FORMULATION OF RESEARCH OBJECTIVES

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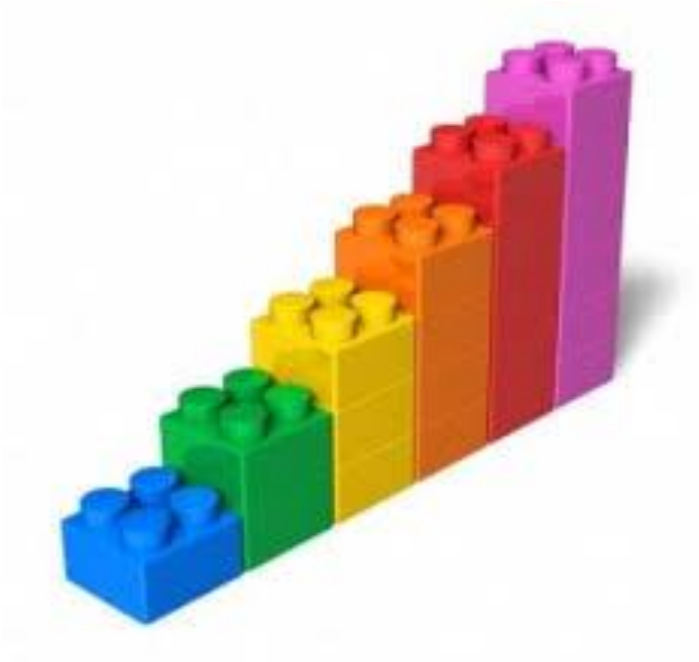
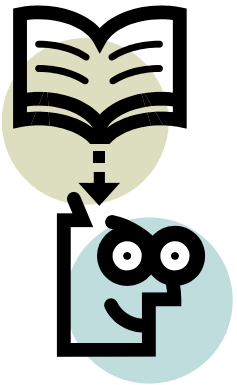




All progress is born of enquiry…doubt is often better than overconfidence, for it leads to inquiry, and inquiry leads to invention”

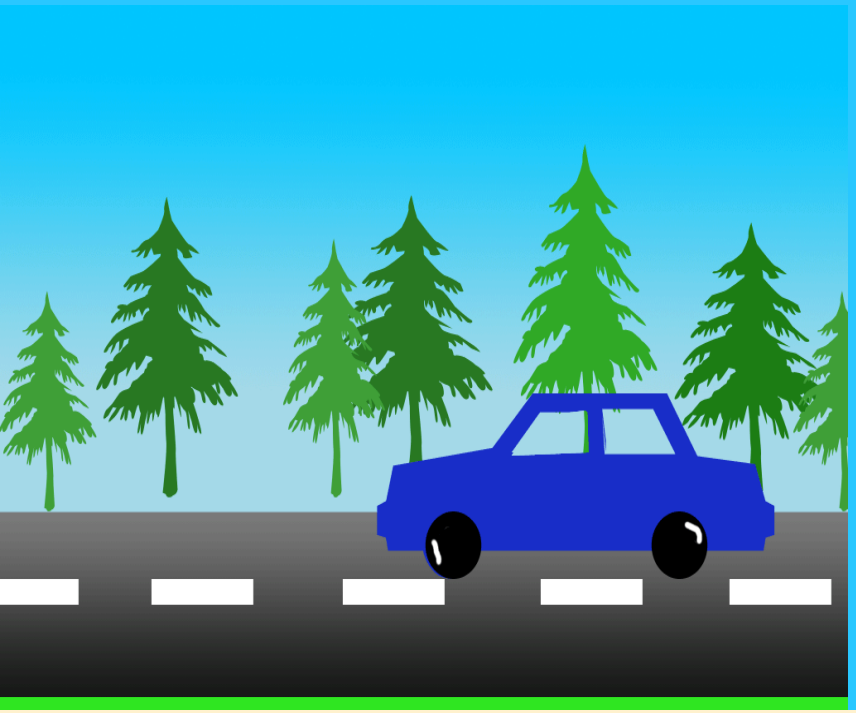
Research

The term ‘research’ has multiple meanings and its precise definition varies from discipline to discipline and expert to expert.

Nevertheless there is an agreement with respect to function it performs

TO FIND ANSWERS TO YOUR RESEARCH QUESTIONS

Research is a Journey



At each operational step in the research process you are required to chose from a multiplicity of methods, procedures and models of research methodology

Decide where you want to go

- Decide what you want to find out about?
- Frame your research questions – formulate your objectives

Which route to take??

- Decide how to go about finding their answers
- Research methodology constitutes the practical steps through which you must pass in order to find answers

RESEARCH PROCESS – 8 steps

Series of actions or steps necessary to effectively carry out research and desired consequences of such effects.

PHASE	PHASE A	PHASE B	PHASE C
Main task	DECIDING	PLANNING	CONDUCTING
Answer to	WHAT … research questions to answer?	HOW …to gather evidence to answer the research questions.	COLLECTING …the required information
Operational steps of research journey	1. Formulating a research problem	2. Conceptualizing a research design 3. Constructing an instrument for data collection 4. Selecting a sample 5. Writing a research proposal	6. Collecting data 7. Processing data 8. Writing a research report

FORMULATING A RESEARCH PROBLEM

The first and the most important step of the research process

"If one wants to solve a problem, one must generally know what the problem is. It can be said that a large part of the problem lies in knowing what one is trying to do.."

-Kerlinger, 1986

RESEARCH PROBLEM

A Research Problem refers to some difficulty which a researcher experiences in the context of either a theoretical and practical situation and wants to obtain a solution for the same.

- A question that you want answered
- An assumption or assertion that you want to challenge

A fundamental step in descriptive or hypothesis testing research studies.

Broadly two types of research problems:

1. Which relate to status or nature
2. Which relate to relationship between variables

IMPORTANCE OF DEFINING RESEARCH PROBLEM

- **Determines every step that follows** – type of study design that can be used; the type of sampling strategy that can be employed; research instrument that can be used; type of analysis…

- **Quality** of the contents of a research report and validity of the associations and causations established – entirely depends formulation of the problem

GARBAGE IN…GARBAGE OUT

Don't think what you must find…develop a clear idea what it is that you want to find out about

SOURCES OF RESEARCH PROBLEM- FOUR P's

- People
- Problems
- Phenomenon
- Programmes

Emphasis on a particular 'P' may vary from study to study.

Most research studies are based upon a combination of at least two Ps

Two major aspects

- 'People' provide you with *study population*
- 'Problem', 'Programme' or 'Phenomenon' furnish the *subject area* about which information is collected

THE FOUR P's

Aspects of a study	Information about	Study of	Importance to the study
Study population	People	Individuals, organizations, groups, communities	Provide required information or you collect information about them
Subject area	Problem	Issues or problems facing a group of people, description of situations, associations, needs, attitudes, population profiles, etc.	Information that you may need to collect to find answers to your research questions
	Programme	Contents, services, administrative structure, service outcome, consumer satisfaction, profile of consumers, effectiveness, cost benefit	
	Phenomenon	Cause and effect, relationship/ association, study of phenomenon itself etc.	

Source: Ranjit Kumar, 2014

SELECTING RESEARCH PROBLEM

A Research Problem cannot be borrowed …a problem should spring from the researcher's mind like a plant springing from its own seed….

- ✓ Avoid choosing a subject which is overdone..it will be a difficult task to throw any new light on the subject
- ✓ Avoid choosing a controversial subject ..as a beginner
- ✓ Avoid too narrow or too vague problems
- ✓ The subject should be familiar and feasible so that related research material or sources of research are within one's reach.

Selection of problem must be preceded by preliminary/ feasibility study, particularly when the field of enquiry is relatively new and does not have a set of well developed techniques

SELECTING RESEARCH PROBLEM: CONSIDERATIONS

- **Interest :** Chose a topic of your interest which will fuel the efforts and hard work, and will sustain the required motivation.
- **Magnitude :** Visualize the work involved in completing the proposed study- make it manageable in context of available time and financial resources, specific and clear
- **Measurement of concepts:** Be clear about the indicators and procedure of measurement of concepts you plan to use in your study
- **Expertise :** Problem should be selected in accordance with the training and qualification, expertise of the researcher and the supervisor. Acknowledge the gaps in your knowledge of the discipline.
- **Relevance & significance :** Select a topic that is relevant to you as a professional. Study should add to existing body of knowledge, bridge existing gaps and be useful in policy formulation
- **Availability of data:** Secondary data, format required
- **Ethical issues:** Study population may be adversely affected by the questions; expected to share private or sensitive information….

DEFINING RESEARCH PROBLEM

A problem clearly stated is a problem half solved

Defining a problem involves the task of laying down boundaries within which a researcher shall study the problem with a pre-determined objective in view

- ✓ Properly defined problem enables the researcher to be on track
- ✓ Helps discriminate relevant data from the irrelevant ones
- ✓ Answers questions like
  - ✓ What data are to be collected?
  - ✓ What characteristics of data are relevant and need to be studied?
  - ✓ What relations are to be explored?
  - ✓ What techniques are to be used?

STEP IN FORMULATING RESEARCH PROBLEM

- **Identify a broad field** or subject area of interest to you
- **Dissect the broad area into subareas** – develop a comprehensive list of varied aspects and issues related to the problem (think/read/consult)
- From your list select the issues/ questions/ subareas which are of most **interest to you and manageable**
- **Raise research questions –** Ask yourself ' What is it that I want to find about the chosen subarea?'
- **Formulate objectives of your study –** Main objectives & sub objectives in line with research questions
- **Assess your objectives** - in light of time, resources (human and financial) and expertise at your disposal
- **Revisit :** Reassess in light of all the stated considerations

RESEARCH PROBLEM

HOW TO FORMULATE A RESEARCH PROBLEM: STATEMENT OF OBJECTIVES

General

Decide a general area of interest or aspect of a subject matter that the researcher wants to enquire into

Most important step in entire research process

Remove ambiguities, narrow down and rephrase the problem into analytical and operational terms

Check feasibility of a particular solution

- Clearly defined problem
- phrased in specific and analytical terms
- realistic in terms of available data and resources

Specific

Understand the problem

- Discuss with colleagues/ research guide/ concerned administrative agencies
- Intensive literature review
- Verify objectivity and validity of background facts concerning the problem

RESEARCH PROBLEM

UNDERSTANDING THE RESEARCH PROBLEM: HOW???

General

Specific

- ✓ Discuss with people having expertise in the matter (c/a Experience survey).
- ✓ Discuss with guide: A research guide puts forth the problem in general terms, it is up to the researcher to narrow it down and phrase the problem in operational terms.
- ✓ Examine all available literature to get oneself acquainted with the selected problem. Two types of literature review:
  - ✓ Conceptual literature – concepts & theories
  - ✓ Empirical literature – Studies made earlier similar to one proposed

LITERATURE REVIEW

LITERATURE REVIEW ENABLES THE RESEARCHER TO:

- ✓ Specify his own research problem in a meaningful context
- ✓ Know what data and other materials are available for operational purposes?
- ✓ Narrow down the research problem and the techniques that might be used
- ✓ Identify gaps in existing theories
- ✓ Understand whether existing theories applicable to the problem under study are inconsistent with each other?
- ✓ Understand whether findings of different theories follow a pattern consistent with theoretical expectations?
- ✓ What type of difficulties may be encountered in the present study?
- ✓ Possible analytical shortcomings
- ✓ Useful or new lines of approach to the present problem

EXPERIENCE SURVEY: DEVELOPING IDEAS THROUGH DISCUSSION

Researcher must discuss his problem with

- ✓ Colleagues
- ✓ People who have enough experience in the same area, or
- ✓ People who are working on similar problems

Discussion should comprise of –

- Formulation of the specific problem at hand
- General approach to the given problem
- Techniques that might be used
- Possible solutions

Discussion is invaluable because it-

- Enlightens the researcher on different aspects of his proposed study
- Sharpens his focus of attention to specific aspects within the field

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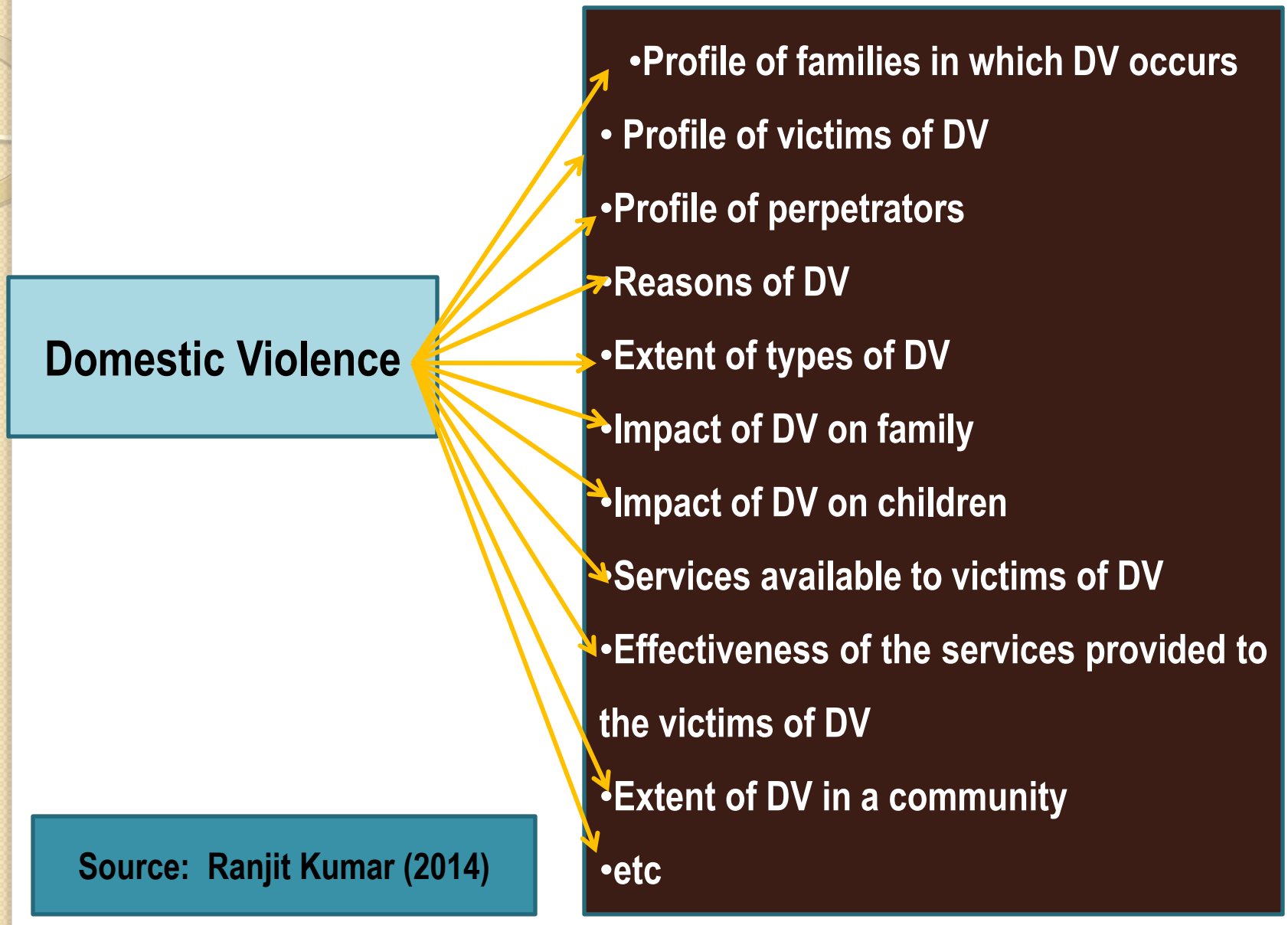
Dissection into sub areas - example



Source: Ranjit Kumar (2014)

RESEARCH PROBLEM

FORMULATION OF OBJECTIVES

GOALS THAT ARE SET OUT TO BE ATTAINED IN THE STUDY

- ✓ Objectives are research questions transformed into aims of the study
- ✓ Main difference between objectives and research questions is in the way they are written
- ✓ You can prefer to have only research questions or only objectives, or both – keeping in mind the requirements of your institution for research proposals

RESEARCH OBJECTIVES

OBJECTIVES INFORM THE READER OF WHAT YOU WANT TO ACHIEVE IN YOUR STUDY

Main Objectives

- Relates to overall thrust of the study
- States the main associations and relationships the researcher seeks to discover or establish
- Word them clearly, completely and specifically

Sub Objectives

- Specific aspects of the topic which would be investigated within the main framework of the proposed study

Wording of objectives determines the type of research design to be adopted in the study- descriptive/ correlational / experimental

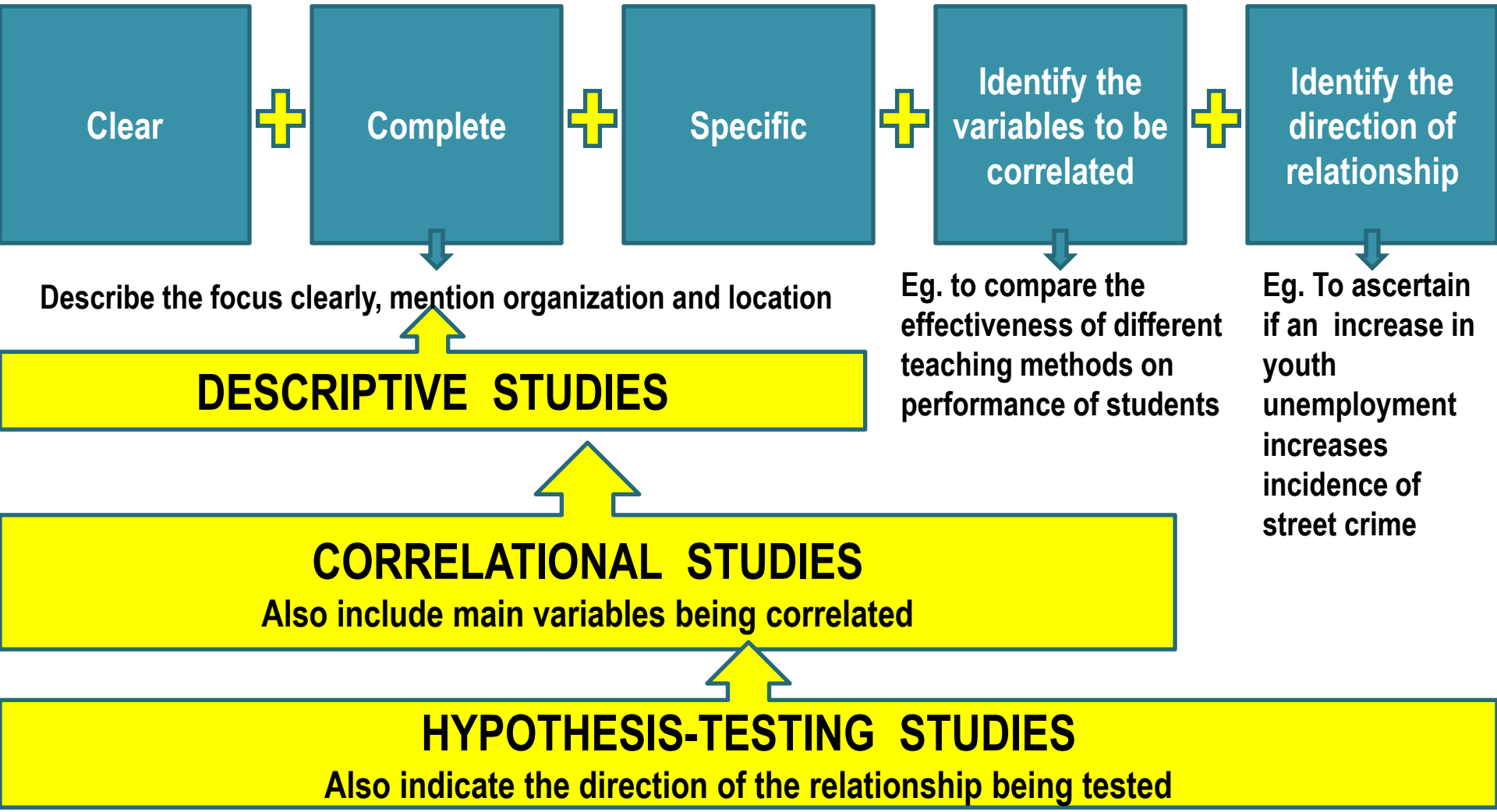
RESEARCH OBJECTIVES

FORMULATION - Considerations

Sub Objectives

- List them numerically
- Should be worded clearly and unambiguously
- Each sub –objective should contain only one aspect of the study
- Use action oriented words or verbs – ‘to determine’, ‘to ascertain’, ‘to measure’, ‘to investigate’, ‘ to explore’ , ‘ to analyse’….

CHARACTERISTICS OF OBJECTIVES



Source: Ranjit Kumar, 2014

EXAMPLE : We want to study the relationship between fertility and mortality

Step 1	Step 2
Identify the main subject area	Dissect into sub-areas
Fertility and mortality	1. Trends in fertility & mortality 2. Determinants of fertility rate 3. Relationship between fertility and mortality 4. Impact of health services on mortality 5. Impact of female education and awareness on fertility

EXAMPLE : We want to study the relationship between fertility and mortality

Step 3	Step 4
Select sub- areas of your interest	Raise research questions
Relationship between fertility and mortality	1. What happens to fertility when mortality declines 2. What is the time lag between the start of decline in mortality and start of decline in fertility 3. What are the factors that contribute to decline in fertility? 4. Etc.

Step 4

Raise research questions

1. What happens to fertility when mortality declines
2. What is the time lag between the start of decline in mortality and start of decline in fertility
3. What are the factors that contribute to decline in fertility?
4. Etc.

Step 5

Formulate objectives

Main objective: to explore the relationship between fertility and mortality

Sub-objectives:

1. to find out the extent of decline in fertility in relation to the decline in mortality
2. To ascertain the time lag between the decline in mortality and decline in fertility
3. To identify the factors that affect the changes in fertility.
4. To explore the relationship between socio-economic-demographic characteristics of population and the extent of changes in fertility and mortality

Step 6

Make sure

Assess the objectives in light of

1. Work involved
2. Time available
3. Financial resources available
4. Researcher's / Supervisor's technical expertise
5. Availability of data
6. Relevance & significance

Step 7

Double check

1. You are really interested in the study?
2. You agree with the objectives?
3. You have adequate resources?
4. You have technical expertise required to undertake the study?
5. Software/ analytical capabilities?

If yes, proceed …..

OTHER CONSIDERATIONS

THE STUDY POPULATION

POPULATION from which the information required to find answers to the research questions is obtained

- ✓ It is to be decided very clearly and specifically who constitutes your study population, in order to select appropriate respondents
- ✓ For example you have designed a study to ascertain the needs of young people living in a community

The first question you need to answer is

- *Who do you consider to be a young person?*
- *Decide the age group (15-18 yrs, 15 -20 years, 20-25 years????)*
- *Do you want to select young people from either gender or confine the study to any one only?*
- *What will constitute the community?*
- *From which ethnic/geographical background will the respondents be selected?*

OTHER CONSIDERATIONS

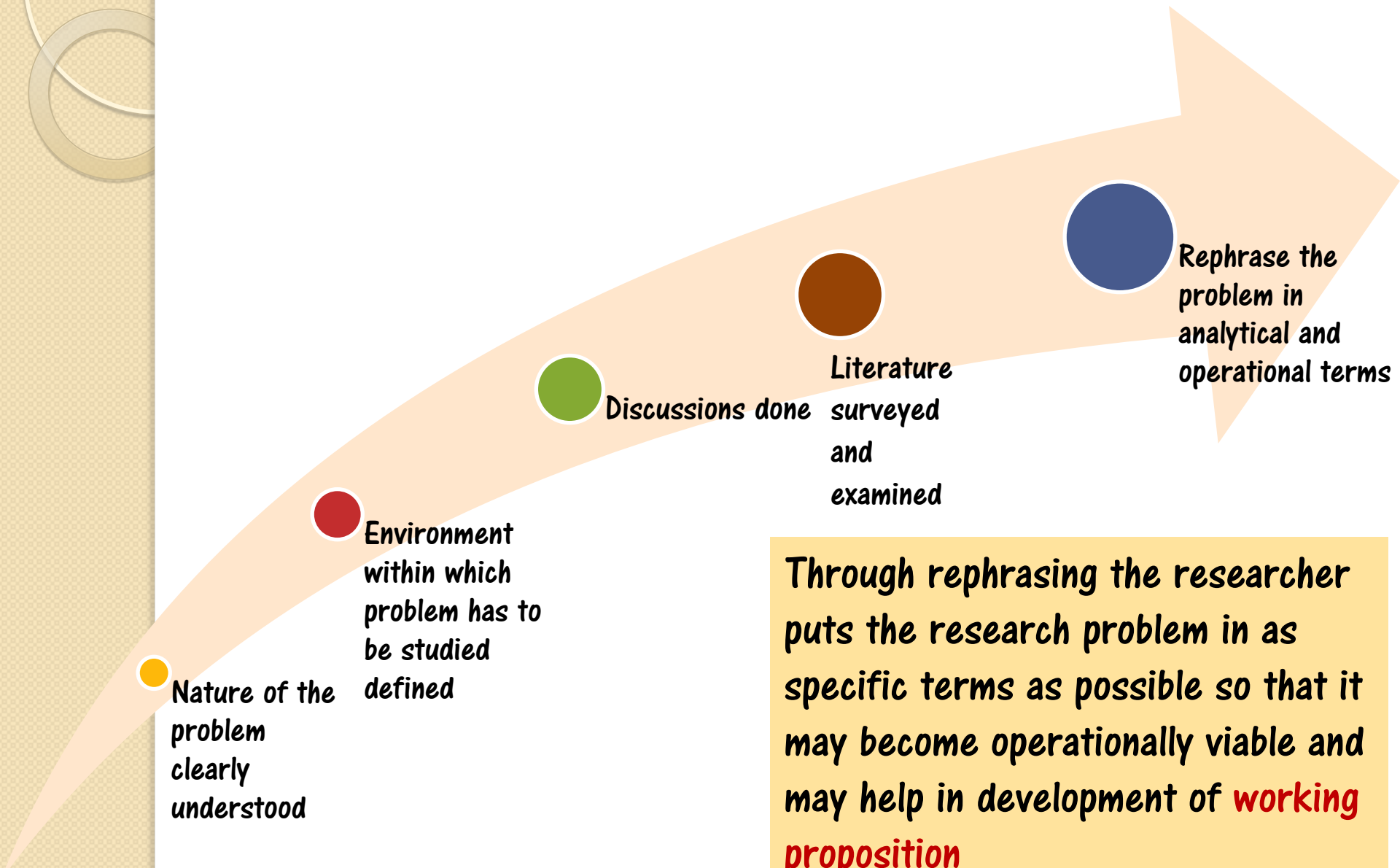
THE STUDY POPULATION – Example

- ✓ **You want to find out the settlement process of immigrants**

Seek answer to the following questions

- ***Who would you consider an immigrant?***
- ***The time frame – people who migrated 5,10,15 or 20 years ago?***
- ***Spatial aspect – countries/region from where immigrants come***
- ***Will you select all types of migrants or specific types/belonging to a particular country or type***

THE OUTPUT .....



Through rephrasing the researcher puts the research problem in as specific terms as possible so that it may become operationally viable and may help in development of working proposition

THANKS