Moreno has advocated the following requirements of the sociometric test :-

(1) the limits of the group should be indicated to the subjects;

(2) the subjects should be permitted an unlimited number of choices or rejections ;

(3) the subjects should be asked to indicate the individuals they choose or reject in terms of specific criteria;

(4) results of the sociometric questions should be used to restructure the group;

(5) the subject should be permitted to make their choices and rejections privately without other members of the group being able to identify the responses; and

(6) the questions used should be ranged to the level of understanding of the members of the group.

(B) CHARACTERISTICS OF A GOOD SOCIO – METRIC SCALE

(1) Reliability - There must be interjudge consistency in socio –metric scale. The socio-metric scale should be consistent over time. Consistency in equivalent forms of measurement is necessary. Internal consistency is essential.

(2) Validity – The degree to which a test is capable of achieving specified aims is defined as its validity. If the sociometric investigator limits his interest to a measure of interpersonal choice, intelligent concept of face validity is equally relevant here. Secondly, criterion-related validity is important when there is an identifiable criterion variable. Lastly, when a test is designated to measure some hypothetical quality construct validity must be determined by the network of relationships between test performance and variety of relevant measures.

(3) Simplicity – The scale should be simple and intelligible even to the common man. A simplest scale creates confidence in the minds of the people and the scale thus derived is more acceptable to the people.

(4) Universality – The scale should be widely applicable as possible. The various attributes of socio-legal phenomena differ from place to place according to difference in culture, religion and social values. Too much universality may impair the precision and validity of a socio-metric scale.

(5) Practicability – Practicability implies that factors which are included for the construction of the scale must be capable of being measured and gathered.

(6) Based on norms – For all purposes of comparisons we have to use norms or standards with which the measurement is to be compared.

(7) Properly weighted :- Every item included in the scale is not of some importance. Unless proper weights are attached various attributes, their total measurement would not be representative one.

There are, in addition to the above, certain characteristics of socio-metric tool that make it a desirable and useful instrument.

(1) The subjects should express themselves spontaneously in their choice of companions.

(2) Directions should be clear about tools and situations and the methods of recording choices.

(3) The Confidential nature of choices made should be emphasized.

(4) Each student would have a companion out of the choices given by him.

(5) The word test cannot be used anywhere because it is associated with right and wrong answers and would probably distort the meaning of the choices of the students.

(C) TECHNIQUES OF SOCIOMETRY

The following are some of the techniques which deserve consideration :

(1) Sociometric self –rating or related analysis.- It is an extension of the sociometric test which involves the use of sociometric self-rating on prediction of one's sociometric choice. A further step has been to ask subjects to guess all the sociometric choices of all members of the group. The accuracy with which the individual perceives the choice and rejections of his associates and the conditions under which systematic distortions of these perceptions take place appear to be important additional variables in the sociometric situation. Moreno mentioned this method.

(2) Scaling method – Gardner and Thompson constructed a reliable set of scales designed to elicit the individual's ratings of member of the group in terms of their capacity to satisfy the needs of affiliation playmirth, occurrence and achievement, recognition. The scales involved a series of forced choice comparisons of group members and resulted in a rating on each variable from each subject, for each other member of the group.

(3) Group preference record – This is a variation of the sociometric techniques which requires the members of the group to respond in terms of like, dislike or reference to every member of the group.

(4) Multirelationalsociometric survey.- By this method it is possible to establish a large number of meaningful indices for the classification of rational patterns in an organization. In this adaptation two classes of criteria are utilized, that is organizational 'goal-directed' and 'non –goal directed'.

(5) Estimate of time - This procedure requires the investigator to ask the members of the group to estimate the proportion of time given a finite limit; that they would like to spend interacting with the other members of the group in a given activity.

(6) "Guess who" technique - This technique involves presenting the subjects with various behaviour descriptions and asking them to " guess who" among the members of the group this description best fits. This technique possesses advantage as it is slightly more indirect and the intent of the investigator is less apparent to the subjects.

(D) PROCEDURE OF CONSTRUCTING SOCIOMETRIC SCALES

The following steps are taken for the construction of socio-metric scales :-

(1) Selection of institution – This first step in the selection of the institution, organization behaviour or the community that has to be measured. The institution must be clear –cut standard and stable to afford valid generalizations about it.

(2) Selection of aspect to be measured – We have to select the particular aspects to be measured. We can never hope to provide single scale for measurement of every aspect. Various measurements may be combined in the indices.

(3) Selection of component attributes - Most of the socio-legal institutions are complex in nature. They are capable of being measured unless they have been broken up into meaningful component parts. It may be done by factor analysis or on the basis of internal consistency.

(4) Weighing of attributes – Even when the component attributes have been selected, they have to be properly weighed in order to provide a more precise and accurate measurement.

(5) Standardization of Scale –The scales based on one sample is tried on another sample, may create some difficulty regarding validity and precision as no sample can be regarded as fully representative of the universe. Necessary changes are made in the scale on the basis of new experience. The scales should be adjusted and modified to remove the discrepancy. After successive trials, the scale becomes fully valid and reliable .It then becomes a standard scale.

(E) ANALYSIS OF SOCIOMETRIC DATA

To analyze social-choice data, there are the following methods :

(1) Graphic method – Moreno Presented a method, the sociometric, for summarizing the choices and rejections among members of a group. It employs geometric figures to represent members of the group and various kinds of lines, joining the figures to represent choices and rejections. Its purpose is to discover group structure and the relation of a group member to the group as a whole.

(2) Simple quantitative method – Sociometric data are summarized completely in the sociograms but an equally complete method of the summarization is the N X N table or matrix, in which N refers to the number of subjects.

(3) Scores and derived indices. – Moreno's book "Who Shall Survive?" includes the explicit formulation of a number of indices and implicitly assumes a large number. The number of mutual choices in a group serves as the basis of several indices. The sum of acceptance plus the sum of rejections divided by one less than the group size is an index for social intensity.

(4) Statistical methods – statistical techniques are widely used in analysis of sociometric data both to test the significance of observed findings and to provide derived scores of indices.

(5) Limitations – The limitations a researcher employing sociometric technique ought to be familiar with : (a) the manner of employing these techniques, and (b) shortcomings inherent in the very nature of socio-metric techniques.

(F) ADVANTAGES

(1) Sociometry is a simple, economical and materialistic method of observation and data collection through questionnaires and schedules . It is easy to administer.

(2) It has the virtue of considerable flexibility. It can be adapted to a wide variety of research.

(3) It improves social – relations. The socimetry is highly useful in identifying leadership, attitudes, beliefs and values.

(4) It provides relatively acceptable indices for a large number of empirical concepts.

(5) It has implications for action research.

(6) It has interdisciplinary popularity

Facts concepts theory and definition

Concepts must also be objectively observed. This requires that we create operational definitions, which translate the verbal concepts into corresponding variables which can be measured. We will elaborate upon each of these topics in this chapter. In the next chapter, we'll see how the defined concepts and their associated variables are related to each other to form complete theories.

Concepts and Constructs

The basic building blocks of theories are concepts. A concept is a verbal abstraction drawn from observation of a number of specific cases. The critical term here is "observed", because it means that there is a direct link between the concept (the abstraction) and its referents (the reality). For in- stance, we can observe a number of particular instances where individuals receive varying amounts of money for the work they have done over a given period of time. From these particulars we distill an abstraction and label it "income". Similarly, we observe individuals and find some of them short, some tall and more of them in between; from these observations we generate the concept "height".

Elements of Scientific Theories: Concepts and Definitions12 Part 1 / Philosophy of Science,

Empiricism, and the Scientific Method A construct serves the same function as a concept, but it is more abstract. It is not characterized by a direct link between the abstraction and its observed manifestations. For instance, "source cred-ibility" is a construct which has been used in studying persuasion. This term can be used in the same way as a concept, but we should recognize that we cannot directly observe different levels of source credibility in individuals. However, we can observe the various parts which make up the construct individually, and then combine them to get some overall summary. Constructs are built from the logical combination of a number of more observable concepts. In the case of source credibility, we could define the construct as the combination of the concepts of expertise, objectivity, and status. Each of these concepts can be more directly observed in an individual. Of course, we might also consider some of these terms to be constructs themselves, and break

them down into combinations of still more concrete concepts, as illustrated in Figure 2-1. What we see if we do this is a set of constructs at decreasing levels of abstraction. Only at the bottom of this hierarchy are directly observ-able concepts. From a practical point of view, it matters little whether we call the verbal building blocks concepts or constructs. It is more useful to consider every concept to be at some particular level of abstraction. This level is determined by the distance of the concept from the directly observable ideas at the bottom of the hierarchy. To simplify discussion, in the future we will use the term concepts to refer to either concepts or constructs, recognizing that any concept can really be a very abstract idea built from the combination of many less abstract (more concrete) concepts.

Definitions

A scientific concept really consists of three parts: a label, a theoretical definition, and an opera-tional definition. We'll examine each of these elements separately. Concept Labels One of the requirements of a theory is that it be in a form which can be communicated to anyinterested person in an unambiguous fashion, so that it may be tested and evaluated by others. A great advantage of using concept labels is that they facilitate communication. It is vastly more con-venient and efficient to refer to people's "income" than to refer to "the amount of money people receive in return for having made their labor or their knowledge available to another". It is also very easy, at this level of abstraction, to link one concept to another. If we are asked what interests us most in the field of communication, we might answer that our research focuses on the effect of "environmental change" on "task-oriented communication" in organizations. But a label, particularly for abstract concepts like "task-oriented communication", is usually not sufficient to communicate the full meaning of the concept unambiguously. We need additional explanation.

Theoretical Definitions

The theoretical definition specifies the verbal meaning which is attached to the concept label. We need this explanation because the scientific method requires that others understand our theory and be able to criticize and reproduce our observations. If we fail to specify the meaning repre-sented by a particular concept label, we leave room for misunderstanding. As we'll see below, the more abstract the concept that we're using, the worse this problem becomes. To illustrate this, suppose that you ask a group of people to write down on an index card their explanation of the concept of a person's "age". You'll probably find that most of the definitions mention things like "how long someone has been alive", "the amount of time

which has passed since birth" and other similar statements. The amount of overlap among these definitions probably will be very high, indicating high shared meaning. Now suppose you repeat this procedure, but this time you ask people to define the term "media use". You'll probably get very different results. You might find, for instance, that half of the definitions have a central theme of time (for instance, "the amount of time people spend with media") and that the other half might focus on purpose (for instance, "whether people use media for entertainment, information, escape, etc."). The amount of overlap among these definitions is much lower than the overlap for "age".Figure 2-2 illustrates the relationship between abstraction and meaning overlap. "Age" is a more concrete concept, so the concept label itself communicates the meaning of the concept almost as well as the definitions. Thus there is high overlap. "Media use" is more abstract, and can be constructed in many different ways from the combination of a large number of more concrete ideas.This produces many differences in the kinds of definitions which different individuals spontane-ouslyproduce.We call self-defining concepts like "age" primitive terms. Primitive terms are adequately de-fined by their attached concept labels. These are the labels which appear at the bottom of the level of abstraction hierarchy. Probably only a small number of concepts that we are likely to use in commu-nication research have such high degree of shared meaning that they are primitive terms. And even then, the high degree of shared meaning might only exist within a particular group, but may not be shared with other groups. "Communication Apprehension" might be well understood by commu-nication researchers, but poorly understood by psychologists. Consequently, we always risk being on thin ice if we use primitive terms and assume that shared meanings exist. The conservative approach (and therefore the recommended one) is to explicitly specify the meaning associated with each concept, regardless of the extent to which we think the meaning is shared. We do this because the rules of science demand that we use concepts understood by the whole community of researchers. We must have high meaning overlap, particularly for abstract concepts which are not self-defining. To achieve this, we must construct a theoretical definition for each concept in our theory. The procedures for creating theoretical definitions are summarized in Exhibit 2-1, along with an example of the process. We've deliberately chosen a concept which is both abstract and not com-monly used in communication research to illustrate the value of theoretical definitions. Operational Definitions We now have a concept label whose meaning is explained by a theoretical definition. But the rules of science demand that this concept be capable of being unambiguously and objectively observed by anyone. This means that we must create another

type of definition, called an operational defini-tion. An operational definition translates the verbal meaning provided by the theoretical definition

1. Select a summary label.media use efficiency

2. List the labels of all the more concrete con-cepts which are encompassed by the label. time spent with media money spent on media

3. Combine these labels into a verbal statement which defines the summary label. media use efficiency is defined by the ratio of the time spent with media to the money spent on media

4. Look at each label on the right-hand side of the definition (these are the labels developed in step 2). Unless the label is self-defining, make another list of more concrete concept labels which

are encompassed by the label.time spent with media: time spent using radio time spent using television time spent using newspapers time spent using magazines time spent using motion pictures time spent using video cassettes money spent on media: per capita spending for advertising subscription costs rental costs money spent on radio money spent on television money spent on newspapers money spent on magazines money spent on motion pictures money spent on video cassettes

5. Combine these more concrete labels into definitions of the more abstract labels. time spent with the media is defined by the sum of time spent with radio, television, newspapers, magazines, motion pictures, and videocassettes money spent with the media is defined by the sum of money spent on advertising in media (per capita), subscriptions, and rentals of media

6. Continue this process of breaking down more abstract definitions into a series of concrete definitions, until all terms in the final defini-tion are concrete, self-defining concepts which can be observed directly.The defining terms for “time spent with media” (time spent with radio, television, etc.) are primitive terms. No additional definition is needed. money spent on advertising (per capita)

$ / radio advertising $ / television advertising $ / newspaper advertising $ / magazine advertising $ / subscriptions $ / magazine subscriptions $ / newspaper subscriptions $ / cable system subscriptions $ / rentals $ / rentals of videocassettes z Money spent on advertising is defined by the sum of per capita expenditures for radio,television, newspaper, and magazine

advertising.z Money spent on subscriptions is defined by the sum of the money spent for magazine,newspaper, and cable system subscriptions. z Money spent on rentals is defined as the money spent on rentals of videocassettes. z No further breakdowns are necessary. All defining terms in these definitions are primitive terms. The combined set of verbal definitions make up the formal theoretical definition for “media efficiency”. Note how much more clear and unambiguous the meaning of the concept has become.Procedure for Creating a Theoretical Definition

7). Examples of units of measurement are minutes (to measure time), word counts (to measure newspaper coverage of a particular event), percent correct responses, etc. An operational definition specifies the level of measurement. (Again, we’ll cover this in much more detail in Chapter 7). Levels of measurement can range from the simple nominal variables which only make distinctions between categories like “present or absent” or “yes or no”; to ordinal variables which contain some information about the quantity (“more or less”) of the concept present, but have no real measurement scales; to continuous variables which have real scale points which are equally spaced, and which can take on any value. In the case of anything other than a primitive term, an operational definition provides a math16 Part 1 / Philosophy of Science, Empiricism, and the Scientific Method ematical or logical statement that clearly states how measurements are to be made and combined to create a single value for the abstract concept. For example, when an operational definition is made of the concept in Figure 2-1, the operational definition will describe how “formal education” and “experience” are to be measured, and define the mathematical operations necessary to combine these measurements into a value for “expertise”. Further operational definitions will describe how to mathematically combine the values for “expertise,” “status,” and “objectivity” to produce a value for “source credibility.” The operational definition must be very closely associated with the theoretical definition. It must state clearly how observations will be made so they will reflect as fully as possible the meaning associated with the verbal concept or construct. The operational definition must tell us how to observe and quantify the concept in the “real world”. This connection between theoretical and operational definitions is quite critical. This connection establishes the validity of the measurement. The amount of validity in measurement is proportional to the extent to which we actually measure what we intend to measure, that is, the degree to which the operational definition and the theoretical definition correspond. Table 2-1 shows some examples of the operational definitions of concepts which we have al-ready used in earlier examples. Units of Measurement All the

operational definitions in Table 2-1 set up some units of measurement. For “AGE”, this is years. Without an operational definition to establish this unit, we could just as well think of age in months, days, or position in the life cycle (e.g. teenager, young married, senior citizen). For “MEDIA USE EFFICIENCY”, the unit is hours per dollar, as the variable is defined as a ratio of time in hours to money in dollars. For “SATISFACTION WITH MARITAL COMMUNICATION”, the unit is some relative degree of satisfaction. Level of Measurement The level of measurement specified in the operational definition will affect our observations. For example, both “AGE” and “MEDIA USE EFFICIENCY” definitions set up scales which can take on any value (continuous interval scales), and thus allow the respondent to reply freely. But the “SATISFACTION WITH MARITAL COMMUNICATION” definitions prescribe different levels of measurement. The first definition sets up a nominal scale. A respondent is really answering a simple “yes-no” question: are you satisfied? Put another way, satisfaction is measured as being either present or absent, with no amount or degree of satisfaction attached. The second definition sets up an ordi-nal scale: respondents can be satisfied to either a greater or lesser degree. The responses to these alternate definitions are not likely to be the same. The first question requires all respondents to take a stand as being either satisfied or unsatisfied, including those whose feelings are perilously close to neutrality. If a respondent is at least a little satisfied with his or her communication, he or she would probably check the first response. The second question allows for the expression of ambiguity. The consequence of adding additional categories that allow the respondent to report some degree of presence of the concept will be a more sensitive and accurate picture of the person’s actual satisfaction, as those who are only minimally satisfied or unsatisfied can opt for the middle categories. The point to be recognized here is that the operational definition will critically affect the sensitivity of our observations. Statements of Combination For abstract constructs like “MEDIA USE EFFICIENCY”, the operational definition must also specify the mathematical procedure used to combine the measured elements of the concept into one value. Note that this definition describes two addition operations (one for time using media and one for the cost of media) and one division operation. As an alternative to the verbal operational definition to be found in Table 2-1, we could also express this operational definition with a mathematical formula. This statement of the method of combination of concrete measurements is critical to our objective of clearly communicating our research procedures. Without it, other researchers cannot understand our measurements well enough to judge their value, nor can they reproduce our research.Variables Once the measurement system has been specified by the

operational definition, different values of the concept can be observed. The concept can now be referred to as a variable, since it can respond to differences in the "real world" by taking on varying values, as specified in the operational definition. For example, some people are older than others. Likewise, some people undoubtedly show higher efficiency than others in terms of the ratio of time spent with the media, relative to their cost. We use variables to empirically test theories, as we'll discuss in Definitions and Validity

Throughout the discussion of concepts and definitions, we have really been talking about three different worlds: the "real world", where events and phenomena actually occur; the "verbal world", where these phenomena are distilled into concepts which are expressed verbally in theoretical definitions; and the "measurement world" where the concepts are observed as variables which are described by operational definitions. The theoretical definition mediates between the "real world" and the "verbal world", and the operational definition mediates between the "verbal world" and the "measurement world" (See Figure The translations provided by definitions are imperfect. It's impossible to perfectly summarize the wild variety of the real world in a theoretical definition, or the rich meaning of a theoretical definition in the mathematical expression of an operational definition. But, like any creative endeavor, we may do a better or worse job in constructing these translations. The degree to which we match one world to another determines the validity of our definitions. The match of the "real world" with the theoretical definition is called face validity. If the theoretical definition of a concept does not match observed reality, then we have poor face validity, and any theory using this concept will be flawed. Likewise, if the operational definition does not specify measurement which adequately represents the meaning contained in the theoretical definition, we have poor measurement validity. As an example, let's suppose we ask a group of people to write down their own ideas of what "television viewing" means. To do this, they will recall their observations of the real world, and distill them into fragmentary concepts, which they will write down on index cards. If we put all these cards together, we have a verbal approximation of the "real world" phenomenon of television viewing. Looking at the cards, we see that two major themes are represented: time spent viewing television, and the type of content viewed. Now let's look at one of the cards. It says "television viewing is the amount of time you spend looking at television". If we take this as a theoretical definition of the concept of television viewing, it has poor face validity. It captures in words only half of the real world phenomenon, which includes the kind of content viewed, as well as the time spent viewing. To improve the face validity of this definition, we

might narrow the focus of our interest from "television viewing" to "amount of television viewing". Now the theoretical definition has good face validity. It captures most of the essence of the (more specific) real world phenomenon. Alternatively, we could enlarge the theoretical definition of "television viewing" to read "television viewing is the amount of time spent viewing each type of content". With further development, this theoretical definition could also have good face validity, as it represents both major themes observed in the real world. Let's extend this imaginary experiment. We now ask the people to provide some items for a questionnaire which will measure their idea of "television viewing". Since we had both time and content themes in the theoretical definitions, we will get similar results in the measurement items. A representative list of items is presented below in Table 2-2. All of these items are good operational measurements of "television viewing," but they measure very different things. If we do not have a theoretical definition of the concept to guide us, then we have not given ourselves any criterion for distinguishing valid measurement items, that is, those which provide the best coverage of the meaning of the concept. The measurement validity of a variable comes from the crucial overlap between its theoretical and operational definitions, so we need a theoretical definition before we can make any decisions about measurement validity. Suppose we use the less general theoretical definition which we developed above: "amount of television viewing is the amount of time spent looking at television". Then items b and d from the list simply will not be considered. They have no measurement validity, as they measure the content of viewing, not the amount of viewing. Items a, c, and e are valid items, as they represent measurement of the verbal meaning of the theoretical definition. Item f is partially valid, as it represents measurement of the amount of viewing, but only of a specific type of content. That is, it is not exhaustive of the full meaning contained in the theoretical definition. But if we choose the more general definition of viewing ("television viewing is the amount of time spent viewing each type of content"), then items a and c alone represent only partially valid measurement. They measure amount of viewing, but not type of viewing. We need a set of items which measure both amount of viewing and the content viewed. We can get this by combining responses to questions about amount with those that address type of viewing (by combining items a and d, for example), or by creating items which ask about amount of viewing of each type, like item f. Making a decision about a theoretical definition imposes a constraint upon the operational measures. We are steered toward certain operational measures and away from others. The constraints operating in this example are represented in Figure 2-4. This figure illustrates the fact that certain operational definitions "go with" a particular theoretical definition, or one part of the

definition, because they yield the concrete measurement of the meaning that has been specified in the theoretical definition.

Benefits of Using Definitions

The rules of science require that we have theoretical and operational definitions for all concepts, so that anyone can examine our concepts, and reproduce our measurements. We can't conduct a scientific investigation without definitions. But you may read research reports which do not explicitly state the theoretical or operational definitions. Does this mean that the authors of these studies are unscientific? Or that the definitions are not really necessary? No and No. If you read carefully, you can usually figure out what the author really intended. But it's a much better practice to save the reader of a research report such hard work by providing both theoretical and operational definitions as part of the report of your research. Here are some of the benefits of spending time developing good theoretical and operational definitions, and stating them explicitly.

Following the Rules

The rules of science require that we make all our ideas available to others, so that they may critically examine them. Furthermore, anyone who wants to repeat our investigations should be able to do so. A good theoretical definition makes the meaning of our concepts clear. A good operational definition allows the reader to understand how we have gone about measurement. It also allows her to repeat our measurements, if she wants to make sure that our conclusions are correct.

Better Validity

Thinking methodically about the varieties of real world phenomena which should be encompassed by our concept label will often suggest improvements to the theoretical definition. This will improve face validity. Likewise, stating the meaning of the concept verbally is extremely helpful in the specification of the operational definitions, especially the specific measurement indicators that we will use to reflect the meaning associated with the concept. This improves measurement validity. The process of creating theoretical and operational definitions is interactive. For example, the act of creating an operational definition may suggest improvements to the theoretical definition, or vice versa. Any changes in the theoretical definition imply corresponding changes in the operational definition, and vice versa.

Improving Conceptualization and Measurement

A good theoretical definition will aid us in selecting valid operational measurement items, as we mentioned above. But we can use the definitions of other researchers to improve our own measurement and conceptual scheme, too. Generally you will not be the first or only researcher to be interested in a given phenomenon. One of the first courses of action to take when you become interested in a particular problem is to see what other researchers have done previously by conducting a thorough review of research literature. Let's use the "television viewing" example one last time. Suppose that you originally think of television viewing exclusively in terms of the amount of exposure to television. However, as you review the literature, you are likely to encounter a large number of theoretical and operational definitions of television viewing which include the idea of the content or type of programming viewed. The fact that other people are defining and measuring the concept in a way different from the way you are thinking about it may convince you to expand your definitions of "television viewing", and to include new measurement items to tap the more general definition.

Doctrinal and non doctrinal Research:

Doctrinal legal research endeavour to develop theories and doctrines and non doctrinal method endeavour to test these theories and doctrines which we have assumed are relevant in given time. Try to find out whether these theories and assumption which we have assumed in law) work in the way they should. Doctrinal legal research is, therefore, 'research in law' while non-doctrinal legal research is 'research about law'. It involves a systematic exposition, analysis and critical evaluation of legal rules, doctrines or concepts, their conceptual bases, and inter-relationship. To put it in a different way, a doctrinal legal researcher indulges into analysis of 'black-letter' of law. He therefore sticks pretty close to the primary source materials, to the Constitution (where legal system have one), to legislation (statutes, statutory instruments) and to the leading judicial decisions (the precedents). While a non-doctrinal legal researcher is interested in knowing 'law-in-action' through empiricism. As the place and source of data, namely, substantive legal rules, doctrines, or concepts and judicial decisions thereon, required for doctrinal legal research is law library, doctrinal legal research

is nicknamed as ‘arm-chair research’, or ‘basic or fundamental research’. While, non-doctrinal legal research, which gets its data primarily from sources other than law [i.e. society] and focuses on ‘social reality of law’ rather than on ‘law’ itself, is also known as ‘empirical research’, ‘socio-legal research’, ‘sociology of law’ or ‘non-library research’.

DOCTRINAL LEGAL RESEARCH

Introduction

Doctrinal legal research, as conceived in the legal research domain, is research ‘about’ what the prevailing state of legal doctrine, legal rule, or legal principle is. A legal scholar undertaking doctrinal legal research, therefore, takes one or more legal propositions, principles, rules or doctrines as a starting point and focus of his study. He ‘locates’ such a principle, rule or doctrine in statutory instrument(s), judicial opinions thereon, discussions thereof in legal treatises, commentaries, textbooks, encyclopedias, legal periodicals, and debates, if any, that took place at the formative stage of such a rule, doctrine or proposition. Thereafter, he ‘reads’ them in a holistic manner and makes an ‘analysis’ of the material as well as of the rules, doctrines and formulates his ‘conclusions’ and writes up his study. For example, a legal researcher interested in criminal law might start with proposition dealing with right against self-chilot.wordpress.com incrimination. Research then takes place in the law library, where he will ‘locate’ the proposition (along with its different contours) and its discussions in treatises and textbooks on criminal law, criminal procedure, and constitutional law, encyclopedia and leading legal periodicals. He will also try to locate all relevant judicial pronouncements of the higher judicial institutions delved into the right against self-incrimination. He will then ‘read’ these materials and ‘analyze’ them by applying his power of reasoning and will, premised on analytical perspective and the material used, draw some conclusions about the proposition. He then will write up his study. He may, in his study advance a set of formulations, supportive or otherwise, with convincing ‘reasoning’ about the proposition-the right against self-incrimination. He, in his research report, may offer an alternative comprehensive paradigm of the doctrine. With a view to drawing parallels between the doctrine or rule under inquiry, he may also find a comparable doctrine or rule from other jurisdictions. He may, depending upon ‘objectives’ of his research, also propose a new formulation of the rule or doctrine, a model statute or a statutory provision. He may also highlight the purpose and policy of law that exist and may propose what it ought to be.Doctrinal legal research, thus, involves: (i) systematic analysis of statutory provisions and

of legal principles involved therein, or derived therefrom, and (ii) logical and rational ordering of the legal propositions and principles. The researcher gives emphasis on substantive law rules, doctrines, concepts and judicial pronouncements. He organizes his study around legal propositions and judicial pronouncements on the legal propositions of the appellate courts, and other conventional legal materials, such as parliamentary debates, revealing the legislative intent, policy and history of the rule or doctrine. Classic works of legal scholars on the law of torts and administrative law do furnish outstanding examples of doctrinal legal research. Doctrinal legal research, in addition to analytical one, may be historical or comparative. Historical legal research, unlike analytical one, deals with the past. It throws light on the past to understand the present. It explores the circumstances that led to the adoption of the existing law. It gives a clue to the reasons why a particular provision of law or law was framed in the form in which now it appears. It also often For further details see, 'Unit 4: Models of Legal Research and Current Trends in Legal Research', infra. chilot.wordpress.com

reveals that a particular existing provision/law, fully justifiable at the time when it was introduced, is no longer justifiable because the reasons/circumstances that justified the original inclusion of that provision/law are no longer valid. While comparative legal research, as evident from its title, involves comparative study of comparable laws or legal institutions from different jurisdictions. It exhibits the lessons that can be learnt from each other's failures and achievements.

Aims and Basic Tools of Doctrinal Legal Research

Aims

Doctrinal legal research, as stressed earlier, involves rigorous analysis of statutory provisions and judicial pronouncements thereon. The researcher organizes his study around legal provisions, principles, concepts or doctrines and judicial statements relating thereto, and/or reflecting thereon. He not only makes analysis of statutory provisions and of case law, but also logically and systematically arranges the statutory provisions and judicial pronouncements to deduce, on legal reasoning and rationale, some legal propositions. Doctrinal legal research, thus, (i) aims to study case law and statutory law, with a view to find law, (ii) aims at consistency and certainty of law, (iii) (to some extent) looks into the purpose and policy of law that exists, and (iv) aims to study legal institutions. Therefore, doctrinal legal research should not be undermined merely because it revolves around statutes and

judicial decisions. It immensely contributes to the continuity, consistency and certainty of law. It also initiates further development of legal principles and doctrines.

Doctrinal legal research mandates the legal researcher to 'locate' the required apt statutory provisions and judicial reflections thereon that have bearing on the legal doctrine, concept or rule under inquiry. Such legislative provisions and judicial decisions constitute the basic data for a doctrinal legal researcher. chilot.wordpress.com

Basic tools

Where can a legal researcher find the required statutes and judicial decisions? He can 'locate' the requisite data in the apt statutory materials and case reports. The former refers to, and includes in it, the relevant Acts of Parliament (along with the amendments made thereto from time to time); secondary or subordinate legislations (in the form of rules, regulations, orders, notifications, byelaws, and statutory orders) made there under. While the latter, refers to case-reports that verbatim reproduce cases decided by courts. Statutory material and case reports constitute primary research tools for doctrinal legal research. However, in addition to these original sources of data, the researcher may have to look into secondary source materials such as research articles published in leading legal periodicals, text and reference books on the sub ject. He may have also to refer to parliamentary debates and other Government records and reports for getting further 'insight' into the legal principle, doctrine or concept under inquiry.

The basis tools of a doctrinal legal researcher, thus, are: (i) statutory materials, (ii) case reports, (iii) standard textbooks and reference books, (iv) legal periodicals, (v) Parliamentary Debates and Government Reports, and (vi) Micro films and CD-ROM.

These tools, depending upon the nature of information they contain, may be re-categorized into primary and secondary sources of information. National Gazette and Case Reports fall in the first category, while the rest fall in the latter.

(i) Statutory materials

Legislative Acts constitute one of the basic tools of doctrinal legal research. However, a plethora of subsidiary or secondary legislation in the form of rules, regulations, byelaws, notifications, statutory orders or directives is found in the modern national legal system. In fact, in a contemporary legal system the quantum of executive legislative instruments overweighs the primary ones. Further, Acts of Legislature, with a view to coping up with the changed circumstances and/or social or political perceptions, undergo frequent changes

through amendments. Sometimes, an Act of Parliament, when it, in the opinion of Legislature, becomes obsolete or redundant, is replaced by another one. chilot.wordpress.com

Acts of Legislature as well as amendments thereto are required to publish in (National) Gazette before they become operative. Instruments of executive legislation are also published in the Gazette. National Gazette, therefore, constitutes an authentic primary source of statutes and statutory provisions. Sometimes, some law publishers publish, with short notes and requisite disclaimer, leading and frequently referred to statutes. In some jurisdictions, almost all the statutes, with comprehensive comments, are published in a series of volumes. Reference to statutes and statutory provisions, invariably with analytical comments, can also be found in standard textbooks and reference books, including 'cases and materials',69 on the subject. However, most of the times, these publications, for obvious reasons, do not include the latest amendments to the statutes and judicial statements thereon. Hence, the researcher has to look for subsequent legislative changes and latest cases on the matter under inquiry. The sole reliance on these books may lead to an incomplete and misleading research. Further, textbooks as well as reference books, owing limitation of space, cover a broad area in the compressed form. Therefore, some ideas may be left with some cursory remarks by the authors. Nevertheless, a researcher working on a relatively new theme is advisable to start with the textbooks, reference books, and 'cases and materials' on the subject. It will also enable him to acquaint himself with and understand the basic principles and dimensions of the theme or the subject under investigation. It will also help him to find several other pertinent sources of study and decided cases, with comments, on the subject.

For example, in India, Eastern Book Company and Universal Law Publishers are known for publishing bare text (with short notes) of Acts of Parliament. Similarly, Blackstone Publishers from the UK publishes Statutes enacted by the British Parliament. For example, in England, Halsbury's Laws of England and Halsbury's Statutes, and in India, AIR Manual, periodically publish text of statutes, with comments, in a series of volumes. These publications are widely used by legal researchers worldwide. These publications give detailed and up to date account of the law on a particular subject. In the legal discipline, it has now become almost a common practice to bring out 'cases and materials' and 'handbooks' on a particular subject. These 'cases and materials' and 'handbooks' help a researcher to gain 'working insight' in the subject of his inquiry as well as to locate further references. For example see, J C Smith, Smith & Hogan criminal Law-Cases and Materials (LexisNexis

Butterworths, 8th edn, 2002), C M V Clarkson & H M Keating, Criminal Law: Texts and Materials (Sweet & Maxwell, London, 4th edn, 1998), Martin Dixon & Robert Maccarquodale, Cases and Materials on International Law (Blackstone Press, Ltd, 2nd edn, 1991), and Keith Walmsley, Butterworth's Company Law Handbook (LexisNexis Butterworths, 19th edn, 2005). chilot.wordpress.com

Sometimes, the researcher may have also to look into the debates that took place on floor of the House on the draft statute when it was in the making. Reading of Parliamentary Debates will enable him to get acquainted with the underlying legislative policy of the statute. It will also reveal the different alternatives suggested on the floor of the House and the reasons for their acceptance or rejection in the final version of the statute. Such an acquaintance will undoubtedly lead to a well-reasoned in-depth analysis of the statute. It may also be of worth exercise for a doctrinal legal researcher to look for (and to have peep therein) a pre-& post-legislative Reports70 on the statutes under inquiry. A peep into these reports will divulge different underlying legislative currents and paradigms and thereby will enable him to have deeper insight into the legislative and operational facets of the statute(s)/statutory provision(s) under consideration. Further, a look into Parliamentary Debates and Government Records may exhibit some hidden or new dimensions of the doctrine or legal principle under

investigation.

(ii) Case reports

In almost all the common law legal systems, judicial decisions of higher courts are published in Case Reports.71 A doctrinal legal researcher, therefore, has to look for the apt Case Reports for laying his hands on the required judicial pronouncements for his analysis. In addition, in these jurisdictions one finds a number of well-articulated case digests.Case Digests, which refer to all the reported cases, play a significant role in collecting In common law jurisdictions, sometimes, controversial draft legislations are re fereed to the Joint Parliamentary Committee for its consideration and recommendations to the Parliament. It is also common practice in these jurisdictions that the Law Commission, on its own or on direction of the Government, minutely examines the substantive as well as operative aspects of the given Act and offers proposals for reforms.

For example, All England Reporter (All ER) and Weekly Law Reports (W LR), which publish judicial pronouncements of all the higher judicial institutions in the UK, are useful

for locating cases decided by the higher courts. While in India, courts and legal researchers rely upon All India Reporter (AIR) [publishes cases decided by the Supreme Court of India and by all the State High Courts]; Supreme Court Reporter (SCR) [publishes cases handed down by the Supreme Court of India], Supreme Court Cases (SCC) [publishes only cases decided by the Supreme Court of India], for locating judicial decisions of the higher courts.

In India, for example, Yearly Digest, Five Yearly Digest, Fifteen Years Digests and Fifty Years Digest, etc, are quite helpful to a legal researcher. These publications, as revealed in the respective titles, give citation of the original case along with a brief summary of legal principles used and involved therein. American Digest System (published by St Paul, Minn. West Publishing Co, USA) and US Supreme Court Digest (published by Lawyers Cooperative Publishing Co, New York) are widely used digests of cases. Index to Supreme Court of Canada Reports and Supreme Court Cases are widely chilot.wordpress.com

cases on a particular subject/topic. They undeniably assist the researcher in 'locating' relevant judicial decisions and grasping quickly the legal principles laid down therein. As mentioned earlier, textbooks and reference books on the subject contain cases on the statute(s) and statutory provision(s) under inquiry. But the case law dealt under these books may not be comprehensive and up-to-date. Authors of the textbooks and reference books may omit cases not considered relevant by them. Almost all the legal periodicals published from common law countries invariably devote some of their pages for 'Case Comments' wherein comments by experts on leading cases are published. Some periodicals also contain a segment on 'Notes on Cases' wherein brief but pertinent comments on, and/or summary of, contemporary leading judicial decisions are published. A careful look at these pages will help the researcher in identifying apt cases that deserve his serious attention and analysis in his research.Further, Annual Survey,publishing a summary of the most important cases and outlining the consequential development in different branches of law, may also be a significant tool for finding cases on the identified statutes or statutory provisions. In such a survey, an expert of repute in the field, not only identifies significant judicial decisions rendered in the field during the year under survey but also makes their analysis with a view to finding the way in which they have followed or deviated from the past judicial dicta and judicial reasons given therefor. Based on such analysis, he also sketches the development, progressive or otherwise, of the law in the field during the year under survey and predicts future course of development.

(iii) Legal periodicals

It may also be necessary for a doctrinal legal researcher to know what others have said and found in the area of his research. Therefore, he is required to look into research articles published in legal periodicals of repute. Research articles published used digests of cases in Canada. A consolidated index of three years of All England Law Report (All ER) is widely used in the UK and outside for locating cases decided by different courts in Great Britain. For a scholar of international law, Marjorie M Whiteman, Digest of International Law (Department of State, Washington, USA), a multi-volume, is a useful reference. For example, see Annual Survey of Indian Law, an annual publication of the Indian Law Institute, New Delhi, India. chilot.wordpress.com

on the topic/theme of inquiry are of immense help for a doctrinal legal researcher. A reading of these articles not only unconsciously inspires him to pursue his inquiry with vigor but also helps him in crystallizing his ideas that are still imprecise. These articles may expose him to some new dimensions or aspects of the problem, which he has not been so far able to conceive. It may also help him in assuring himself that he has not missed anything pertinent from original sources. Further, he may unconsciously learn the ways of effective persuasion and presentation of his inquiry. To put simply, it becomes necessary for a legal scholar to know what other researchers have said on the topic to: (i) seek inspiration, (ii) crystallize his ideas, (iii) organize his thoughts, and (iv) ensure that he has not missed any original sources. Hence, legal periodicals become indispensable tools of doctrinal legal research.However, he may come across a number of legal periodicals with an umpteen number of research articles written by scholars of repute in the field. Some times, he may feel, rightly so, that it is impossible for him to go even through the Table of Contents of these legal periodicals (with numerous issues thereof) to ‘locate’ research articles that are ‘relevant’. He may carry a feeling of reluctantly sinking, forever, in these voluminous legal periodicals. However, there are a good number of indexes published by commercial organizations and academic and professional bodies that help him in ‘locating’ research articles with comparatively lesser efforts and time. Some of the acclaimed and widely used indexes for locating articles are:

1. Index to Legal Periodicals- The Index is prepared and published since 1908 by the American Association of Law Libraries, New York. It indexes various legal periodicals published in the United States, Canada, 74 Great Britain, Northern Ireland, Australia and New Zealand. Articles are indexed ‘subject-wise’ as well as ‘author-wise’.

The Canadian Association of Law Libraries has started bringing out its own Index to Canadian Legal Periodicals, as the Index to Legal Periodicals has not included all the Canadian titles published in all the periodicals published in Canada. The Index to Canadian Legal Periodicals indexes all the titles published in all the Canadian periodicals. Like other indexes, it gives subject-wise and author-wise index of articles. It also gives book review index and table of cases. It also gives an index of 'cases' commented upon in the periodicals indexed therein. It also gives index of book reviews published in the periodicals covered by the Index. chilot.wordpress.com

2. Index to Foreign Legal Periodicals- The index is prepared and published since 1960 by the Institute of Advanced Legal Studies of the University of London, London, in co-operation with the American Association of Law Libraries, New York. It is published in three quarterly parts covering the contents of legal literature received over the period October to June and it is followed by an annual volume cumulating the first three parts. It indexes articles published in legal periodicals published from the countries other than the United States, Great Britain, and the countries of the British Commonwealth whose systems of law have a common law basis. It thus complements and, to a limited extent, duplicates the Index to Legal Periodicals.

It gives 'subject index', 'author index' and 'book reviews'. It also gives 'geographical index' giving by country, subject and headings used for article mainly concerned with laws of a country or countries.

3. Index to Periodical Articles Related to Law- This index commenced in 1958. It is compiled by the librarians of the Yale and Columbia Law Schools. It has coverage of selective articles published in English throughout the world, which were not covered by Index to Legal Periodicals and Index to Foreign Legal Periodicals.

4. Index to Indian Legal Periodicals- It is a half-yearly publication of the Indian Law Institute, New Delhi. Its publication started in 1963. It indexes articles (subject-wise and author-wise) published in leading legal periodicals published in India including Yearbooks and other annual publication pertaining to law. It also indexes case comments and book reviews published in these periodicals.

5. Legal Journals Index- The publication started in 1986 from the UK. It indexes research articles published in legal periodicals published from almost all the common law countries.

In addition to these Indexes, a few legal periodicals bring out their own Cumulative Index (of a certain period).76 Such a Cumulative Index lists articles, author-wise as A scholar of law, for example, may find Cumulative Index (covering a certain duration or issues) of Modern Law Review (Mod LR), Law Quarterly Review (LQR), Criminal Law Review (Crim LR), Yale Law Review (Yale LR), Harvard Law Review(Har LR), International and Comparative Law Quarterly (ICLQ), American Journal of International Law (AJIL), American Journal of Comparative Law (AJCL), Tulane Law Review and Journal of the Indian Law Institute (JILI), and of many other legal chilot.wordpress.com

well as subject-wise, published in different issues of the periodical. It also gives index of cases refereed to, and books reviewed therein. It helps a legal scholar to locate relevant articles published over the years in the legal periodical. Bibliographies on certain subjects are also available to a legal researcher. Such bibliographies also help him in locating research articles, books, and reports on the subject of his inquiry.

However, a researcher may find an umpteen number of articles published in different periodicals that deal with or touch upon same, similar or identical themes expositing him, in a way, to repetitive ideas pertaining to, and explanations of an identical theme, concept or doctrine. In such a situation, he, with a view to saving his time and energy without compromising with the need to know 'comments' or 'view points' of others on the subject of his inquiry, will have to opt for a few leading articles written by authors of eminence in the field. A fairly trained researcher will be able to easily identify such articles by merely looking at the title or reading abstract or conclusion of the research papers and professional standing of the journal carrying them. A legal researcher may also gather comments on the statutes/statutory provisions and cases thereon from standard textbooks and reference books on the subject. However, there is basic advantage of an article over a textbook and reference book. A research paper, unlike a textbook or reference book, deals with a specific issue(s) in depth.

Advantages and Limitations of Doctrinal Legal Research

Advantages

Doctrinal legal research has a number of advantages to its credit. A few pertinent among them are outlined here below. First, doctrinal legal research, which basically involves analysis of legal principles, concepts or doctrines, their logical ordering and systematizing of

legal propositions emerging therefrom, has some practical utility. It provides quick answers to the problem as the researcher is continuously engaged in periodicals of international repute in any well-equipped law library. The British Yearbook of International Law also brings out cumulative index of articles, notes and cases published in its different issues during the period of cumulative index. chilot.wordpress.com

the exposition and analysis of legislation and case-law and the integration of statutory provisions and judicial pronouncements into a coherent and workable body of doctrine. It provides lawyers, judges and others with the tools needed to reach decisions on an immense variety of problems, usually with very limited time at disposal. Empirical research, unlike doctrinal legal research, takes much more time to draw conclusions. In this connection, the following observation of Kenneth Culp Davis deserves our attention. He observed:

--- [I]t may be a hundred or several hundred years before we get truly scientific answers to some of the questions I am trying to explore, and we need to make some judgments in the meantime. Some of the most useful thinking can be unscientific, impressionistic, intuitive based on inadequate observation or insufficient data or wild guesses or imagination. Scientific findings are obviously the long term objective, but a good many judgments which fall far short of scientific findings are valuable, respectable and urgently needed. Secondly, a doctrinal legal researcher, through his analysis, attempts to test the logical coherence, consistency and technical soundness of a legal proposition or doctrine. His knitting of legal principles or doctrines, with sound reasoning, may lead to a well-developed law. In this context, evolution and development of law of torts and of administrative law, for example, stand as classic testimony of doctrinal legal research. Thirdly, doctrinal legal research contributes in our 'understanding' of 'law', legal concept or doctrine, and legal processes in a better way as it offers logical exposition and analysis of such a law or a doctrine or legal system. Such an analysis also reveals (in)consistency in, and (un)certainty of, the law, legal principles or doctrines. Fourthly, a scholar of law indulged in doctrinal legal research, in a systematic way and with convincing reasoning, exhibits 'inbuilt' 'loopholes', 'gaps', 'ambiguities' or 'inconsistencies' in the substantive law inquired into as well as in some of principles or doctrines embodied therein. He thereby invites the Legislature to plug them through amendments (or to repeal it or substitute it by another piece of legislation if it Kenneth Culp Davis, Behavioral Science and Administrative Law, 17 Jr of Legal Edu 137 at 151-52 (1964-65).chilot.wordpress.com

is with full of defects or a proved 'failure') so that the law can be more purposive and effective. Such a legislative move, either leading to amending the law or replacing it by another one, results in the development or improvement of the law. Further, a comparative analysis of identical legal rules, concepts or doctrines from different systems of law by a scholar of law gives a further impetus to improvement of the law, legal concept or doctrine, as the case may be. Fifthly, a doctrinal legal researcher, through logical ordering and systematizing of legal propositions that emerged from his analysis and reasoning may initiate a theory in the concerned field of law. Such a theoretical proposition, in due course of time, may gain further support from the researcher himself or other researchers working in the field. In other words, doctrinal legal research helps in theory building.

Sixthly, a doctrinal legal researcher, through his systematic analysis of legal principles, concepts or doctrines, in the light of judicial statements, may predict 'future' of the principle, concept or doctrine, its probable 'contents' and 'directions' in which it is likely proceed in future. Seventhly, doctrinal legal research provides a sound basis for non-doctrinal legal research. Socio-legal research requires a strong base of doctrinal legal research. Before a scholar of law embarks upon non-doctrinal research, it is necessary for him to acquire sufficient grounding and experience in doctrinal legal research. Unless he understands the legal doctrines, case law and legal institutions, he can hardly venture into socio-legal research. In the absence of strong base in doctrinal legal research, non-doctrinal research is bound to be a futile and infructuous exercise. The utility of non-doctrinal research very much depends upon the ability of the legal scholar to translate his findings and data into legal doctrines and concepts. UpendraBaxi, in his monograph captioned 'Socio-Legal Research in India: A Programschrift, observes, and rightly so, that 'law-society research cannot thrive on a weak infra-structure base of doctrinal type analyses of the authoritative legal materials'. 'Legal and policy studies of the state of law', he further observes, 'provide not merely an assurance of UpendraBaxi, Socio-legal Research in India-A Programschrift (Indian Council of Social Science Research (ICSSR), New Delhi, 1975). Also reprinted in, S K Verma& M Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001), at pp 656-657.chilot.wordpress.com

sound understanding, but may also hold promise of needed starting-points for sociological research.'79 The reason is obvious. It will be difficult for a legal researcher to venture into highlighting, through empirical research, operational dimensions of law and legal institutions, the bottlenecks in their implementation and suggesting solutions to overcome these defects

without having in-depth knowledge of the legal doctrines, case law and legal institutions. Further, such knowledge is essential for identifying 'issues', 'delimiting areas' of his inquiry, formulating apt 'hypothesis' for inquiry, and devising appropriate strategies and tools for collecting relevant data. In the absence of these, the sociological research will be like a boat without a rudder and a compass, left in the open sea. The whole exercise of the researcher will be fruitless.

Limitations

Doctrinal legal research, in spite of the above-mentioned strengths, suffers from certain limitations of worth noting. They are:

First, analysis of the legal principle, doctrine under inquiry, in particular, and of 'law' in general, and the consequential projections of the doctrinal researcher, ultimately, become 'subjective' and exhibit his 'perception' about the inquired subject-matter. A different perception of the same legal principle, concept, doctrine or law by another scholar(s) of law, therefore, cannot be ruled out. In other words, doctrinal legal research, depending upon the reasoning power and analytical skills of the researcher, may lead to different 'perceptions' and 'projections' of the same legal fact, concept or doctrine when different scholars of law analyze it. Thus, different scholars may perceive a legal fact or doctrine differently with equally convincing logical reasoning. Secondly, a doctrinal legal researcher gathers the policy from his own experience, authoritative statutory materials, case reports, and his reflections thereon. His 'inquiry' into a legal principle or concept or law, therefore, does not get any support from social facts or values. His research, undeniably, becomes merely theoretical and devoid of any social facts. Consequently, his 'projections' of law and 'predictions' regarding changes in the law are bound to be far from social reality and inadequate.

When law is viewed as an effective instrument of socio-economic transformation, it becomes necessary to see it (law) in the light of social facts and values. It also needs to be studied and analyzed in terms of its actual working and consequences and not as it stands in the book. Obviously, doctrinal legal research, in this context, becomes inadequate and inapt. Further, contemporary social-goal-oriented law requires pre-legislative study to know and appreciate the extra-legal factors that have played significant role, positive or negative, in shaping the

legal rule or doctrine in the present form. Doctrinal legal research, by its nature, does not bring such pre-legislative issues in its ambit. It is also not fully equipped for such a study. Thirdly, doctrinal legal research does not involve a study of the factors that lie outside law or legal system but have directly or indirectly influenced the operation of the law, a legal rule, concept or doctrine. Sometimes the prevailing stakes and prejudices of a dominant social group may hamper the law's operation and success. A study of such extra-legal factors, interests and prejudices, therefore, becomes necessary for understanding their role and contribution in making the law or doctrine effective, less effective or ineffective in its operation. Such a study also becomes desirable, rather inevitable, to devise appropriate legislative or policy-oriented measures to do away with the factors that are desisting/have desisted the law to be effective or to minimize their adverse effects on the law's performance. Doctrinal legal research practically overlooks the need to study these factors. Fourthly, a doctrinal legal researcher puts his sole reliance on, and gives prominence to, traditional sources of law and judicial pronouncements of appellate courts. The actual practice and attitude of lower courts and of administrative agencies with quasi-judicial powers, whose judgments remain unreported, are left unexplored in doctrinal legal research.

A comparative look at the advantages and limitations of doctrinal legal research outlined in the preceding paragraphs may create a serious doubt about utility and relevance of doctrinal legal research. However, doctrinal legal research should not be undermined simply because it, through analysis of statutory provisions and cases, revolves around legal principles and doctrines, and it is, therefore, devoid of 'social facts' or is far away from 'social reality'. Doctrinal legal research, contrary to this general belief, is in fact involves consideration of social value, social policy and the social utility of law. A scholar of law observed: chilot.wordpress.com

It is naive to think that the task of a doctrinal researcher is merely mechanical - a simple application of a clear precedent or statutory provision to the problem in hand, or dry deductive logic to solve a new problem. He may look for his value premises in the statutory

provisions, cases, history in his own rationality and meaning of justice. He knows that there are several alternative solutions to a problem (even this applies to a lawyer who is arguing a case before a court or an administrative authority) and that he has to adopt one which

achieves the best interests of the society. The judges always unconsciously or without admitting think of the social utility of their decisions, ---.

Conventional legal materials contain a lot of data with which a doctrinal legal researcher may make a significant contribution to our understanding of legal processes. The basic need is for a conception of research that, even if it is confined to traditional legal materials, ask the most meaningful questions that such materials may help answer. A doctrinal legal researcher, through careful content analysis, qualitative and quantitative, of case reports and other conventional legal source materials, can, inter alia, identify the processes through which a doctrine is formed, the values preferred and articulated thereunder, and its underlying policy and goal. Conventional legal materials are also of some help in tracing the actual consequences adopting a doctrine.

NON-DOCTRINAL LEGAL RESEARCH OR SOCIO-LEGAL RESEARCH

Introduction

However, in the recent past, doctrinal legal research has received a severe jolt due to change in the political philosophy of law from the laissez faire to the welfare state envisaging socio-economic transformation through law and legal institutions, the S N Jain, Doctrinal and Non-Doctrinal Legal Research, 17 Jr of Ind Law Inst 516 (1975). Reprinted in, S K Verma& M Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001) 68 (74). Ernest M Jones, Some Current Trends in Legal Research, 15 Jr of Legal Edu 121 (1962-63).chilot.wordpress.com86

consequential new substantive and functional facets of law, and certain compelling pragmatic considerations arising from this metamorphosis. Prominent reasons and arguments stressing the need for inquiry into social facets of law are: First, the emergence of sociological jurisprudence 82 and its underlying philosophy assigned ‘law’ the task of ‘social engineering’. Almost every modern civilized State perceives ‘law’ as an active instrument of socio-economic justice and thereby a vehicle of social engineering. This new operational facet of law has inevitably led to enactment of enormous statutes with specified socio-economic drives. In fact, we have come to live in an age is of social welfare laws. Secondly, in the light of such a role assigned to law, it is argued, it becomes necessary to look into the ‘factors’ or ‘interests’ of the Legislature that play significant role in setting the legislative

process in motion and in identifying the beneficiaries thereof and the reasons therefor. These 'factors' and 'interests' (for putting law in motion for the desired planned socio-economic change), indicate, rather dictate, 'framework' of the law as well reveal the choices opted by the Legislature when it faced with alternative 'paths' towards, or 'strategies' for, the intended legislative goal. Thirdly, it becomes necessary to carry out frequent attitudinal studies of those whose legal position is sought to be modified by a given law as well as of those who are vested with the power of interpreting and implementing it so that the Legislature, armed with this feedback, can fulfill its job in a more satisfactory manner. Fourthly, a number of facts or factors that lie outside a legal system may be responsible for non-implementation or poor implementation of a given piece of social legislation. A systematic probe into these factors and their influence on the operation of law, therefore, becomes necessary to identify these bottlenecks and to design appropriate strategy to remove them or to minimize their influence on the law so that the law can be made an effective instrument of socio-economic transformation. Fifthly, there is nearly always a certain 'gap' between actual social behavior and the behavior demanded by the legal norm and certain 'tension' between actual behavior and legally desired behavior. Identification of the 'gap' and 'tension' as well as factors responsible therefor See, Roscoe Pound, Jurisprudence, vols 1-3 (St. Paul, Minn., West Publishing Co., USA). Also see, M D A Freeman, Lloyd's Introduction to Jurisprudence (Sweet & Maxwell, London, 6th edn, 1994),

Sociological Jurisprudence and the Sociology of Law.

becomes necessary for strengthening potentials of law as a vehicle for socio-economic justice. It is, thus, stressed that an investigation into, through empirical data, the operational facets of law intending to change or mould human attitudes and to bring some socio-economic transformation in the society is more important than analyzing law as it exists in the book. Such an inquiry ostensibly involves research into link between law and other behavioral sciences. Here, emphasis is not on legal concepts or doctrines but on people, social values and social institutions. It gives importance to economic and social data rather than legal facts. It concerns with the impact of the legal process upon people, their values and institutions. Such a research prominently involves an inquiry into dynamics of law, its social contents, role and impact of law in the social system.

Aims and Basic Tools of Non-Doctrinal Legal Research

Aims

In a non-doctrinal legal research, the researcher tries to investigate through empirical data how law and legal institutions affect or mould human attitudes and what impact on society they create. He endeavors to look into 'social face or dimension' of law and 'gap', if any, between 'legal idealism' and 'social reality'. Non-doctrinal legal research, thus, involves study of 'social impact' of law (existing or proposed) or of 'social-auditing of law'. The researcher tries primarily to seek, among other things, answers to: (i) Are laws and legal institutions serving the needs of society? (ii) Are they suited to the society in which they are operating? (iii) What forces in society have influenced shaping or re-shaping a particular set of laws or legal norms? (iv) Are laws properly administered and enforced or do they exist only in statute books? (v) What are the factors, if any, responsible for poor or non-implementation of the laws? (vi) What are the factors that influenced the adjudicators (courts or administrative agencies) in interpreting and administrating the laws? (vii) For whose benefit a law is enacted, and are they using it? Have the intended 'legislative targets' benefited from the law? If not, for what reasons? Where do 'bottlenecks' lie? (viii) What has been impact of the law or legal institutions in changing attitude of the people or molding chilot.wordpress.com

their behavior? and what are the social obstacles in realization of the expected behavior or change? The inquiry, in ultimate analysis, relates to: (i) the legislative processes (inquiring into the initiation and formalization of law, and the forces, factors or pressure groups that played significant role in its making and with what objectives), (ii) its social assimilation (involving an inquiry into its operational facets and the factors that are responsible for making it dysfunctional), and (iii) its impact on the intended beneficiaries (involving a post-natal study of the law). Most of non-doctrinal legal research, thus, seeks: (i) to assess the impact of non-legal factors or events upon legal processes or decisions, or (ii) to find the 'gap' between legal idealism and social reality, or (iii) to identify and appraise the magnitude of the variable factors influencing the outcome of legal processes and decisions-making, or (iv) to trace the consequences of the outcome of legal decision making in terms of value gains and deprivations for litigants, non-litigants, non-legal institutions.A legal researcher undertaking non-doctrinal legal research takes either some aspects of law or the people and institutions supposedly regulated by law as the focus of his study. Such a research

undertaking, compared to doctrinal legal research, is much broader and the questions involved therein for further inquiry are more numerous, the answers of which are not ordinarily available in conventional legal sources-statutory materials, case reports and legal periodicals. The researcher is usually required to undertake fieldwork to collect data for seeking answers to these questions.However, legal doctrines do not altogether become irrelevant in a non-doctrinal legal research. They may be included in a non-doctrinal legal study, but if so, they are treated simply as one of the many variables that may influence decisions, or affect the practices and attitudes of people, or affect the operation of institutions. In a non-doctrinal legal research intending to assess the impact of non-legal factors or events upon legal processes or decisions, legal doctrines may appear either as a response to non-legal events or as a factor conditioning the impact of non-legal events. If research 83 Schwartz, Field Experimentation in Sociological Research, 13 Jr of Legal Edu 401 (1961).chilot.wordpress.com

is aimed at identifying and appraising factors influencing outcomes, legal doctrine becomes relevant, if at all, simple as one of such factors. The distinguishing characteristics of a non-doctrinal legal research, thus, are: (i) it lays down a different and lesser emphasis upon legal doctrines and concepts, (ii) it seeks answers to a variety of broader questions, (iii) it is not anchored exclusively to appellate case reports and other traditional legal sources for its data, and (iv) it invariably involves the use of research perspectives, research designs, conceptual frameworks, skills, and training not peculiar to law trained personnel.

To put it differently, non-doctrinal legal research aims at highlighting the ‘gaps’ that exist between the ‘law-in-the statute book’ (that is, the image of law projected in the books) and ‘law-in-action’ (that is, the perception it exhibits in reality), and impact of law on the social behavior. The former discloses the gap between legal idealism and social reality and thereby it highlights the disjunction that exists between the law-in-the books and the law-in-action. While the latter, highlights the factors that are thwarting the operation of law and thereby diminishing the attainment of its goal. It helps us to find out the deficiencies in an enactment and the problem of its implementation. And its impact on the society.

Basic tools

There are several ways of collecting empirical data for social-legal research. The required information can be collected from the identified respondents in a face-to-face interaction by administrating them a set pre-determined questions or through sketchy questions prepared by

the respondent. These methods of data collection are known as ‘interview’ and ‘schedule’ respectively. The pre-determined questions can also be administered to the respondents indirectly through post, fax, emails or any other appropriate methods of communication. This method of data collection is known as ‘questionnaire’. A socio-legal researcher can also collect the required information by systematic ‘observation’ of a phenomenon, behavior of his respondents or institutions Ernest M Jones, Some Current Trends in Legal Research, supra n 17. chilot.wordpress.com

that constitute focus of his study or by studying other existing records that re flect the phenomenon under his inquiry.The basic tools of data collection for a socio-legal research, thus, are: (i) interview, (ii) questionnaire, (iii) schedule, (iv) interview guide, (v) observation, participant or non-participant, and (vi) published or unpublished materials (such as Census Reports, Reports of Governmental and/or Non-Governmental Agencies, and appropriate literature on sociology of law). The first four methods of data collection are ‘primary sources’ of empirical data as they are used in getting the required information ‘directly’ from the respondents. While the last one is ‘secondary source’ of information as the researcher collects the necessary information ‘indirectly’ from published and/or unpublished documents. Further, ‘interview’ and ‘schedule’ involve direct ‘oral communication’ between the information-giver (respondent) and the information-seeker (investigator), while ‘questionnaire’ involves ‘written communication’ between the researcher and his respondents. In ‘observation’, unlike in interview, schedule and questionnaire, the researcher uses his ‘eyes’, rather than ears, for collecting data. Hence, it is a ‘visual method’ of data collection.These tools of data collection are discussed extensively elsewhere in the current volume. Nevertheless, it will not be out of context and thematically inappropriate to mention them here, in brief, to put them in the right perspective.

Interview, a verbal technique of data collection, may be structured or unstructured. The former involves the use of a set of pre-determined questions and highly standardized technique of recording responses thereto. The latter, as opposed to the former, is characterized with flexibility of approach to questioning the respondents and lesser-standardized way of recording the responses. Interview is the most commonly used method of data collection in the study of human behavior. It is regarded as ‘a systematic method by which a person enters more or less imaginatively into the life of a comparative stranger’. It is used to either secure the information from the person who alone knows the subject or a particular matter. Interview is the For further details on these methods of data collection, see

‘Unit 8: Basic Tools of Data Collection’, infra. Pauline V Young, Scientific Social Surveys and Research (Prentice-Hall of India, New Delhi, 4th edn, 1968), see chapter on ‘interview’.chilot.wordpress.com

most effective method of gaining information about a person’s perceptions, beliefs, feelings, attitudes, opinions, motivations, anticipations or plans. It also enables the interviewer to further authenticate the information flowing from the respondent by observing his facial reactions and other gestures during his narration. However, interview, as a method of data collection, is an art. Not everybody can resort to it, unless he is trained in formulating questions, their administration and recording responses thereto. Further, it, as outlined here below, has its own limitations: One of the limitations of the interview is the involvement of the individual in the data he is reporting and the consequent likelihood of bias. Even if we assume the individual to be in possession of certain facts, he may withhold or distort them because to communicate them is threatening or in some manner destructive to his ego. Thus, extremely deviant opinions and behavior, as well as highly personal data, have long been suspect when obtained by personal interviews---. Another limitation on the scope of the interview is the inability of the respondent to provide certain types of information ---. Memory bias is another factor which renders the respondent unable to provide accurate

information.

Questionnaire is that method of data collection in which a number of typed or printed pre-determined questions are used for collecting data. It is usually mailed to the respondents with a request to respond the questions in the space provided therefor and to send it back to the investigator. Like interview, questionnaire may be structured or unstructured. The questions may be open-ended, close-ended, mixed or pictorial. This method is quite popular and useful when information is to be sought from numerous respondents who are scattered in a vast area. Compared to interview, it works out to be cheaper and quicker. It also facilitates uniform tabulation Schedule is referred to as a form filled in during a personal interview in which both the interviewer as well as the respondent are present. In this method, the investigator himself presents the questions to the respondent and records his response. Questionnaire and schedule Cannell and Kahn, The Collection of Data by Interviewing, in Leon Festinger and Daniel Katz (eds), Research Methods in the Behavioral Sciences (Amerind Publishing Co., New Delhi, 1953) 330-331.chilot.wordpress.com

have much in common. In both the forms of data collection, the wordings of the questions are the same for all the respondents. However, at the same time there are two prominent differences between the two. First, questionnaire is usually mailed to the respondents for filling in their responses to the questions listed therein, whereas schedule is referred to a form filled in by the interviewer during his personal interview with the respondent. Secondly, questionnaire, due to its impersonal nature, is rigid, whereas schedule, which like in interview allows the investigator to clarify questions, if they are not clear to the respondent, is more flexible. There is yet another related tool of data collection, which is popularly known as interview guide. It contains only the topic or broad headings on which the questions are to be asked to the respondents. The researcher formulates questions on these topics on the spot and records the responses thereto. Interview guide is generally used in case of qualitative or in-depth interviews. Observation, which involves a visual method of data collection, becomes a scientific method of data collection if it, in the context of subject-matter of inquiry, is planned systemically, recorded systematically, and is subjected to checks and controls on validity and reliability. Observation may be participant or non-participant. In the former, the investigator mingles with the respondents to observe and record a phenomenon. While in the latter, he observes and records a phenomenon from distance. Published or unpublished documents/reports may also serve as useful sources of information requisite for a socio-legal research. However, the investigator needs to carefully scrutinize the information and to ensure himself about reliability and adequacy of the data before he uses the information in his inquiry. chilot.wordpress.com

Advantages and Limitations of Non-Doctrinal Legal Research

Advantages

Non-doctrinal legal research, as mentioned earlier, seeks answers to a variety of questions that have bearing on the social-dimension or social-performance of law and its ‘impact’ on the social behavior. In fact, it concerns with ‘social-auditing of law’. Hence, socio-legal research has a number of advantages. A few prominent among them are:

First, social-legal research highlights the ‘gaps’ between ‘legislative goals’ and ‘social reality’ and thereby ‘depicts’ a ‘true picture’ of ‘law-in-action’. It particularly highlights the

'gap' in relation to (a) the practice of law enforcers, regulators and adjudicators and (b) the use or under-use of the law by intended beneficiaries of the law.

The regulatory body, existing or created under the law, vested with the power to monitor and enforce the law, may, due to some prejudices or apathy towards the 'beneficiaries' or sympathy towards their adversaries, be professionally 'inactive' in enforcing the law. It may, for certain reasons, purposefully fail to enforce it effectively. Non-doctrinal legal research, in this context, highlights the 'reasons' behind making the law 'symbolic', less-effective or ineffective. It also reveals the extent to which the beneficiaries have been (or have not been) able to 'use' the law and the 'reasons' or 'factors' that have desisted/are desisting them from using it. Through empiricism, non-doctrinal legal research highlights the underlying currents or factors (like unawareness on part of the beneficiaries, unaffordable cost in seeking the legal redress, or the fear of further victimization if the legal redress is pursued, and the like) that have been desisting them from seeking the benefits that the law intended to bestow on them and to seek legal redress against those who prevent them from doing so. It, thus, exposes the 'bottlenecks' in operation of law. Secondly, non-doctrinal legal research carries significance in the modern welfare state, which envisages socio-economic transformation through law and thereby perceives law as a means of achieving socio-economic justice and parity. Through empiricism, socio-legal research assesses 'role and contribution of law' in bringing chilot.wordpress.com94 the intended social consequences. It also helps us in assessing 'impact of law' on the social values, outlook, and attitude towards the 'change(s)' contemplated by law under inquiry. It highlights the 'factors' that have been creating 'impediments' or posing 'problems' for the law in attaining its 'goal(s)'. Thirdly, in continuity of what has been said in firstly and secondly above, non-doctrinal legal research provides an 'expert advice' and gives significant feedback to the policy-makers, Legislature, and Judges for better formulation, enforcement and interpretation of the law.

Fourthly, socio-legal research renders an invaluable help in 'shaping' social legislations in tune with the 'social engineering' philosophy of the modern state and in 'making' them more effective instruments of the planned socio-economic transformation.

Limitations

Though socio-legal research has great potentials, yet a few limitations thereof need to mention here to put its role in the right perspective. A few significant are outlined below.

First, non-doctrinal legal research is extremely time consuming and costly as it requires a lot of time for collecting the required information from field. Further, it calls for additional training in designing and employing tools of data collection and entails greater commitments of time and energy to produce meaningful results, either for policy-makers or theory-builders.

Secondly, socio-legal research, as explained earlier, needs a strong base of doctrinal legal research. A legal scholar who is weak in doctrinal legal research cannot handle non-doctrinal legal research in a meaningful way. It may turn out to be a futile exercise leading to no significant results. See, S N Jain, Doctrinal and Non-Doctrinal Legal Research, supra n 16.

International Legal Center for Law in Development (Research Advisory Committee on Law and Development), Report on Law and Development 10 (New York, 1974). chilot.wordpress.com95

Thirdly, the basic tools of data collection, namely interview, questionnaire, schedule and observation, are not simple to employ. They require specialized knowledge and skill from the stage of planning to execution. Each one of them is bridled with a number of difficulties.90 A researcher has to have a sound skill-oriented training in social science research techniques. A cumulative effect of this limitation of non-doctrinal legal research and of the one mentioned in secondly is that a well-trained social scientist cannot undertake socio-legal research without having a strong base in doctrinal legal research. Similarly, a scholar of law, though having a strong base in legal principles, concepts or doctrines as well as in doctrinal legal research, cannot venture into non-doctrinal legal research unless he has adequate training in social science research techniques. In either case, non-doctrinal legal research becomes a mere nightmare for both of them. A way out, therefore, seems to be an inter-disciplinary approach in investigating legal problems. However, inter-disciplinary legal research has its own difficulties and limitations. Fourthly, invariably public opinion, as mentioned earlier, influences contents and framework of law. Law, most of the times, also seeks to mould and/or change the public opinion, social value and attitude. In such a situation, sometimes it becomes difficult for a non-doctrinal legal researcher to, on the basis of sociological data, predict with certainty the ‘course’ or ‘direction’ the law needs to take or follow. Such a prediction involves the maturity of judgment, intuition, and experience of the researcher. He may fall back to doctrinal legal research. Nevertheless, sociological research may be of some informal value to the decision-makers. Fifthly, sometimes, because of complicated social, political and economic settings and varied multiple factors a socio-legal researcher may again

be thrown back to his own ideas, prejudices and feelings in furnishing solutions to certain problems. Sixthly, Socio-legal research becomes inadequate and inapt where the problems are to be solved and the law is to be developed from case to case (like in administrative law and law of torts).

Basic Tools of Data Collection'

For details see, 'Unit 4: Models of Legal Research and Current Trends in Legal Research', infra.chilot.wordpress.com96

May be due to some of these limitations of socio-legal research, coupled with some other non-conducive situations for non-doctrinal legal research, scholars of law and legal academia, in the past, have not contributed significantly to non-doctrinal legal research. In fact, they have, due to different professional priorities, not ventured into socio-legal research. Future trend seems to be equally bleak. They are not well-trained in the techniques and nuances of socio-legal research. This lack of training has made them to be away from non-doctrinal legal research and developed a somewhat professionally unfavorable climate for socio-legal research. Further, law schools and legal academia lack the aptitude for, and tradition of, sustaining non-doctrinal legal research. However, in the recent past, most of the law schools in Asia and Africa have introduced a course on research methodology at both under-graduate and post-graduate studies of law to induce and train their inmates for undertaking doctrinal as well as non-doctrinal legal research with vigor. Doctrinal legal research, for a variety of reasons, plausibly including the inability and inaptitude of legal scholars to undertake socio-legal research, has been (and is still) prominent in the field of law. Since its evolution, law has been viewed as a science of norms and a 'closed discipline'. Hence, scholars of law have been endeavoring to look into normative character of 'law' and the 'principles' involved therein through analysis of 'statutory' law. Most of the conventional Law Schools have been (and are) engaged in training their inmates about the techniques of 'finding law' and of 'reading principles' involved therein. Hence, scholars of law have been engaging themselves in writing classic treatises by carefully looking into 'law' and 'legal principles' and organizing them in a systematic manner. They have been producing works that are designed for practitioners'-lawyers and judges- reference. One finds classic treatises

that have carefully organized and analyzed the doctrinal contents of a field of law in abundance. Another equally significant reason for making doctrinal legal research The key professional priorities of law teachers that have kept them away from socio -legal research

are: obsessive pre-occupation in teaching, preparation of teaching materials and casebooks for monetary and professional gains, and tendering advice to their clients. See, Ernest M Jones, Some Current Trends in Legal Research, supra n 17. To mention a few acclaimed treatises, as illustrations, are: H W R Wade, Administrative Law (Oxford, New Delhi, 9th edn, 2004), De Smith, Judicial Review of Administrative Action (Stevens &Sons, London, 3rd edn, 1973), P H Winfield, A Textbook of the Law of Tort (Sweet & Maxwell, London, 1937), [the author himself had five editions between 1937 and 1950, for latest edition, see W

V H Rogers, Winfield, and Jolowicz on Tort (Sweet and Maxwell, London, 2002), and M P Jain and S N Jain, Principles of Administrative Law (N M Tripathi, Bombay, 1973). chilot.wordpress.com

more prominent in the field of law is the historical and traditional influence of analytical positivism on law and lasting influence of overseas (American and British) legal training of academia, lawyers and judges. Analytical positivism has obsessed the thinking of Bar, Bench and academicians to such an extent that no other approach (other than doctrinal one) to the understanding of the nature and purpose of law could really have thrived. This kind of concern tended to identify 'law' and 'a legal order' only with those elements which are statable in the form of legal propositions.

Further, modern legal systems, particularly from common law system, provide ample scope for judicial creativity. As our experience tells, statutory language can never be perfect. Certain ambiguities, gaps and inconsistencies, advertent or inadvertent, are bound to exist in legal phraseology. A word used in a statute, which may appear to be fairly clear at the time of enactment of the statute, may acquire vagueness when the occasion of its application to a case by the court arises. Similarly, the plain statutory language may lose its plainness at the time of actual controversy because of the human limitation to foresee all the difficulties and nuances of the problem. Therefore, Legislature, most of the times, deliberately vests judiciary with certain judicial discretion to meet the ends of 'justice'. Judiciary, as and when called upon, to interpret statutes has through judicial process evolved certain standards, legal 'principles', 'doctrines' and 'concepts' that attracted attention of scholars of law and of law teachers trained 'overseas' to make analysis of these principles, concepts and doctrines.

INTER-RELATION BETWEEN DOCTRINAL AND NON-DOCTRINAL LEGAL RES EARCH

These two broad types of legal research- doctrinal legal research and non-doctrinal legal research- are overlapping rather than mutually exclusive. It is difficult to draw a sharp theoretical or pragmatic line of differentiation between the two.

See, Julius Stone, Social Dimension of Law and Justice (Stanford University, Stanford, 1966), chap 1.chilot.wordpress.com98

The distinction between doctrinal and non-doctrinal legal research, if there be one, is one of emphasis. In doctrinal legal research the main objective is to clarify the law, to take a position, to give reasons when the law is in conflict, and, perhaps, to suggest methods for improving the law. It involves the identification of 'fact', its underlying policy, and 'measures' for improvement. While non-doctrinal legal research gives emphasis on understanding 'social dimension' or 'social facet' of law and its 'impact' on the 'social attitude'. It gives emphasis on 'social auditing of law'. In doctrinal legal research legal materials, such as statutes, regulations, and cases, are used, whereas in non-doctrinal legal research, materials from other fields, like sociology, are sought and used. Doctrinal legal research and non-doctrinal legal research, thus, are not mutually exclusive. They compliment each other. Non-doctrinal legal research cannot supplant doctrinal legal research. It can be a valuable supplement or adjunct to doctrinal legal research. It is now accepted that theoretical research without any empirical content is hollow and that empirical work without supporting theory is shallow.? Activity 3.1: Classify the following published Research products into Doctrinal, Non-Doctrinal, and both types of legal researches, by reading the papers? a. TilahunTeshome, The Legal Regime Governing Arbitration in Ethiopia: A Synopsis, Ethiopian Bar Review, Vol. 1 No. 2 ,February 2007._____

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b. FiliposAynalem, De facto Divorce(dÃó~ /Ç= ó¡„/ õˆ),Mizan Law Review,

Vol.2 No. 1,January 2008.

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? Activity 3.2: Compare and Contrast the advantages and Disadvantages of

conducting Doctrinal and Non-Doctrinal legal Researches, in the Ethiopian legal

system? Which one is more important?

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Research Design:

Once Research problem is selected then researcher has to think about data required to be collected and the manner in which data can be collected and the manner in which it is analyzed and interpreted. In other words, he has to work out the 'plan' and 'design' of his research. The process of research design can be explained by an analogy of an architect designing a building. In 'designing' a building, the architect has to consider each decision that is required to be made in constructing the building. Bearing in mind the purpose for which the building is to be used, he has to consider various matters such as how large it will be, how many rooms it will have, how these rooms will be approached, what materials will be used and so on. He considers all these factors before the actual construction begins. He proceeds in this way because he wants a picture of the whole structure before starting construction of any part. This paper- picture helps to visualize clearly the difficulties and inconveniences that he and his assistants would face when the building is under construction and to devise the strategies to overcome them. On the basis of the sketch, he can effect corrections or modifications and make improvements before the actual construction starts. It is obvious that the building may be defective and cause a lot of inconveniences to its users and thus the very purpose for which it is to be constructed may be defeated if careful thought was not given to the matter at the 'designing' stage.

This analogy is applicable with equal force to any research. A researcher has, therefore, to 'design' his research before he pursues it so that he can anticipate the problems that he may encounter during his research journey and can take appropriate precautions and measures to overcome them. Such a design will not only make his research journey less problematic but will also enhance the reliability of his research findings and thereby of its contribution to the existing knowledge. A researcher, like a building architect, has to take decision about certain

aspects of his proposed research before he starts ‘designing’ his research. The major design decisions, which are required to be taken, are to be in reference to the following aspects:

For some preliminary remarks also see, ‘2.10.4 Research Design’, supra.

See, T S Wilkinson & P L Bhandarkar, Methodology and Techniques of Social Research (Himalaya Publishing House, Mumbai, 16th edn, Reprint 2005) 97, and K D Gangrade, Empirical Methods as Tools of Research, in S K Verma& M Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001) 273 (276-77).chilot.wordpress.com

1. What is the study about?

2. What is the purpose of the study and its scope?

3. What are the types of data required?

4. Where can the data needed data be found and what are their sources

5. What will be the place or area of the study?

6. What periods of time will the study include?

7. What time is approximately required for the study?

8. What amount of material or number of cases will be needed for the study?

9. What bases will be used for the selection of the required material /cases?

10. What techniques of data gathering will be adopted?

11. What type of sampling, if required, will be used?

12. How will the data be analyzed?

13. How best can all these questions be decided upon and what should be make so that decisions the research purpose will be achieved with minimum expenditure of money, time and energy?

The consideration of these questions, which, in ultimate analysis, enters into making the decision regarding the what, where, when, how much, and by what means, constitutes research design. However, the decision relating to these questions must be based on convincing and pragmatic grounds. Keeping in view the fact that research is a systematic,

scientific investigation of a fact, the design decisions must also be based on an accepted methodology. Broadly speaking, research design refers to the visualization of the entire process of conducting research before its commencement. It is a planned sequence of the entire process involved in conducting a research study. It is a conceptual structure within which the research is to be conducted. Research design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions. The 'plan' includes everything the investigator will do from formulating the research problem or the hypothesis to the final analysis of the data and presenting his inferences. The 'structure' is the outline, the scheme, or the paradigm of the operation of the variables. While, the 'strategy' includes the methods to be used to collect and analyze the data. chilot.wordpress.com

However, the 'design' of a research study depends, to a great extent, on the particular purpose that the proposed research is intended to serve. The purpose of research influences the design of study. Research design is closely linked to the investigator's objectives. Research designs, therefore, differ depending on the research purpose just as the plan of a building would depend upon the purpose for which it is intended to be used.

'A research design', against this backdrop, according to Claire Selltiz and others, 'is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure'. Research design, in this sense, tells the researcher what observations to make, how to make them and how to analyze the quantitative representation of the observations. It constitutes the blueprint for the collection, measurement and analysis of data. It, in a way, guides the investigator in the process of collecting, analyzing and interpreting observations. It also tells him as to what types of statistical analysis to use. It is the logical and systematic planning and directing of a piece of research. 'Research design' is invented to enable the researcher to answer research questions as validly, objectively, accurately, and economically as possible. Based on the above explanation, one can say that research design possesses three important characteristics. First, it is a plan that specifies the sources and types of information relevant to the research problem. Secondly, it is a strategy specifying which approach will be used for gathering and analyzing the data. Thirdly, it includes the time and cost budgets since most studies are done under these two constraints. However, it is difficult, though not impossible, to prepare an ideal research design in social science as well as in socio-legal research for two prominent reasons. First, sometimes it may not be possible for a researcher to foresee 'everything' and 'visualize' all the contingencies in the beginning of the research. Secondly, he, in spite

Claire Selltiz, Marie Jahoda, et. al., Research Methods in Social Relations (Holt, Rinehart & Winston, New York, 1962) chilot.wordpress.com

of his perfect or near perfection foreseeablity, may encounter with some unforeseen factors or facts on the way of his research journey that need to be handled.A research design is only tentative in the sense that as the study progresses, new facts, new ideas and new conditions, which may necessitate a change in the original research plan may occur. The researcher has to amend his design to meet these and other similar contingencies. Thus, a research design can be flexible. Research design furnishes guidelines for investigative activity and not necessarily hard-and-fast rules that must remain unbroken. A universal characteristic of any research design is flexibility. Nevertheless, he needs to translate the research design, with apt modifications, into a working procedure.

MAJOR CONTENTS OF RES EARCH DESIGN

The term 'research design', as mentioned earlier, refers to the entire process of planning and carrying out a research study. It involves the following major steps:

1. Identification and selection of the research problem.

2. Choice of a theoretical framework (conceptual model) for the research problem and its relationship with previous researches.

3. Formulation of the research problem or hypothesis, if any, to be tested, and specification of its objectives, its scope.

4. Design of experiment or inquiry.

5. Definition and measurement of variables.

6. Identification of the 'suitable population' for the study and of 'sampling' procedures.

7. Tools and techniques for gathering data.

8. Editing, coding and processing of data.

9. Analysis of data-selection and use of appropriate statistical procedures for summarizing data and for statistical inference.

See, Delbert C Miller, Handbook of Research Design and Social Measurement (David McKay, New York, 3rd edn, 1970) 3-6 and K D Gangrade, Empirical Methods as Tools of Research, supra n 2.chilot.wordpress.com

10. Reporting-description of the research process; presentation, discussion and interpretation of data; generalization of research findings and their limitation; and suggestions for further research. The broad outline of the design of a research study may be re-stated in the following main steps:

1. Formulation of the research problem.

2. Decision about suitable population for the study and setting down the sampling procedure.

3. Devising tools and techniques for gathering data.

4. Determination of the mode of administering the study.

5. Setting the arrangements for the editing, coding and processing of data.

6. Indicating the procedures and statistical indices for the analysis of data.

7. Deciding about the mode of presentation of the research report.

These steps can further be grouped into four major stages: (i) the planning stage, (ii) the design stage, (iii) the operational stage, and (iv) the completion stage. The planning stage includes the identification, selection and formulation of research problem as well as the formulation of hypothesis and its linkage with theory and existing literature. The design stage consists of drawing up the design of the experiment or inquiry, definition and measurement of variables, sampling procedures, tools and techniques of gathering data. The operational stage deals with the drawing of the finances and budgeting, recruitment and training of the staff, if necessary. The completion stage is concerned with analysis and interpretation of data. Each of these steps of conducting research is a complex one and requires a separate discussion which is not attempted in this Unit. It must, however, be emphasized that several alternatives are possible at every step. Therefore, efficiency of a research design involves in selecting from among the several alternatives at every step, those procedures for the collection and analysis of data, which are most economical as well as most relevant for the purpose of research. chilot.wordpress.com

Nevertheless, it is imprtant to list here below some essential conside rations that should be taken into account by a researcher while developing each of the research design steps of, particularly a socio-legal problem.

1. Identification and selection of the research problem.

(i) Presents clear and brief statement of the problem with concepts defined where necessary.

(ii) Shows that the problem is limited to bounds amenable treatment or test.

(iii) Describes the background and significance of the problem with reference to one or more of the following criteria:

(a) Is timely.

(b) Fills research gap.

(c) Permits generalization to broader principles of social interaction or general theory.

(d) Sharpens the definition of an important concept or relationship.

(e) Has many implications for a wide range of practical or theoretical problems.

(f) May create or improve an instrument for observing and analyzing data.

(g) Provides opportunity for gathering data.

(h) Provides possibility for a fruitful exploration of data with known techniques.

Theoretical Framework

(i) Clearly states the relationship of the problem to a theoretical framework.

(ii) Demonstrates the relationship of the problem to the previous research studies.

(iii) Presents alternate hypotheses considered feasible within the framework of the theory.

3. The Hypothesis

See, Delbert C Miller, Handbook of Research Design and Social Measurement, ibid. chilot.wordpress.com

(i) Clearly states the hypothesis selected for test.

(ii) Indicates the significance of test hypothesis to the advancement of research and theory.

(iii) Identifies limitations, if any, of the hypothesis.

(iv) Defines concepts or variables (preferably in operational terms).

(a) Independent and dependent variables should be distinguished from each other.

(b) The scale upon which variables are to be measured (quantitative, semi-quantitative, or qualitative) should be specified.

4. Design of the experiment or inquiry and measurement of variables.

(i) Describes ideal design or designs with especial attention to the control of interfering variables.

(ii) Describes selected operational design.

(iii) Specifies statistical tests.

5. Sampling Procedure

(i) Specifies the population to which the hypothesis is relevant.

(ii) Explains determination of size and type of sample.

(iii) Specifies method(s) of drawing or selecting sample.

(iv) Estimates relative costs of the various sizes and types of samples.

6. Methods of Gathering Data

(i) Describe measures of quantitative variables showing reliability and validity when these are known. Describe means of identifying qualitative variables.

(ii) Include the following in description of questionnaires or schedules, if these are used,:

(a) Approximate number of questions to be asked to each respondent.

(b) Approximate time needed for interview.

(c) Preliminary testing of interview and results. chilot.wordpress.com

(iii) Include the following in description of interview procedure, if this is used,:

(a) Means of obtaining information, i.e. by direct interview, all or part by mail, telephone, e-chatting, or other means.

(b) Particular characteristics of interviewers must have or special training that must be given them.

7. Working Guide

(i) Prepare working guide with time and budget estimates.

(a) Planning.

(b) Drawing sample.

(c) Preparing observational materials.

(d) Collecting data.

(e) Processing data.

(f) Preparing final report.

8. Analysis of Results

(i) Specify method of analysis.

(a) Use of tables, sorter, computer, etc.

(b) Use of graphic techniques

9. Interpretation of Results

(i) Discusses how conclusions will be fed back into theory.

10. Publication or Reporting Plans

(i) Write these according to Department and Graduate School requirements.

(ii) Select for journal publication the most significant aspects of the problem in succinct form. Follow style and format specified by the journal to which the article will be submitted.

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Types of research design

It is important to recall that the purposes of research influence contents of the design of study. Research design is closely linked to an investigator's objectives. Invariably, every research begins with a question or a problem of some sort. Researches are undertaken for various

purposes. These purposes, as discussed elsewhere, may be classified under the following four major categories:

7. To gain familiarity with a phenomenon or to gain insight into it with a view to formulate the problem precisely. [Studies having this purpose are known generally as Exploratory of Formulative studies.]

8. To describe accurately a given phenomenon and to determine associations between different dimensions of the phenomenon. [Studies characterized by such aims are known generally as Descriptive studies.]

9. To determine the frequency with which something occurs or with which it is associated or see causal relationships between its different dimensions. [Studies having this purpose are known as Diagnostic studies.]

10. To test a hypothesis suggesting a causal relationship between different variables. [Studies characterized by this purpose are called Experimental studies.]

Research designs, based on these purposes, take different structural forms as well as nomenclature. The research designs that are appropriate for the first, second, third and the fourth purposes indicated above are terminal: (i) exploratory or formulative, (ii) descriptive, (iii) diagnostic, and (iv) experimental or explanatory, respectively. Some of the distinctive features of these research designs are discussed in brief in the following paragraphs.

Claire Selltiz and Marie Jahoda, et. al., Research Methods in Social Relations, supra n 3. However, there seems to be disagreement amongst social scientists about ways of classifying research designs used in social science research. See, I H McGrath, Research Methods and Designs for Education (International Text Book Co, Scranton, 1970), and Malida White Riley, Sociological Research 1-Case Approach (HarCourt, Brace and World, Inc, New York, 1963).chilot.wordpress.com

(i) Exploratory or formulative research design

Generally, every research study is built upon the existing stock of our knowledge. The formulation of the problem, spelling out the objectives of the study and formulation of the

hypothesis, if required, depend upon the existence of adequate knowledge. But occasionally a researcher may be confronted with a problem in a hitherto uncharted area without sufficient knowledge even to formulate his problem adequately. The researcher has little or no knowledge about the problem. He just wants to 'explore' it. His primary aim is to acquaint with the characteristics of research target. He intends to discover ideas and to have insight into the problem or situation under investigation. Research design in exploratory studies has to be flexible to provide opportunity for the consideration of different aspects of the problem or situation under study. Inbuilt flexibility in research design is needed because the research problem, broadly defined initially, is transformed into one with more precise meaning. Generally, the important methods to conduct exploratory studies include (a) a review of the related literature, (b) a survey of people who have had practical experience of the broad problem with the problem to be studied, and (c) an analysis of 'insight-stimulating' cases or examples. A careful review of literature helps the investigator to formulate his research problem precisely or to develop a workable hypothesis with precise meaning. A review of hypotheses stated in earlier works may also help him in identifying the thitherto-analyzed concepts and theories and deciding utility of the thitherto formulated/tested hypotheses. It also enables the researcher to decide the possibility of any new hypotheses from those concepts and hypotheses. A survey of experienced people and unstructured interactions with them will help the investigator to obtain insight into the problem under investigation and to get clues to the possible hypotheses. It gives him information about the effectiveness or otherwise of the thitherto used methods and procedures used for achieving specific goals. It can also provide information about the practical possibilities for doing different kinds of research. While the third method, Claire Selltiz and Marie Jahoda, et. al., Research Methods in Social Relations supra n 3, 53.chilot.wordpress.com

i.e. analysis of 'insight-stimulating' cases, involves intensive study of selected instances of the phenomenon under investigation. It helps the researcher to gain information about the cases that exhibit sharp contrasts or have striking features. This diverse information helps him to have insight into the problem under study. Most exploratory studies use one or more of these three methods. Whatever method is chosen, it must be used with flexibility so that many different facets of a problem may be considered as and when they arise and come to the notice of the researcher. But it is important to remember that exploratory studies merely lead to insights or hypotheses; they do not test them. An exploratory study must always be

regarded as simply a first step; more carefully controlled studies are needed to test whether the hypotheses that emerge (from the exploratory study) have general applicability.

(ii) Descriptive and diagnostic research designs

A descriptive research study, as its name suggests, is concerned with describing the characteristics of a particular individual or a phenomenon. It is aimed at detailed description or measuring of the different aspects of a phenomenon, group or community. It is mainly a fact-finding study with adequate interpretation. Such a study, unlike exploratory study, presupposes prior knowledge of the problems to be investigated. In descriptive studies, the researcher must be able to define clearly what he wants to measure and find adequate methods for measuring. In addition, he must be able to specify the subject is to be included in his 'population' of study and how he is going to collect evidence. In other words, in a such a study, what is needed is a clear formulation of 'what' and 'who' is to be measured, and the techniques for valid and reliable measurements.

A diagnostic research is more directly concerned with causal relationships and with implications for action than a descriptive study. It is more concerned with the frequency with which something occurs or its association with something else.chilot.wordpress.com142

In fact, there is a very thin line of distinction between descriptive and diagnostic studies. A descriptive study is oriented towards finding out what is occurring while a diagnostic study is directed towards discovering not only what is occurring but also why it is occurring and what can be done. The former is about 'what is it?' while the latter is concerned with 'why is it?' A diagnostic study is more actively and explicitly guided by hypothesis than a descriptive study. They have a common element of emphasis on the specific characteristics of a given situation. From the point of view of research design, the descriptive as well as diagnostic research studies, in spite of a thin of distinction between them, share common requirements. The research design of a descriptive and diagnostic study, unlike that of an exploratory study, has to be rigid. It must address and focus on:

(1) Formulation of the objectives of the study- The first step in a descriptive as well as diagnostic study is to define, precisely the research problem and the research objectives. This enables him to perceive the required and relevant data.

(2) Designing the methods of data collection- After the research problem is formulated, it becomes necessary for the investigator to identify the methods by which the required data are

to be obtained. The techniques of data collection must be carefully identified and indicated in the research design.

(3) Selecting the sample- The researcher must specify the methods of drawing sample from the identified 'population'.

(4) Collecting the data- In the design of his study he must specify the sources of the relevant and required information and the period to which such data are related.

(5) Processing and analysis of data- As the collected data need to be processed and analyzed, the researcher must indicate coding and decoding of the collected data and methods of processing and analyzing them.

(6) Reporting the findings- Finally, the investigator has to draw a broad outline of his research report for effective communication of his findings to his audience. The layout of the report needs to be well planned so that all things relating to the research study may well be presented in simple and effective style. See, C R Kothari, Research Methodology: Methods and Techniques (New Age International Publishers, New Delhi, 2nd edn, 2004, Reprint 2007) 37-38.chilot.wordpress.com143

(iii) Experimental or explanatory research design

Experimental studies deal with cause and effect problems. They are concerned with testing the causal hypotheses. However, testing of a causal hypothesis is a very complex matter. At least three kinds of evidence are needed to confirm that the given independent variable (the cause) produces the given dependent variable (the effect). First, several independent variables have their effect on a given dependent variable. Therefore, in order to test the effect of a given independent variable, it is necessary to hold constant the effect of other independent variables and to isolate the effect of the given variable. Second, it is necessary to show that change in the given dependent variable did not take place before the change in the given independent variable, since the cause ought to precede or be simultaneous with the effect but it should not succeed the effect. Third, it is necessary to show that the change in the given independent variable has actually produced change in the given dependent variable; the greater the change in the independent variable the greater the change in the dependent variable.

These three kinds of evidence may be summarized as follows:

1. Ruling out the effect of other causal variables.

2. Causal time sequence between the changes in the independent and dependent variables.

3. Concomitant variation between the independent and the dependent variables.

A descriptive study which is designed to make observations about the reality as it exists can best provide evidence about concomitant variation. To procure the other two kinds of evidence, one has to make observation under controlled conditions. The procedures of making observation under controlled conditions constitute the experiment. The chief requirement of an experiment is to induce change in the given independent variable while holding constant the effect of the other independent variables.chilot.wordpress.com144

There are different ways of conducting experiments. In the physical and natural sciences laboratories are used extensively for experimentation. But laboratory experiments for studying human behavior are ruled out in most cases for obvious reasons. However, the use of laboratories is not necessary condition for experimentation. What is important is the logic of making observation under controlled conditions. Utilizing this logic, the social scientists have devised, among other methods, an experimental mechanism of using two groups of subjects, one termed the experimental group and the other, control group. The subjects in the experimental and the control groups are so chosen that the two groups are similar, if not identical, with regard to the given independent and dependent variables as well as with regard to the various other variables which also exert their causal effect on upon the given dependent variable. Observations and measurements are made at two points of time. First, before the change is induced in the independent variable, the given independent and dependent variables are measured in both the groups. Then change is induced in the given independent variable only in the experimental group. After allowing sufficient time for the impact of the change to be felt on the given dependent variable, the given independent and dependent variables are measured in both the groups for the second time. According to the causal hypotheses, it is expected that at the second point of time there would be greater change in both the given independent and dependent variables in the experimental group as compared with their counterparts in the control group. Existence of such a difference would confirm the hypothesis. It can be readily seen that the above experimental design is capable of generating simultaneously all the three kinds of evidence which are required for testing a causal hypothesis. The evidence ruling out the effect of other independent variables is secured by equating these variables in both the experimental and control groups, so that whatever effect

they produce on the given dependent variable would be of the same order in both the groups. The evidence that the change in the dependent variable did not take place before the change in the given independent variable is ensured by measuring the variables twice-once before inducing the change in the independent variable and a second time after the inducement. The evidence about concomitant variation is obtained by comparing the relationship between the two variables in the chilot.wordpress.com

two different settings of the experimental and the control groups before and after the inducement of change in the given independent variable in the experimental group. The experimental design of study poses special problems of equating the experimental and the control groups with regard to the variables to be controlled and of inducing change in the given independent variable, of which the investigator must be aware. As for securing control of the variables in the two groups there are different techniques such as randomization, equated frequency distribution and precision control or control by identical individual pair matching. The investigator should be able to judge as to which one or more of these techniques are appropriate for his study. The experimental design differs from the descriptive study design, among other respects, in two important ways, inasmuch as the groups studied need not be representative of their population and the variables under investigation are manipulated. Therefore, the term sample survey is not applied to the experimental study.

It has been pointed out that there are different ways of designing an experimental study subject to the adherence of the same logic of experiment. Even as regards the particular experimental mechanism described above, various adaptations and modifications are possible. for instance, although ordinarily observations are made twice in an experimental study-once before the change is introduced in the experimental variable, and a second time after the inducement of change sometimes the study is conducted after the change in the experimental variable has already taken place; but in the latter case the information about the earlier point of time is obtained from the existing records. The experimental study which is designed before the change in the experimental variable is termed the projected experimental design or ‘before and after’ study, while the latter type is named ex-post facto experimental

design or ‘after only’ study. Pre-planning of an experiment is of fundamental importance in conducting an experiment. As the experimenter is not required to be a passive spectator but an active Victor S D’Souza, Design of Study in Empirical Research, in S K Verma& M

Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001) 309 (313-316). chilot.wordpress.com

manipulator of the situation, he must plan out things in advance and their minutest details in order to get the best results. Planning of an experiment consists of the following steps: (i) selection of problem; (ii) selection of setting; (iii) conduction of a pilot study; (iv) formulation of a research design; (v) collection of data, and (vi) interpretation of results

ROLE OF RES EARCH DESIGN

Regardless of the type of research design selected by the researcher or the objectives hoped to achieved, a common function of research design is providing answers to various kinds of questions and to 'guiding' him in his research journey. A methodologically prepared research design may invariably lead to the following advantages:

1. It may result in the desired type of study with useful conclusions.

2. It may lead to reduced inaccuracy.

3. It may give optimum efficiency and reliability.

4. It may minimize the uncertainty, confusion and practical hazards associated with any research problem.

5. It may be helpful for the collection of research material, required data, and testing of hypothesis.

6. It may operate as a 'guide post' for giving research a 'right direction'.

7. It may minimize the wastage of time and beating around the bush.

To be more precise, a research design, regardless of its type, performs one or more of the following functions:

1. Research design provides the researcher with a blue print of the proposed research - A researcher, like a building-constructor having a blueprint of the proposed building, can easily foresee and overcome the possible obstacles if he has some kind of research plan to execute. Preparation of research design makes him pay attention to pertinent queries and take decision before beginning his research. For example, if he chooses to K D Gangrade, Empirical Methods as Tools of Research, supra n 2, at 285.chilot.wordpress.com

study people directly, some possible considerations might be: (i) a description of the target population about which he seeks information, (ii) the 'sampling methods' to be used to obtain 'elements' of sample and to decide the size of sample, (iii) the data collection procedures and techniques to be used to acquire the needed information, and (iv) the possible ways to analyze the collected data. These problems are given strong considerations in socio-legal research proposal.

2. Research design dictates boundaries of the research activity - Research design outlines boundaries of the proposed research endeavor and enables the researcher to channel his energies in a specific direction. Without delineation of research boundaries and/or objectives, a researcher's activities may virtually be endless. The study-plan and structure enables the investigator to reach closer to the proposed research.

3. Research design enables the researcher to anticipate potential problems in the implementation of the study - As mentioned earlier, one of the processes of research is review of literature. Literature review, inter alia, enables the researcher: (i) to know about new or alternate approaches to the research problem, (ii) to acquire information concerning what can reasonably be expected to occur in his own investigation, and (iii) to have a critical review of the earlier work on the theme of his research so that he can seek some guidelines for improvement.

4. Research design enables the researcher to estimate the cost of his research, possible measurement of problems and optimal research assistance - It enables the researcher to estimate the approximate time and financial budget required to accomplish his proposed research. chilot.wordpress.com

Induction vs. Deduction

In writing, argument is used in an attempt to convince the reader of the truth or falsity of some proposal or thesis. Two of the methods used are induction and deduction. Induction: A process of reasoning (arguing) which infers a general conclusion based on individual cases, examples, specific bits of evidence, and other specific types of premises. Example: In Chicago last month, a nine-year-old boy died of an asthma attack while waiting for emergency aid. After their ambulance was pelted by rocks in an earlier incident, city paramedics wouldn't risk entering the Dearborn Homes Project (where the boy lived) without a police escort. Thus, based on this example, one could inductively reason that the

nine- year-old boy died as a result of having to wait for emergency treatment. Guidelines for logical and valid induction:

1. When a body of evidence is being evaluated, the conclusion about that evidence that is the simplest but still covers all the facts is the best conclusion.

2. The evidence needs to be well-known and understood.

3. The evidence needs to be sufficient. When generalizing from a sample to an entire population, make sure the sample is large enough to show a real pattern.

4. The evidence needs to be representative. It should be typical of the entire population being generalized.

Deduction: A process of reasoning that starts with a general truth, applies that truth to a specific case (resulting in a second piece of evidence), and from those two pieces of evidence (premises), draws a specific conclusion about the specific case.

Example: Free access to public education is a key factor in the success of industrialized nations like the United States. (major premise) India is working to become a successful, industrialized nation. (specific case) Therefore, India should provide free access to public education for its citizens. (conclusion) Thus, deduction is an argument in which the conclusion is said to follow necessarily from the premise.

Guidelines for logical and valid deduction:

1. All premises must be true.

2. All expressions used in the premises must be clearly and consistently defined.

3. The first idea of the major premise must reappear in some form as the second idea in the specific case.

4. No valid deductive argument can have two negative premises.

5. No new idea can be introduced in the conclusion.

DATA COLLECTION,ANALYSIS AND INFERENCE

INTRODUCTION

In the research work, data collection, tabulation, analysis and interpretation is very important. This chapter presents testing of hypothesis and interpretation of the results. It describes the statistical procedure adopted to test the hypothesis and also the qualitative analysis of the responses of the students.According to Gay, 'Analysis of the data is as important as any other component of the research process. Regardless of how well the study is conducted, inappropriate analysis can lead to inappropriate conclusion'. (Gay, 1996, p416)

STEPS OF DATA COLLECTION IN PRESENT RESEARCH

The principals of the selected schools were requested to allow the researcher for data collection in the school. Primary data were collected from both schools, and then one school was selected as control group andanother as experimental group. The program and the time schedule were communicated to the principal of the school after permission was granted. The students of standard 5 were selected from control as well as experimental group. The groups were equated on the basis of their previous examination scores. In the experimental group there were regular students.The program was implemented from 1st December 2013 to 25

th March 2014 then revisionwas taken and on 2nd April 2014 post mathematics achievement test was conducted.

SELECTIONOF STATISTICAL TECHNIQUE

Statistical analysis is essential after data collection. Statistical analysis is the mathematical process of gathering, organizing, analyzing and interpreting numerical data and is one of the basic phases of the research process. (Best andKahn, 2006, pg-396)

There are two types of statistical analysis.

1. Descriptive statistical analysis

2. Inferential statistical analysis

Descriptive statistical analysis is described as descriptive and involves the description of a particular group (Best and Kahn, 2010, pg-396)Inferential statistical analysis is different. In statistical analysis it leads to judgments about the whole population to which the sample at the hand is presumed to be related. (Best and Kahn,2010, pg-396)

In any research, usually the experiment is conducted on smallselected sample. But researcher is interested to predict about the effect on population at large. Therefore inferential statistic is used. Thus the purpose of inferential statistic is to make conclusions regarding outcomes, based on a sample. In present study researcher intended to find the effectiveness of brain based program for mathematics achievement of 5^{th} Standared students. For this purpose quantitative data obtained were analyzed using‘t’ test as inferential statistic. The observation of the students’ responses has importance in this study. Their responses showed the thinking process behind their activities and mathematics learning. Qualitative data were also collected and analyzed.

PRESENTATION OF DATA

Mathematics achievement was measured after the experiment, by a test developed by researcher. The scores of the 5^{th} standard students on the posttest were computed. The raw scores are given with the role numbers of the students in the appendix E.Below are given the means and standard deviations of scores on posttest of both the groups.

Table 4.1 Comparison of mean scores of control group and experimental group.

Details Post test

Control group (N=44) Experimental group (N=44)

Mean 32 42

Standard Deviation 3.88 2.44

The table shows that means of control group and experimental group are not equivalent. It can be observed that mean score of experimental group of posttest is more as compared to mean score of control group. In order to observe at a glance the difference between the obtainedseries1 control gr, series 2 expe gr 1

Figure 4.2 - Post test scores of control group and experimental group.

The figure shows the control group and experimental group marks in the post test. The control group does not receive any additional inputs like brain based program .They were taught by regular teaching, by traditional method.

TESTING OF HYPOTHESIS

In the present study the researcher intended to find out the effectiveness of the brain based program developed for mathematics achievement. For this reason the post test control group design was selected. In order to determine the statistical significance of difference betweentwo means, ‘t’ test was used to analyze the data of the study. The research hypothesis of this study is given below.

Research hypothesis-

Series1, 1, 27

Series1, 2, 30

Series1, 3, 36

Series1, 4, 30

Series1, 5, 35

Series1, 6, 33

Series1, 7, 31

Series1, 8, 35

Series1, 9, 32

Series1, 10, 28

Series1, 11, 29

Series1, 12, 36

Series1, 13, 30

Series1, 14, 36

Series1, 15, 38

Series1, 16, 32

Series1, 17, 31

Series1, 18, 28

Series1, 19, 35

Series1, 20, 36

Series1, 21, 32

Series1, 22, 25

Series1, 23, 29

Series1, 24, 30

SerSieersi1e,s215, 2, 63,131

Series1, 27, 25

SerSieersi1e,s218, 2, 92,929

Series1, 30, 25

Series1, 31, 30

Series1, 32, 40

Series1, 33, 35

Series1, 34, 33

Series1, 35, 40

Series1, 36, 32

Series1, 37, 28

Series1, 38, 31

Series1, 39, 28

Series1, 40, 30

Series1, 41, 35

Series1, 423, 34

Series1, 44, 40

Series2, 1, 41

Series2, 2, 42

SeSrieersi2e,s23, 44,343

Series2, 5, 39

Series2, 6, 38

Series2, 7, 40

Series2, 8, 42

Series2, 9, 41

Series2, 10, 46

Series2, 11, 40

Series2, 12, 44

Series2, 13, 39

Series2, 14, 40

Series2, 15, 47

Series2, 16, 43

Series2, 17, 42

Series2, 18, 45

Series2, 19, 42

Series2, 20, 40

Series2, 21, 44

Series2, 22, 45

Series2, 23, 39

Series2, 24, 38

Series2, 25, 42

Series2, 26, 40

Series2, 27, 39

Series2, 28, 40

Series2, 29, 38

Series2, 30, 46

Series2, 31, 42

Series2, 32, 44

Series2, 33, 40

Series2, 34, 44

Series2, 35, 45

Series2, 36, 41

Series2, 37, 38

Series2, 38, 42

SerSieerSsie2er,si32e9,s42, 0,44,414,444

Series2, 42, 43

Series2, 43, 45

Series2, 44, 44

$y = 0.0378x + 41.15$

$R^2 = 0.0389$There will be a significant increase in mathematics achievement of 5 th

standard students due to the implementation of brain based program. For statistical testing the research hypothesis was converted into null hypothesis.

Null hypothesis-

There will be no significant increase in the mathematics achievement of 5th standard students at 0.01 level due to the implementation of brain based program. To determine the significance of difference between means obtained on post test scores it was necessary to calculate means and standard deviations. Computation of correlation between scores obtained on posttest of both control and experimental groups was done by Pearson product moment method. The formula to calculate standard error of difference between two means is given below.

SEDM = √ (SE1 M1) 2 +(SE2 M 2) 2 – 2 × SE1 M1× SE2 M 2 (Best and Kahn, 2009, pg 419)

Then Mean scores of experimental group on posttest were analyzed with t test. The result is given in table 4.2 below.

Table 4.2 Summary of 't' testing to find out difference between mean scores of

experimental and control group. Test Post test Mean N SD R Degrees of freedom t value Significance level Control group 32 44 3.88 0.23 43 16.22 Significant Experimental at 0.01 level Group 42 44 2.44 43

Table 4.2 shows that the obtained t value is 16.22 for 43 degrees of freedom. The t value in the D table for df 43 is 2.69 at 0.01 level of significance for two tailed test. The obtained value was far greater than table value 2.69, which was significant. Therefore null hypothesis was rejected and research hypothesis was accepted. The posttest mean score of experimental group on mathematics achievement were significantly higher as compared to those of control group. The significant difference between experimental and control group scores obtained in posttest can be attributed to the implementation of brain based learning program on mathematics achievement to experimental group. It can be said that the program prepared and implemented by the researcher was effective to enrich the mathematics achievement of 5thStandard students.

TESTING OF HYPOTHESIS

Research hypothesis-

There will be a significant difference between mathematics achievement of 5th standard boys and girls due to the implementation of brain based program.

Null hypothesis-

There will be no significant difference between mathematics achievement of 5th standard boys and girls at 0.01 level due to the implementationofbrain based program. To determine the significance of difference between means obtained on post test score of boys and girls it was necessary to calculate mean and standard deviation. The formula to calculate standard error of difference between two means is given below.

SEDM = √(SE1 M1) 2 +(SE2 M 2) 2 (Best and Kahn, 2009, pg 410)

Mean scores of boys and girls in the experimental group on posttest were analyzed with t test.

The result is given in table 4.3 below.

Table 4.3 Summary of 't' testing to find out difference between mean scores of posttest of

mathematics achievement of boys and girls in experimental groupTest Post test Mean N SD Degrees of freedom t value Significance level Boys M1=42.32 31 2.46 42 0.5272 Not Significant at 0.01 level Girls M2=41.23 13 1.81

Table 4.3 shows that the obtained t value was 0.5272 for 42 degrees of freedom. The t value in the D table for df 42 is 2.71 at 0.01 level of significance for two tailed test. The obtained value was less than table value 2.71, which is not significant. Therefore null hypothesis was accepted and research hypothesis was rejected. Therefore there was nosignificant difference in the mathematics achievement of boys and girls after implementation of brain based program.

Figure 4.3 - Post test scores of boys and girls in experimental group.Figure 4.4 - Post test scores of boys and girls in experimental group.

IMPORTANCE OF QUALITATIVE ANALYSIS

The analysis of the numerical data proved the effectiveness of the brain based program for mathematics achievement for 5th Standard students. The main purpose here was to study the responses with a view to judge the quality of the responses and get insight into the conclusions drawn from the quantitative analysis.

STRATEGY USED FOR COLLECTION OF QUALITATIVE DATA ANALYSIS

The researcher was interested in studying the changes in mathematics achievement of the students. Hence all the students were minutely observed during all the activities and the observations were noted down during and after the session. The criteria were given below.

1. Attention

2. Eagerness towards activity

3. Cognition

0

5

10

15

20

25

30

35

40

45

50

1 2 3 4 5 6 7 8 9 10111213141516171819202122232425262728293031

Boys scores Girls scores4. Readiness for oral response 5. Enthusiasm shown while giving answers.

Justification of selecting these criteria

1.Attention – Attention is major aspect in learning. If students do not like any activity they refuse to take part and do not pay attention. Hence student's attention is important.

2. Eagerness towards the activity – If a student shows eagerness towards activity it reflects in His answers. Without eagerness taking part in activity is mechanical. Hence this aspect is also important for the 5th Standard students.

3. Cognition – Without cognition students were not able to give answers. Therefore cognition is the most important thing /aspect.

4. Readiness- sometimes students know the answers but they feel shy and it is necessary to converse so it is essential.

5. Enthusiasm- It is the indication of participating in common by heart. That is why this is most important aspect in mathematics learning.

The figure shows the hierarchy for evaluating mathematics achievement/learning.

Figure 4.5 Hierarchy for evaluating mathematics achievement

The responses of the students are shown here,

Enthu

siasm

Readiness

Cognition

Eagerness

Attention1. Attention- Attention is a major aspect in understanding mathematics. If students do not like any activity they refuse to take part and do not pay attention. But after some days, while repeating the activity individually they paid attention. In this way some students did not pay attention in the beginning. But with repeated efforts all students paid attention towards the activity.

2. Eagerness towards the activity- If students show eagerness towards the activity it reflects in their answers without responses taking part in the activity is mechanical. It is observed that maximum students showed eagerness towards the activity. Two students did not show eagerness, but after the efforts taken by researcher they started showing willingness. Because of some psychological problems, they were not interacting with their classmates. Therefore they did not participate in any activity. 3. Cognition- Without cognition student is not able to give answers. It is observed that all the students understood all the activities only two

activities were not understood by them. Students enjoyed the conversation between formulas and other geometrical figures.

4. Readiness- most of the students showed readiness towards the activities. Few students were giving their response after some efforts.

5. Enthusiasm- This is one of the most important aspect in good mathematics achievement. Most of the students were showing great enthusiasm in each and every activity. Researcher praised the students and tried to increase their enthusiasm as well as readiness. The students were eager to do the work in pair or in group.

ANALYSIS OF RESPONSES

The responses of the students were important for the study. -While teaching the topic, 'Angle and Triangle' all students enjoyed the activity of making Angle and Triangle. They made the angles and triangles with the help of sticks. -All the students were attentive in the class at the time of all the activities.Most of the students showed eagerness to do the activities and learned the new concepts in mathematics.

- All students measured given things like straws, scented sticks, match sticks etc and enjoyed it.

-Teacher asked the students to make rectangular and square shape by standing and jumping in the particular shape. Most of the students enjoyed it; few students were shy and only observed it.

-All students made circles with the help of craft paper in pair.

-All students measured the perimeter of different things such as compass box, text book, note book etc.

-Students made charts of calculating area of different geometrical shapes and displayed the charts in the classroom and were very enthusiastic.

OBSERVATION OF THE RESPONSES

Various activities were involved in brain based program. These activities were categorized in

eight units. Researcher observed the responses given by students and noted immediately after conducting the activity.

Table 4.4 Major Observations regarding responses given to activities.

Units Activity Observation of the Researcher Angle and triangle Making of angle and triangle with the help of sticks All the students were enthusiastic to participate in this activity. They participated as in pair and worked together, helped each other. They talked with researcher and told about their work enthusiastically during the program. Decimal fractions: Addition, subtractions, multiplication Students drew the fractions and learned the addition, subtraction and multiplication All students were eager to make fractions with the help of newspaper, card sheet etc and also displayed it Segment: Measurement of All students measured the different items Measurement and constructions straws, scented sticks, refills of different lengths as a segment like straws, scented sticks, refills of different lengths as a segment Properties of rectangle and square Jumping in particular rectangular shape All students were asked to participate in the activity in groups they enjoyed the jumping jack activity and made rectangular shape Circle Making circle with the help of paper folding All students made circle with the help of paper folding in different color and also explained the relation between the radius and diameter Perimeter Measuring perimeter of notebook, text book, compass box etc All students actively participated and measured the perimeter of notebook, text book, compass box etc Area Displaying charts prepared by students, for different formulae of area of different shapes All students were participated and made the charts for different formulae of area of different shapes and irregular shapes Statistical data Displaying and making graphical representation of data and making charts in group All students drew the graph for given statistical data and made charts for graphs.

REACTIONS OF THE STUDENTS TOWARDS BRAIN BASED PROGRAM

The reactions of the students were analyzed with the help of data obtained from the feedback form .An open ended questionnaire was prepared by the researcher in order to find out the responses and reactions of the students. These responses were then analyzed to find the efficacy of the program. A detailed question wise analysis of questionnaire is as follows.

Q1. What were some major differences between regular teaching and brain based mathematics teaching done this time?

The responses given by the students regarding regular teaching were as follows.

- Regular teaching is usually done just by narration, explanation.

- The communication is one way.

- Teaching aids were not used.

- Discussions do not take place.

- Activities are not used while teaching because of which we remain passive.

- Many times we get bored.

- Many times we fill burdened.

- There is no newness in the teaching but the same old lecture method is used throughout the year

- Activities, new techniques are not included.

- All the emphasis is only on completing the portion.

- No active participation of the students is taken while teaching. Apart from these responses some suggestions are given by the students

- Teacher must use new techniques such as slide shows, OHP etc

- The teacher should be more interactive. The responses by the students for brain based program.

- We become more attentive.

- The teaching was more inspiring and encouraging.

- The teaching was creative.

- The teaching was interesting and interactive.

- The learning was active.

- Many teaching aids were used while teaching.

- Innovative ideas of teaching and discussion were used while teaching.The lessons were never boring.

- We were always excited as we will get to learn something new.

- We learnt new techniques which will be used by us in our own learning, studies.

- The content taught is retained for a long time.

- The teaching was always delightful and encouraging.

- Maximum participation of all students in all the lessons was taken.

- Good reinforcement.

- The teaching was effective.

- Understood all the concepts, even the difficult ones.

- Got up to date and latest information apart from the content during the lessons.

- Aided self-learning was done.

- We got opportunity to think independently.

- We experienced principle of learning by doing.

- No cramming.

- Easy understanding of the subject.

- Helped us in getting involved completely so we remained active throughout the lesson.

- We gained confidence.

- Good planning and presentation of the content.

- Every lesson was much better as compared to other subject.

Q.2.What was the strength of this teaching that you experienced and what are the weaknesses?

- Good voice of the teacher.

- Very interesting and meaningful teaching.

- Active participation of students.

- The teaching had created interest in us.

- Encouragement obtained from the enthusiasm of the teacher.

- We developed creativity and deep study of mathematics. - Good presentation.Good communication skill.

- Difficulties got cleared.

- Good use of slide shows.

-Updated information from various sources and websites was given.

- Complete understanding of the content.

- Use of various group activities which involved all students because of which we gained confidence.

- Every topic was arranged systematically and we enjoyed it.

-Use of many teaching aids.

-First time ever we have met such a friendly teacher due to which we developed interest in the subject.

- Every student gotopportunity to participate in the teaching learning process.

- Friendly encouraging environment in the classroom.

Q.3.What difference if any has this teaching made to your learning? Elaborate.

- Made my learning more different from the conventional learning.

- Helped in understanding mathematics in more interesting form.

- We have started liking the mathematics subject

- The way I used to study / learn before was old and traditional but now because of the new techniques that we have learned, now able to study more meaningfully.

- Helped a lot in self-learning and self-study.

- I can now prepare my own definition of various concepts Initially this subject was very difficult and complicated but now I can understand various concepts in depth.

- Initially while learning/ study the entire emphasis was on rote learning but this year I never had to learn by heart. Throughout the complete year mathematics taught &learnt by doing, so

all the concepts were reinforced in the class itself. So no special efforts were needed to study this subject unlike other subjects.

- As the entire teaching was learner centered all the concepts were made clear in the classroom itself, so there were no need to study it differently at home again.

- Because of various techniques learnt, it becomes easy to remember the content.

- I have learnt to first understand the concept in detail and then explain.

- I have learnt to study with joy.

- Discussion helps in better learning.

- The activities that I have learnt will remain with me forever.

Q. 4. List eight best activities that you liked in this program.

- Working in group / group activities.

- Slide shows (power point presentation).

- Demonstration given by researcher during teaching.

- Games.

- Pair-n-share activities.

- Making definitions.

- KWL techniques.

Other techniques, activities which were liked by the students were flow charts, graphic organizers, debates, playing the role of group leader, role playing as a mathematics teacher etc.Q 5. Is brain based program made any difference in your own learning?

All students said yes and only one student said no.

Q 6. What was your experience related to brain based program?

-We were very happy.

-More attentive.

-Understood the subject quickly.

Q 7. Do you remember what was taught to you?

Most of the students said yes.

Q 8. Which techniques did appeal you?

-Pair-n-share.

-slide-shows.

-Group discussions.

-Games.

Findings

a) Regarding the brain based program

The above analysis brings the following points into light,

1) The students found great difference between the regular traditional teaching and the mathematics teaching done this time i.e. (brain based learning) and the reactions and responses given by the students indicate so.

2) As regards to the strengths and weaknesses of the mathematics teaching done this time many strengths were observed and elaborated by the students. The weakness written by majority of the students was that they wanted more time for the classroom teaching – learning.3) The reactions and responses of the students regarding the difference that has occurred in their own learning were very encouraging. The responses are good indicator of the efficacy and efficiency of the program.

b) Regarding the most liked activities - The most liked things during all the program were as follows

1) Teacher allowed drinking water in between the activities or teaching also and teacher

praises us verbally as well as gives us toffees.

2) The activities like making square, rectangle and circle.

3) Meditation at the beginning of the lessons keeps the mind fresh and silent.

4) Preparation of charts.

5) Work in pair or group and displaying the items or charts

QUALITATIVE ANALYSIS OF FEEDBACK FORM

When we need feedback instead of facts, feedback form is used. With this tool participants are asked about their reactions about a program .It provided valuable feedback to the researcher. An open ended questionnaire was prepared by the researcher in order to find out the responses and reactions of the students. Students were given 30 minutes to complete the feedback form. The questions included were of descriptive type. Descriptive questions gave the students a chance to express their views in detail. The responses obtained from the form were then analyzed to find out the efficacy of the brain based program. Advantages of feedback form:

- Researcher was able to obtain views about brain based program.

- Personal and instant feedback.

- Opinions of many participants in less time.

- Feedback about the program was obtained which included its strengths and shortcomings.

QUALITATIVE ANALYSIS OF OBSERVATION SCHEDULE

The observation schedule was used by the researcher in order to observe the students in terms of their participation in various activities in relation to their predominant intelligence. The observations were done by the researcher herself depending on the nature of activities and participation of students. It showed that

1) Students were eager to learn with brain based program.

2) Students were participated in all activities and showed enthusiasm.

3) Students prepared very good charts.

4) Student-student interactions as well as teacher – student interactions were improved.

5) Students prepared photo frame, circular shapes, collected different things to study different geometrical shapes.

6) Participated in every activity happily.

7) Students learned happily in fear free atmosphere.

8) Every student thought differently about different topics.

9) Students never got tired during the complete brain based program.

10) Students like to work in pair and display the charts or things made by them.

To Conclude:

Data analysis follows findings, conclusions and suggestions. The findings, conclusions and suggestions are presented in the next chapter.

Citation rules for scientific papers

 They have to be marked with quotation marks

 The source has to be named directly after the quote (in parentheses) or in a footnote ... with books, journal articles, storable internet sources (e.g. pdf, doc, …): Author, year: Page(s)

e.g. Badelt/Österle 2001: 30 … other internet sources: Institutions (year): www [note.: exact address in bibliography – see below] e.g. Eurocarers 2010: wwwAnalogous quotes

 You also have to write down your source references

 Their source has to be followed by see. after the text passage (in parentheses) or in a footnote ... with books, journal articles, storable internet sources (e.g. pdf, doc, …): See. Author year: page(s) e.g. see. Badelt/Österle 2001: 30 … other internet sources:

see. Institution (year): wwwe.g. see. Eurocarers 2010: wwwReferences in the bibliography

... with books:Author (year): Title. Subtitle. edition, location [note.: in case of more locations, first location adding i.a.]: Publishing House.e.g. Badelt, Christoph/Österle, August (2001): Grundzüge der Sozialpolitik. AllgemeinerTeil: Sozialökonomische Grundlagen. 2. Auflage, Wien: Manz. ... with editorial boards:Author (ed.) (year): Title. Subtitle. Edition, Location: Publishing House.

e.g. Wallace, William/Wallace, Helen/Pollack, Mark A. (Publisher.) (2005): Policy-Making in the European Union. 5thEdition, Oxford: Oxford University Press.... with an article from an editorial board: Author (year): Title. Subtitle, in: Author (Publisher.): Title. Subtitle. Edition, Location: Publishing House, Page.e.g. Alcock, Pete (1998): The Discipline of Social

Policy, in: Alcock, Pete/Erskine, Angus/May, Margaret (ed.): The Student's Companion to Social Policy. London: Blackwell, S. 95–113.... with journal articles:Author (year): Title. Subtitle, in: Journal, Year/Volume, Number/No., Page.e.g. Ruspini, Elisabetta (1998): Women and Poverty Dynamics. The Case of Germany and Britain, in: Journal of European Social Policy, Vol. 8, No. 4, S. 291–316.… with internet sources with Authors and Title or storable internet sources (e.g. pdf, doc, …):Author (year): Title. Subtitle. Location, Address of Site (Date of last access).e.g. Gough, Ian (2003): European Social Policy 'Lessons' for Emerging Market Economies: 12 Theses, www.worldbank.org/eapsocial/asemsocial/f1ml/keypapers.htm (last access: 27. 2. 2003).e.g. Seidl, Elisabeth (2006): ZuGastimPflegeheim. Wien, www.bmsk.gv.at/cms/site/attachments/7/8/3/identCH0041/CMS1182516881825/zugastimpflegeheim.pdf (last access: 11. 11. 2010).2… other internet sources: Institution (year): Title, exact address of the page (date of access).e.g. Eurocarers (2010): EU activities, www.eurocarers.org/euactivities.php (last access: 11. 11. 2010).

General information regarding the bibliography

The bibliography

- contains all sources cited directly or indirectly,
- but no sources that (although read, but) were not processed in the main text,
- contains – for traceability or verifiability of information – as many details about the source as possible and necessary,
- is – like the current source specification in the main text – identical in the chosen citation form,
- cites other internet sources (Headline: Internet sources) specifically Find additional citation suggestions in the following literature:

Troyka, Lynn Quitman/Hesse, Douglas (2006): Simon & Schuster handbook for writers. Toronto, Ontario: Pearson Prentice Hall.Or in a number of scientific journals. Please note that

The aforementioned style corresponds mostly to the „Harvard system of referencing". You can also use a different style of citation. If you are working with a commonly used citation

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cite an internet quote simply with a link. Institute for Markets and Strategy Vienna, December 20th, 2016 Department für Strategy and Innovation WU Vienna University of Economics and Business Welthandelsplatz 1 1020 Vienna

Research Design:

Once Research problem is selected then researcher has to think about data required to be collected and the manner in which data can be collected and the manner in which it is analyzed and interpreted. In other words, he has to work out the 'plan' and 'design' of his research.The process of research design can be explained by an analogy of an architect designing a building. In 'designing' a building, the architect has to consider each decision that is required to be made in constructing the building. Bearing in mind the purpose for which the building is to be used, he has to consider various matters such as how large it will be, how many rooms it will have, how these rooms will be approached, what materials will be used and so on. He considers all these factors before the actual construction begins. He proceeds in this way because he wants a picture of the whole structure before starting construction of any part. This paper-picture helps to visualize clearly the difficulties and inconveniences that he and his assistants would face when the building is under construction and to devise the strategies to overcome them. On the basis of the sketch, he can effect corrections or modifications and make improvements before the actual construction starts. It is obvious that the building may be defective and cause a lot of inconveniences to its users and thus the very purpose for which it is to be constructed may be defeated if careful thought was not given to the matter at the 'designing' stage.

This analogy is applicable with equal force to any research. A researcher has, therefore, to 'design' his research before he pursues it so that he can anticipate the problems that he may encounter during his research journey and can take appropriate precautions and measures to overcome them. Such a design will not only make his research journey less problematic but will also enhance the reliability of his research findings and thereby of its contribution to the existing knowledge. A researcher, like a building architect, has to take decision about certain aspects of his proposed research before he starts 'designing' his research. The major design

decisions, which are required to be taken, are to be in reference to the following aspects: For some preliminary remarks also see, '2.10.4 Research Design', supra. See, T S Wilkinson & P L Bhandarkar, Methodology and Techniques of Social Research (Himalaya Publishing House, Mumbai, 16th edn, Reprint 2005) 97, and K D Gangrade, Empirical Methods as Tools of Research, in S K Verma& M Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001) 273 (276-77).chilot.wordpress.com132

1. What is the study about?

2. What is the purpose of the study and its scope?

3. What are the types of data required?

4. Where can the data needed data be found and what are their sources

5. What will be the place or area of the study?

6. What periods of time will the study include?

7. What time is approximately required for the study?

8. What amount of material or number of cases will be needed for the study?

9. What bases will be used for the selection of the required material /cases?

10. What techniques of data gathering will be adopted?

11. What type of sampling, if required, will be used?

12. How will the data be analyzed?

13. How best can all these questions be decided upon and what should be make so that decisions the research purpose will be achieved with minimum expenditure of money, time and energy? The consideration of these questions, which, in ultimate analysis, enters into making the decision regarding the what, where, when, how much, and by what means, constitutes research design. However, the decision relating to these questions must be based on convincing and pragmatic grounds. Keeping in view the fact that research is a systematic, scientific investigation of a fact, the design decisions must also be based on an accepted methodology. Broadly speaking, research design refers to the visualization of the entire process of conducting research before its commencement. It is a planned sequence of the entire process involved in conducting a research study. It is a conceptual structure within which the research is to be conducted. Research design is the plan, structure and strategy of

investigation conceived so as to obtain answers to research questions. The 'plan' includes everything the investigator will do from formulating the research problem or the hypothesis to the final analysis of the data and presenting his inferences. The 'structure' is the outline, the scheme, or the paradigm of the operation of the variables. While, the 'strategy' includes the methods to be used to collect and analyze the data. chilot.wordpress.com However, the 'design' of a research study depends, to a great extent, on the particular purpose that the proposed research is intended to serve. The purpose of research influences the design of study. Research design is closely linked to the investigator's objectives. Research designs, therefore, differ depending on the research purpose just as the plan of a building would depend upon the purpose for which it is intended to be used. 'A research design', against this backdrop, according to Claire Selltiz and others, 'is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure'. Research design, in this sense, tells the researcher what observations to make, how to make them and how to analyze the quantitative representation of the observations. It constitutes the blueprint for the collection, measurement and analysis of data. It, in a way, guides the investigator in the process of collecting, analyzing and interpreting observations. It also tells him as to what types of statistical analysis to use. It is the logical and systematic planning and directing of a piece of research. 'Research design' is invented to enable the researcher to answer research questions as validly, objectively, accurately, and economically as possible. Based on the above explanation, one can say that research design possesses three important characteristics. First, it is a plan that specifies the sources and types of information relevant to the research problem. Secondly, it is a strategy specifying which approach will be used for gathering and analyzing the data. Thirdly, it includes the time and cost budgets since most studies are done under these two constraints. However, it is difficult, though not impossible, to prepare an ideal research design in social science as well as in socio-legal research for two prominent reasons. First, sometimes it may not be possible for a researcher to foresee 'everything' and 'visualize' all the contingencies in the beginning of the research. Secondly, he, in spite Claire Selltiz, Marie Jahoda, et. al., Research Methods in Social Relations (Holt, Rinehart & Winston, New York, 1962) 50. chilot.wordpress.com

of his perfect or near perfection foreseeablity, may encounter with some unforeseen factors or facts on the way of his research journey that need to be handled. A research design is only tentative in the sense that as the study progresses, new facts, new ideas and new conditions,

which may necessitate a change in the original research plan may occur. The researcher has to amend his design to meet these and other similar contingencies. Thus, a research design can be flexible. Research design furnishes guidelines for investigative activity and not necessarily hard-and-fast rules that must remain unbroken. A universal characteristic of any research design is flexibility. Nevertheless, he needs to translate the research design, with apt modifications, into a working procedure.

MAJOR CONTENTS OF RES EARCH DESIGN

The term 'research design', as mentioned earlier, refers to the entire process of planning and carrying out a research study. It involves the following major steps:

1. Identification and selection of the research problem.

2. Choice of a theoretical framework (conceptual model) for the research problem and its relationship with previous researches.

3. Formulation of the research problem or hypothesis, if any, to be tested, and specification of its objectives, its scope.

4. Design of experiment or inquiry.

5. Definition and measurement of variables.

6. Identification of the 'suitable population' for the study and of 'sampling' procedures.

7. Tools and techniques for gathering data.

8. Editing, coding and processing of data.

9. Analysis of data-selection and use of appropriate statistical procedures for summarizing data and for statistical inference.

See, Delbert C Miller, Handbook of Research Design and Social Measurement (David McKay, New York, 3rd edn, 1970) 3-6 and K D Gangrade, Empirical Methods as Tools of Research, supra n 2.chilot.wordpress.com

10. Reporting-description of the research process; presentation, discussion and interpretation of data; generalization of research findings and their limitation; and suggestions for further

research. The broad outline of the design of a research study may be re-stated in the following main steps:

1. Formulation of the research problem.

2. Decision about suitable population for the study and setting down the sampling procedure.

3. Devising tools and techniques for gathering data.

4. Determination of the mode of administering the study.

5. Setting the arrangements for the editing, coding and processing of data.

6. Indicating the procedures and statistical indices for the analysis of data.

7. Deciding about the mode of presentation of the research report.

These steps can further be grouped into four major stages: (i) the planning stage, (ii) the design stage, (iii) the operational stage, and (iv) the completion stage. The planning stage includes the identification, selection and formulation of research problem as well as the formulation of hypothesis and its linkage with theory and existing literature. The design stage consists of drawing up the design of the experiment or inquiry, definition and measurement of variables, sampling procedures, tools and techniques of gathering data. The operational stage deals with the drawing of the finances and budgeting, recruitment and training of the staff, if necessary. The completion stage is concerned with analysis and interpretation of data.

Each of these steps of conducting research is a complex one and requires a separate discussion which is not attempted in this Unit. It must, however, be emphasized that several alternatives are possible at every step. Therefore, efficiency of a research design involves in selecting from among the several alternatives at every step, those procedures for the collection and analysis of data, which are most economical as well as most relevant for the purpose of research. chilot.wordpress.com Nevertheless, it is important to list here below some essential conside rations that should be taken into account by a researcher while developing each of the research design steps of, particularly a socio-legal problem.

1. Identification and selection of the research problem.

(i) Presents clear and brief statement of the problem with concepts defined where necessary.

(ii) Shows that the problem is limited to bounds amenable treatment or test.

(iii) Describes the background and significance of the problem with reference to one or more of the following criteria:

(a) Is timely.

(b) Fills research gap.

(c) Permits generalization to broader principles of social interaction or general theory.

(d) Sharpens the definition of an important concept or relationship.

(e) Has many implications for a wide range of practical or theoretical problems.

(f) May create or improve an instrument for observing and analyzing data.

(g) Provides opportunity for gathering data.

(h) Provides possibility for a fruitful exploration of data with known techniques.

2. Theoretical Framework

(i) Clearly states the relationship of the problem to a theoretical framework.

(ii) Demonstrates the relationship of the problem to the previous research studies.

(iii) Presents alternate hypotheses considered feasible within the framework of the theory.

3. The Hypothesis

See, Delbert C Miller, Handbook of Research Design and Social Measurement, ibid. chilot.wordpress.com

(i) Clearly states the hypothesis selected for test.

(ii) Indicates the significance of test hypothesis to the advancement of research and theory.

(iii) Identifies limitations, if any, of the hypothesis.

(iv) Defines concepts or variables (preferably in operational terms).

(a) Independent and dependent variables should be distinguished from each other.

(b) The scale upon which variables are to be measured (quantitative, semi-quantitative, or qualitative) should be specified.

4. Design of the experiment or inquiry and measurement of variables.

(i) Describes ideal design or designs with especial attention to the control of interfering variables.

(ii) Describes selected operational design.

(iii) Specifies statistical tests.

5. Sampling Procedure

(i) Specifies the population to which the hypothesis is relevant.

(ii) Explains determination of size and type of sample.

(iii) Specifies method(s) of drawing or selecting sample.

(iv) Estimates relative costs of the various sizes and types of samples.

6. Methods of Gathering Data

(i) Describe measures of quantitative variables showing reliability and

validity when these are known. Describe means of identifying qualitative variables.

(ii) Include the following in description of questionnaires or schedules, if these are used,:

(a) Approximate number of questions to be asked to each respondent.

(b) Approximate time needed for interview.

(c) Preliminary testing of interview and results. chilot.wordpress.com138

(iii) Include the following in description of interview procedure, if this is used,:

(a) Means of obtaining information, i.e. by direct interview, all or part by mail, telephone, e-chatting, or other means.

(b) Particular characteristics of interviewers must have or special training that must be given them.

7. Working Guide

(i) Prepare working guide with time and budget estimates.

(a) Planning.

(b) Drawing sample.

(c) Preparing observational materials.

(d) Collecting data.

(e) Processing data.

(f) Preparing final report.

8. Analysis of Results

(i) Specify method of analysis.

(a) Use of tables, sorter, computer, etc.

(b) Use of graphic techniques

9. Interpretation of Results

(i) Discusses how conclusions will be fed back into theory.

10. Publication or Reporting Plans

(i) Write these according to Department and Graduate School requirements.

(ii) Select for journal publication the most significant aspects of the problem in succinct form. Follow style and format specified by the journal to which the article will be submitted.

chilot.wordpress.com139 6.2.1 Types of research design

It is important to recall that the purposes of research influence contents of the design of study. Research design is closely linked to an investigator's objectives. Invariably, every research begins with a question or a problem of some sort. Researches are undertaken for various purposes. These purposes, as discussed elsewhere, may be classified under the following four major categories:

7. To gain familiarity with a phenomenon or to gain insight into it with a view to formulate the problem precisely. [Studies having this purpose are known generally as Exploratory of Formulative studies.]

8. To describe accurately a given phenomenon and to determine associations between different dimensions of the phenomenon. [Studies characterized by such aims are known generally as Descriptive studies.]

9. To determine the frequency with which something occurs or with which it is associated or see causal relationships between its different dimensions. [Studies having this purpose are known as Diagnostic studies.]

10. To test a hypothesis suggesting a causal relationship between different variables. [Studies characterized by this purpose are called Experimental studies.]

Research designs, based on these purposes, take different structural forms as well as nomenclature. The research designs that are appropriate for the first, second, third and the fourth purposes indicated above are terminal: (i) exploratory or formulative, (ii) descriptive, (iii) diagnostic, and (iv) experimental or explanatory, respectively. Some of the distinctive features of these research designs are discussed in brief in the following paragraphs. See, '2.1.2 Objectives Research', supra. Claire Selltiz and Marie Jahoda, et. al., Research Methods in Social Relations, supra n 3. However, there seems to be disagreement amongst social scientists about ways of classifying research designs used in social science research. See, I H McGrath, Research Methods and Designs for Education (International Text Book Co, Scranton, 1970), and Malida White Riley, Sociological Research 1-Case Approach (HarCourt, Brace and World, Inc, New York, 1963).chilot.wordpress.com

(i) Exploratory or formulative research design

Generally, every research study is built upon the existing stock of our knowledge. The formulation of the problem, spelling out the objectives of the study and formulation of the hypothesis, if required, depend upon the existence of adequate knowledge. But occasionally a researcher may be confronted with a problem in a hitherto uncharted area without sufficient knowledge even to formulate his problem adequately. The researcher has little or no knowledge about the problem. He just wants to 'explore' it. His primary aim is to acquaint with the characteristics of research target. He intends to discover ideas and to have insight into the problem or situation under investigation. Research design in exploratory studies has to be flexible to provide opportunity for the consideration of different aspects of the problem or situation under study. Inbuilt flexibility in research design is needed because the research

problem, broadly defined initially, is transformed into one with more precise meaning. Generally, the important methods to conduct exploratory studies include (a) a review of the related literature, (b) a survey of people who have had practical experience of the broad problem with the problem to be studied, and (c) an analysis of 'insight-stimulating' cases or examples. A careful review of literature helps the investigator to formulate his research problem precisely or to develop a workable hypothesis with precise meaning. A review of hypotheses stated in earlier works may also help him in identifying the thitherto-analyzed concepts and theories and deciding utility of the thitherto formulated/tested hypotheses. It also enables the researcher to decide the possibility of any new hypotheses from those concepts and hypotheses. A survey of experienced people and unstructured interactions with them will help the investigator to obtain insight into the problem under investigation and to get clues to the possible hypotheses. It gives him information about the effectiveness or otherwise of the thitherto used methods and procedures used for achieving specific goals. It can also provide information about the practical possibilities for doing different kinds of research. While the third method, Claire Selltiz and Marie Jahoda, et. al., Research Methods in Social Relations supra n 3, 53.chilot.wordpress.com

i.e. analysis of 'insight-stimulating' cases, involves intensive study of selected instances of the phenomenon under investigation. It helps the researcher to gain information about the cases that exhibit sharp contrasts or have striking features. This diverse information helps him to have insight into the problem under study. Most exploratory studies use one or more of these three methods. Whatever method is chosen, it must be used with flexibility so that many different facets of a problem may be considered as and when they arise and come to the notice of the researcher. But it is important to remember that exploratory studies merely lead to insights or hypotheses; they do not test them. An exploratory study must always be regarded as simply a first step; more carefully controlled studies are needed to test whether the hypotheses that emerge (from the exploratory study) have general applicability. (ii) Descriptive and diagnostic research designs A descriptive research study, as its name suggests, is concerned with describing the characteristics of a particular individual or a phenomenon. It is aimed at detailed description or measuring of the different aspects of a phenomenon, group or community. It is mainly a fact-finding study with adequate interpretation. Such a study, unlike exploratory study, presupposes prior knowledge of the problems to be investigated. In descriptive studies, the researcher must be able to define clearly what he wants to measure and find adequate methods for measuring. In addition, he

must be able to specify the subject is to be included in his 'population' of study and how he is going to collect evidence. In other words, in a such a study, what is needed is a clear formulation of 'what' and 'who' is to be measured, and the techniques for valid and reliable measurements. A diagnostic research is more directly concerned with causal relationships and with implications for action than a descriptive study. It is more concerned with the frequency with which something occurs or its association with something else.chilot.wordpress.com In fact, there is a very thin line of distinction between descriptive and diagnostic studies. A descriptive study is oriented towards finding out what is occurring while a diagnostic study is directed towards discovering not only what is occurring but also why it is occurring and what can be done. The former is about 'what is it?' while the latter is concerned with 'why is it?' A diagnostic study is more actively and explicitly guided by hypothesis than a descriptive study. They have a common element of emphasis on the specific characteristics of a given situation. From the point of view of research design, the descriptive as well as diagnostic research studies, in spite of a thin of distinction between them, share common requirements. The research design of a descriptive and diagnostic study, unlike that of an exploratory study, has to be rigid. It must address and focus on:

(1) Formulation of the objectives of the study- The first step in a descriptive as well as diagnostic study is to define, precisely the research problem and the research objectives. This enables him to perceive the required and relevant data.

(2) Designing the methods of data collection- After the research problem is formulated, it becomes necessary for the investigator to identify the methods by which the required data are to be obtained. The techniques of data collection must be carefully identified and indicated in the research design.

(3) Selecting the sample- The researcher must specify the methods of drawing sample from the identified 'population'.

(4) Collecting the data- In the design of his study he must specify the sources of the relevant and required information and the period to which such data are related.

(5) Processing and analysis of data- As the collected data need to be processed and analyzed, the researcher must indicate coding and decoding of the collected data and methods of processing and analyzing them.

(6) Reporting the findings- Finally, the investigator has to draw a broad outline of his research report for effective communication of his findings to his audience. The layout of the report needs to be well planned so that all things relating to the research study may well be presented in simple and effective style. See, C R Kothari, Research Methodology: Methods and Techniques (New Age International Publishers, New Delhi, 2nd edn, 2004, Reprint 2007) 37-38.chilot.wordpress.com143

(iii) Experimental or explanatory research design Experimental studies deal with cause and effect problems. They are concerned with testing the causal hypotheses. However, testing of a causal hypothesis is a very complex matter. At least three kinds of evidence are needed to confirm that the given independent variable (the cause) produces the given dependent variable (the effect). First, several independent variables have their effect on a given dependent variable. Therefore, in order to test the effect of a given independent variable, it is necessary to hold constant the effect of other independent variables and to isolate the effect of the given variable. Second, it is necessary to show that change in the given dependent variable did not take place before the change in the given independent variable, since the cause ought to precede or be simultaneous with the effect but it should not succeed the effect. Third, it is necessary to show that the change in the given independent variable has actually produced change in the given dependent variable; the greater the change in the independent variable the greater the change in the dependent variable.

These three kinds of evidence may be summarized as follows:

1. Ruling out the effect of other causal variables.

2. Causal time sequence between the changes in the independent and dependent variables.

3. Concomitant variation between the independent and the dependent variables.

A descriptive study which is designed to make observations about the reality as it exists can best provide evidence about concomitant variation. To procure the other two kinds of evidence, one has to make observation under controlled conditions. The procedures of making observation under controlled conditions constitute the experiment. The chief requirement of an experiment is to induce change in the given independent variable while holding constant the effect of the other independent variables. chilot.wordpress.com There are different ways of conducting experiments. In the physical and natural sciences laboratories are used extensively for experimentation. But laboratory experiments for

studying human behavior are ruled out in most cases for obvious reasons. However, the use of laboratories is not necessary condition for experimentation. What is important is the logic of making observation under controlled conditions. Utilizing this logic, the social scientists have devised, among other methods, an experimental mechanism of using two groups of subjects, one termed the experimental group and the other, control group. The subjects in the experimental and the control groups are so chosen that the two groups are similar, if not identical, with regard to the given independent and dependent variables as well as with regard to the various other variables which also exert their causal effect on upon the given dependent variable. Observations and measurements are made at two points of time. First, before the change is induced in the independent variable, the given independent and dependent variables are measured in both the groups. Then change is induced in the given independent variable only in the experimental group. After allowing sufficient time for the impact of the change to be felt on the given dependent variable, the given independent and dependent variables are measured in both the groups for the second time. According to the causal hypotheses, it is expected that at the second point of time there would be greater change in both the given independent and dependent variables in the experimental group as compared with their counterparts in the control group. Existence of such a difference would confirm the hypothesis. It can be readily seen that the above experimental design is capable of generating simultaneously all the three kinds of evidence which are required for testing a causal hypothesis. The evidence ruling out the effect of other independent variables is secured by equating these variables in both the experimental and control groups, so that whatever effect they produce on the given dependent variable would be of the same order in both the groups. The evidence that the change in the dependent variable did not take place before the change in the given independent variable is ensured by measuring the variables twice-once before inducing the change in the independent variable and a second time after the inducement. The evidence about concomitant variation is obtained by comparing the relationship between the two variables in the chilot.wordpress.com two different settings of the experimental and the control groups before and after the inducement of change in the given independent variable in the experimental group. The experimental design of study poses special problems of equating the experimental and the control groups with regard to the variables to be controlled and of inducing change in the given independent variable, of which the investigator must be aware. As for securing control of the variables in the two groups there are different techniques such as randomization, equated frequency distribution and precision control or control by identical individual pair matching. The investigator should be

able to judge as to which one or more of these techniques are appropriate for his study. The experimental design differs from the descriptive study design, among other respects, in two important ways, inasmuch as the groups studied need not be representative of their population and the variables under investigation are manipulated. Therefore, the term sample survey is not applied to the experimental study. It has been pointed out that there are different ways of designing an experimental study subject to the adherence of the same logic of experiment. Even as regards the particular experimental mechanism described above, various adaptations and modifications are possible. for instance, although ordinarily observations are made twice in an experimental study-once before the change is introduced in the experimental variable, and a second time after the inducement of change sometimes the study is conducted after the change in the experimental variable has already taken place; but in the latter case the information about the earlier point of time is obtained from the existing records. The experimental study which is designed before the change in the experimental variable is termed the projected experimental design or 'before and after' study, while the latter type is named ex-post facto experimental design or 'after only' study. Pre-planning of an experiment is of fundamental importance in conducting an experiment. As the experimenter is not required to be a passive spectator but an active Victor S D'Souza, Design of Study in Empirical Research, in S K Verma& M Afzal Wani (eds), Legal Research and Methodology (Indian Law Institute, New Delhi, 2nd edn, 2001) 309 (313-316).chilot.wordpress.com

manipulator of the situation, he must plan out things in advance and their minutest details in order to get the best results. Planning of an experiment consists of the following steps: (i) selection of problem; (ii) selection of setting; (iii) conduction of a pilot study; (iv) formulation of a research design; (v) collection of data, and (vi) interpretation of results.

ROLE OF RES EARCH DESIGN

Regardless of the type of research design selected by the researcher or the objectives hoped to achieved, a common function of research design is providing answers to various kinds of questions and to 'guiding' him in his research journey. A methodologically prepared research design may invariably lead to the following advantages:

1. It may result in the desired type of study with useful conclusions.

2. It may lead to reduced inaccuracy.

3. It may give optimum efficiency and reliability.

4. It may minimize the uncertainty, confusion and practical hazards associated with any research problem.

5. It may be helpful for the collection of research material, required data, and testing of hypothesis.

6. It may operate as a 'guide post' for giving research a 'right direction'.

7. It may minimize the wastage of time and beating around the bush.

To be more precise, a research design, regardless of its type, performs one or more of the following functions:

1. Research design provides the researcher with a blue print of the proposed research - A researcher, like a building-constructor having a blueprint of the proposed building, can easily foresee and overcome the possible obstacles if he has some kind of research plan to execute. Preparation of research design makes him pay attention to pertinent queries and take decision before beginning his research. For example, if he chooses to K D Gangrade, Empirical Methods as Tools of Research, supra n 2, at 285. chilot.wordpress.com

study people directly, some possible considerations might be: (i) a description of the target population about which he seeks information, (ii) the 'sampling methods' to be used to obtain 'elements' of sample and to decide the size of sample, (iii) the data collection procedures and techniques to be used to acquire the needed information, and (iv) the possible ways to analyze the collected data. These problems are given strong considerations in socio-legal research proposal.

2. Research design dictates boundaries of the research activity - Research design outlines boundaries of the proposed research endeavor and enables the researcher to channel his energies in a specific direction. Without delineation of research boundaries and/or objectives, a researcher's activities may virtually be endless. The study-plan and structure enables the investigator to reach closer to the proposed research.

3. Research design enables the researcher to anticipate potential problems in the implementation of the study - As mentioned earlier, one of the processes of research is review of literature. Literature review, inter alia, enables the researcher: (i) to know about new or alternate approaches to the research problem, (ii) to acquire information concerning what can reasonably be expected to occur in his own investigation, and (iii) to have a critical review of

the earlier work on the theme of his research so that he can seek some guidelines for improvement.

4. Research design enables the researcher to estimate the cost of his research, possible measurement of problems and optimal research assistance - It enables the researcher to estimate the approximate time and financial budget required to accomplish his proposed research. chilot.wordpress.com

HYPOTHESIS

Introduction:

Formulation of hypothesis becomes essential in studies involving use of empirical research techniques. 'Hypothesis' is derived from two words: 'hypo' means 'under', and 'thesis' means an 'idea' or 'thought'. Hence, hypothesis means 'idea' underlying a statement or proposition. In fact, the word 'hypothesis' is derived from the Greek, hypo (means under) and tithenas (means to place). It suggests that a statement when it is placed under evidence as a foundation becomes hypothesis. Webster's New Internationa1 Dictionary explains 'hypothesis' to mean 'a proposition, condition or principle which is assumed, perhaps without belief, in order to draw out its logical consequences and by this method to test its accord with facts which are known or may be determined'. It is a proposition which can be put to test to determine its validity. Ordinarily, 'hypothesis' is a plausible statement or generalization that is susceptible to empirical testing in a scientific manner. It is a mere assumption, some supposition, a predictive or a provisional statement, that is capable of being objectively verified and empirically tested by scientific methods. In its most elementary stage, a hypothesis may be a mere hunch, guess, or an imaginative idea. Hypothesis is a tentative proposition about something, which can be put to empirical test to determining its validity. It is a tentative statement of presumed relationship between two or more concepts or variables. A hypothesis, therefore, needs to be formulated in such a way that one can gather empirical evidence for verifying or refuting its correctness. It may prove correct or incorrect. But in either case, it leads to an empirical test. Whatever may be the outcome, the hypothesis is a question put in such a way that an answer of some kind can be forthcoming. If a hypothesis is empirically proved, the problem, which was tentative in the beginning of the research, is answered. The statement ceases to be a mere proposition. It becomes a verified fact. If

hypothesis is not proved, the statement, in the absence of empirical support, merely remains as a proposition, probably, seeking for validity in future. Nevertheless, such a disproved hypothesis may lead to an alternative or additional hypothesis. However, hypotheses can pertain to virtually anything. For example, urbanization and urban life style boost suicide rate, broken homes tend to lead juvenile delinquency, modernization and education among women lead to increase in divorces, poverty causes criminality, and unemployment among youths leads to violent crimes. There can be no restrictions whatsoever about what can be hypothesized. A hypothesis need William J Goode & Paul K Hatt, Methods in Social Research (McGraw-Hill, 1952) at 56.

A concept is an idea, something conceived in mind. It is a mental abstraction or construction developed to symbolize an idea, a thing or an event. When it is operationally defined, it becomes a variable. Two variables are related when the values observed for one variable vary, differ, or change according to those of another. Merely fact of association between variables is not sufficient for concluding their association is causal. chilot.wordpress.com not necessarily be true. However, it needs to recollect here that hypothesis needs to be empirically tested. What a researcher, therefore, has to convince and ensure himself that he needs to formulate such a proposition, though tentative, he can work with and put it to empirical test and that the proposition guides his research. He has to make the statement in such way that it is empirically specific and specifically hints at the inter-relationship between the indicated variables. In fact, a researcher needs to put a great deal of thought into formulation of his hypothesis. Robert Bales has suggested that before a hypothesis is adopted for testing, the following questions, among others, should be asked:

1. Are the terms empirically specific, so that the concepts or variables can be distinguished in concrete situations?

2. Is the posited relationship between variables such that it could be verified or nullified by means of empirical operation?

3. Is there any prior evidence as to the truth of falseness of the posited relationship?

4. Can an appropriate study design be devised?

5. Are the variables ‘context-bound’ or could they be equally well applied to other inaction situations?

6. Are the generalizations ‘culture-bound’ or can they be also applied realistically to other cultures?

7. Is the empirical system that is constructed sufficiently precise and articulate to permit predictions in concrete situations?

However, even if the researcher has addressed himself to the above mentioned questions and seeks answers there for before formulating his hypothesis and is aware of the fact that his hypothesis is a mere tentative statement that posits a relationship between the identified variables, formulating a hypothesis is not an easy task. It is still bridled with difficulties. According to Goode & Hatt, there are three ‘chief difficulties’ in the ‘road to the formulation of useful hypothesis’. They are:

1. Absence of (or the absence of knowledge of) a clear theoretical framework. Quoted in, Pauline V Young, Scientific Social Surveys and Research (Prentice-Hall, 3rd edn, 1960) at 107-108.chilot.wordpress.com119

2. Lack of ability to utilize that theoretical framework logically.

3. Failure to be acquainted with available research techniques so as to be able to phrase the hypothesis properly.

SOURCES OF HYPOTHES IS

A hypothesis or a set of hypotheses may originate from a variety of sources. The source of hypothesis, however, has an important bearing on the nature of contribution in the existing body of knowledge. A few prominent sources of hypothesis are discussed here below.

Hunch or intuition

A hypothesis may be based simply on hunch or intuition of a person. It is a sort of virgin idea. Such a hypothesis, if tested, may ultimately make an important contribution to the existing science or body of knowledge. However, when a hypothesis is tested in only one study, it suffers from two limitations. First, there is no assurance that the relationship established between the two variables incorporated in the hypothesis will be found in other studies. Secondly, the findings of such a hypothesis are likely to be unrelated to, or

unconnected with other theories or body of science. They are likely to remain isolated bits of information. Nevertheless, these findings may raise interesting questions of worth pursuing. They may stimulate further research, and if substantiated, may integrate into an explanatory theory.

Findings of other'

A hypothesis may originate from findings of other study or studies. A hypothesis that rests on the findings of other studies is obviously free from the first limitation, i.e. there is no assurance that it may relate with other studies. If such a hypothesis is proved, it confirms findings of the earlier studies though it replicates earlier study conducted in different concrete conditions. chilot.wordpress.com120

A theory or a body of theory

A hypothesis may stem from existing theory or a body of theory. A theory represents logical deductions of relationship between inter-related proved facts. A researcher may formulate a hypothesis, predicting or proposing certain relationship between the facts or propositions interwoven in a theory, for verifying or reconfirming the relationship. A theory gives direction to research by stating what is known. Logical deductions from these known facts may trigger off new hypotheses.A hypothesis that originates from a theory is free from the second limitation – that of isolation from a theory or larger body of knowledge- mentioned above.

General social culture

General social culture, in which a science develops, furnishes many of its basic hypotheses. Particular value-orientation in the culture, if it catches attention of social scientists for their careful observation, generates a number of empirically testable propositions in the form of hypotheses.

Analogy

Analogies may be one of the fertile sources of hypothesis. Analogies stimulate new valuable hypotheses. They are often a fountainhead of valuable hypotheses. Even casual observation in the nature or in the framework of another science may be a fertile source of hypotheses. A proved particular pattern of human behavior, in a set of circumstances or social settings, may be a source of hypothesis. A researcher may be tempted to test these established co-relations

with similar attributes in different social settings. He may be interested to test these analogies in a sort of different settings and circumstances. He seeks inspiration for formulating the hypothesis from analogies of others. chilot.wordpress.com

However, a researcher, when he uses analogy as a source of his hypothesis, needs to carefully appreciate the theoretical framework in which the analogy was drawn and its relevancy in his new frame of reference.

Personal experience

Not only do culture, science and analogy, among others, affect the formulation of hypotheses. The way in which an individual reacts to each of these is also a factor in the statement of hypotheses. Therefore, individual experience of an individual contributes to the type and the form of the questions he asks, as also to the kinds of tentative answers to these questions (hypotheses) that he might provide. Some scientists may perceive an interesting pattern from merely seem a 'jumble of facts' to a common man. The history of science is full of instances of discoveries made because the 'right' individual happened to make the 'right' observation because of his particular life history, personal experience or exposure to a unique mosaic of events. His personal experience or life history may influence his perception and conception and in turn direct him quite readily to formulate certain hypothesis. Thus, a hypothesis may originate from a variety of sources, in isolation or in combination with another. The sources discussed above provide a wealth of hypotheses. However, in spite of these fertile sources of hypotheses, it is not easy to formulate a usable or workable hypothesis. 'It is often more difficult to find and formulate a problem than to solve it', observed Merton, a renowned sociologist. If a researcher succeeds in formulating a hypothesis, he can assure himself that it is half-solved. 'A problem well put is half solved' says an old and wise saying. What is, therefore, more significant is a researcher is ability to formulate a hypothesis with which he can work. A proposition may be interesting but it may not be amenable to empirical verification. While formulating a hypothesis, he has to keep himself reminding that he has to formulate his tentative proposition in such a way that it becomes usable in his systematic study. A set of questions that begs our attention, therefore, is: how to formulate those ideas in a form of proposition that may actually chilot.wordpress.com prove useful; how to judge its usability or workability and on what criteria? Let us now address to these questions.

CHARACTERISTICS OF A WORKABLE HYPOTHESIS OR USABLE HYPOTHESIS

It is said that man's mind, like his body, is often active without any immediate goal. A number of interesting hypotheses may emanate from man's mind but all of them may not necessarily be empirically verifiable. Some of them may be left to die alone, While a few (or most) of them may not even destined to play any significant role in either advancement of knowledge or of development of science. What we, as researchers, in interested in can be hypotheses that are usable in our research endeavor and are liable to be empirically verifiable. We, therefore, should have some criteria to judge the usability or workability of a hypothesis. Let us now turn to some of the criteria for judging the usability of a hypothesis. A 'workable' or 'usable' hypothesis would be the one that satisfies many of the following criteria.

Hypothesis should be conceptually clear

The concepts used in the hypothesis should be clearly defined, not only formally but also, if possibly, operationally. Formal definition of the concepts will clarify what a particular concept stands for, while the operational definition will leave no ambiguity about what would constitute the empirical evidence or indicator of the concept on the plane of reality. Obviously, an undefined or ill-defined concept makes it difficult or rather impossible for the researcher to test his hypothesis as there will not be any standard basis for him to know the observable facts. However, a researcher, while defining concepts, should use, as far as possible, the terms that are communicable or definitions that are commonly accepted. It should be stated as far as possible in most simple terms so that it can be easily understandable all concerned. He should not create 'a private world of words'.

Relied liberally on, William J Goode & Paul K Hatt, Methods in Social Research, supra n 1, chap 6; T S Wilkinson & P L Bhandarkar, Methodology and Techniques of Social Research (Himalaya Publishing House, Mumbai, 16th edn, Reprint 2005), chap 5, and C R Kothari, Research Methodology: Methods and Techniques (New Age International Publishers, New Delhi, 2nd edn, 2004, Reprint 2007), chap 9.chilot.wordpress.com123

Goode and Hatt have suggested 'a simple device' for clarifying concepts used in the hypothesis. It involves the following steps: (i) preparation of a list of different concepts used in the research outline, (ii) making efforts to define the listed concepts in words and in terms of particular operations, and with reference to other concepts found in previous research, and

(iii) deciding, in the light of these identified different meanings, possible meanings of the concepts used in the current hypothesis.

Hypothesis should be specific

A hypothesis should be couched in specific terms. No vague or value-judgmental terms should be used in formulation of a hypothesis. It should specifically state the posited relationship between the variables. It should include a clear statement of all the predictions and operations indicated therein and they should be precisely spelled out. Specific formulation of a hypothesis assures that research is practicable and significant. It helps to increase the validity of results because the more specific the statement or prediction, the smaller the probability that it will actually be borne out as a result of mere accident or chance. A researcher, therefore, must remember that narrower hypothesis is generally more testable and he should develop such a hypothesis.

Hypothesis should be empirically testable

A hypothesis, as, stated earlier, should be formulated in such a way that it should possibly be to empirically verifiable. It should have empirical referents so that it will be possible to deduce certain logical deductions and inferences about it. It should be of such a character that deductions can be made from it. It should be conceivable and not absurd. Therefore, a researcher should take utmost care that his hypothesis embodies concepts or variables that have clear empirical correspondence and not concepts or variables that are loaded with moral judgments or values. Such statements as 'criminals are no worse than businessmen', 'capitalists exploit their workers', 'bad parents beget bad children', 'bad homes breed criminality', or 'pigs are well named because they are so dirty' can hardly be usable hypotheses as they do not have any William J Goode & Paul K Hatt, Methods in Social Research, ibid., at 68.chilot.wordpress.com124

empirical referents for testing their validity. In other words, a researcher should avoid using terms loaded with values or beliefs or words having moral or attitudinal connotations in his hypothesis.

Hypothesis should be related to available techniques

A hypothesis, as mentioned earlier, needs to be empirically tested. This requirement obviously makes it necessary that a hypothesis should be related to available techniques of data collection. A researcher who does not know what techniques are available to him to test his hypothesis cannot test his hypothesis. His ignorance of the available techniques, makes him weak in formulating a workable hypothesis. A hypothesis, therefore, needs to be formulated only after due thought has been given to the methods and techniques that can be used for measuring the concepts or variables incorporated in the hypothesis. However, the insistence for this criterion of a workable hypothesis should not be taken to imply that the formulations of some complex hypotheses or hypotheses that are not related to available techniques and go unamenable to verification are either barred or not worthwhile. It should be noted that posing some interesting complex formulations, even though they, at the time of formulation, are not amenable to the available techniques, may stimulate the growth of innovations in techniques.

Hypothesis should be related to a body of theory or some theoretical orientation

It is needless to re-emphasize here that a researcher, through testing his hypothesis, intends to contribute to the existing fact, theory or science. While formulating his hypothesis, he has to take a serious pause to see the possible theoretical gains of testing the hypothesis. A hypothesis, if tested, helps to qualify, support, correct or refute an existing theory, only if it is related to some theory or has some theoretical orientation. Science can be cumulative only by building on an existing body of fact and theory. Science develops block by block. It cannot develop if each study is an isolated one. A hypothesis related to a body of theory or having some theoretical orientation can only contribute to the development of science. A hypothesis, therefore, must be capable of being brought into the accepted body of knowledge. However, this does not mean that a hypothesis that does not have some theoretical base throttles ventures into new scientific fields and thereby development of science. A hypothesis imaginatively formulated does not only elaborate and improve existing theory but may also suggest important links between it and some other theories. Thus, exercise of deriving hypothesis from a body of theory may also be an occasion for scientific leap into newer areas of knowledge. ‘Theory’, observed Parsons, ‘not only formulates what we know but also tells

us what we want to know.' Insistence on this criterion, in ultimate analysis, leads to filter out formulation of repetitive hypotheses and testing thereof as they do not take science any further. Moreover, a hypothesis derived from a theory invests its creator with the power of prediction of its future. He, with reasonable certainty, can predict future outcome of his hypothesis based on, or related with, existing theory. The potency of hypothesis in regard to predictive purpose constitutes a great advancement in scientific knowledge. A genuine contribution to knowledge is more likely to result from such a hypothesis. A hypothesis, it is said, to be preferred is one which can predict what will happen, and from which we can infer what has already happened, even if we did not know (it had happened) when the hypothesis was formulated.

ROLE OF HYPOTHESIS

A hypothesis, which is a provisional formulation, plays significant role in empirical or socio-legal research. It not only navigates research in a proper direction but also contributes in testing or suggesting theories and describing a social or legal phenomenon.

Parsons, The Structure of Social Action, vol 1 (Free Press, New York, 1962) at 9. Morris R Cohen & Ernest Nigel, An Introduction to Logic and Scientific Method (HarCourt, Brace, New York, 1934) 207.chilot.wordpress.com

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