

# Research and Methodology

## Lecture 2

# Organization of this lecture

## **Research and Methodology:**

- Research defined and described
- Some classifications of research
- Define and discuss methodology
- Description of the research process
- Discuss creativity and its role in the research process

# Research Defined and Described

*“Research is the systematic approach to obtaining and confirming new and reliable knowledge”*

- Systematic and orderly (following a series of steps)
- Purpose is new knowledge, which must be reliable

This is a general definition which applies to all disciplines

## Notice that:

*“... truth was not used in the definition of research” (p 16)*

*“This concept of truth is outside of the productive realm of thinking by researchers”  
(p 16)*

# Research is not

## Accidental discovery :

1. Accidental discovery may occur in structured research process
2. Usually takes the form of a phenomenon not previously noticed
3. May lead to a structured research process to verify or understand the observation

# Research is not ... cont.

## Data Collection

- an intermediate step to gain reliable knowledge
- collecting reliable data is part of the research process

# Research is not ... cont.

Searching out published research results in libraries (or the internet)

- This is an important early step of research
- The research process always includes synthesis and analysis
- But, just reviewing of literature is not research

# Research is...

1. Searching for explanation of events, phenomena, relationships and causes
  - What, how and why things occur
  - Are there interactions?
2. A process
  - Planned and managed – to make the information generated credible
  - The process is creative
  - It is **circular** – always leads to more questions



- All well designed and conducted research has potential application.
- Failure to see applications can be due to:
  - Users not trained or experienced in the specialized methods of economic research and reasoning
  - Researchers often do not provide adequate interpretations and guidance on applications of the research
- Researchers are responsible to help users understand research implications  
(How?)

# Public good

- Public research is a public good
  - May be more rigorous and objective because it is subject to more scrutiny
- Private research may also be rigorous
  - But research on a company's product may be questioned as biased.

# Classification of Research

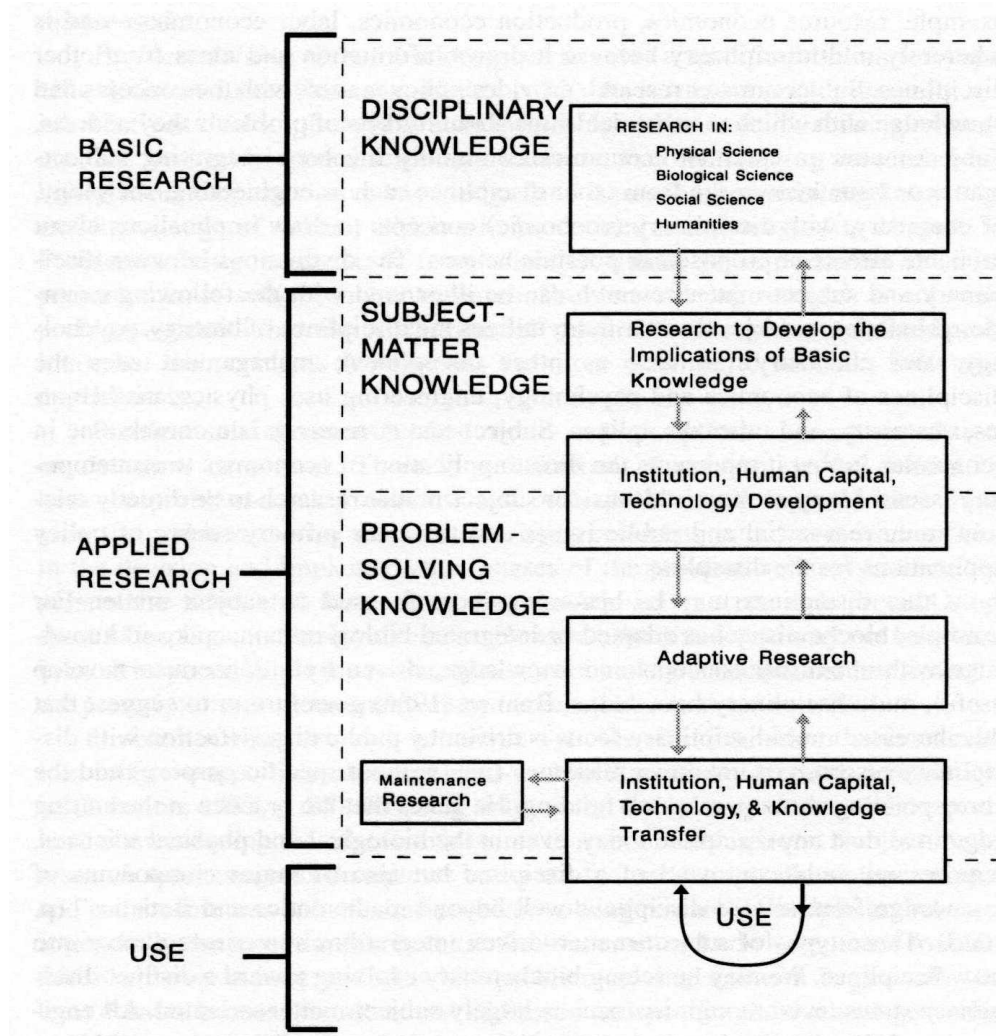
- Before classification, we must first **define** types of research
- Different criteria are used to classify research types

(All of these are somewhat arbitrary and artificial)

# Basic vs Applied Research

- Basic – to determine or establish fundamental facts and relationships within a discipline or field of study. Develop theories ... (examples in economics?)
- Applied – undertaken specifically for the purpose of obtaining information to help resolve a particular problem
- The distinction between them is in the application
  - Basic has little application to real world policy and management but could be done to guide applied research

# Disciplinary, Subject-matter, and Problem-solving Research (Johnson, 1986)



**Figure 2.1.** Relationship among research, knowledge, and use (Bonnen, 1986).

# Disciplinary

- designed to improve a discipline
- dwells on theories, fundamental relationships and analytical procedures and techniques
- In economics, the intended users are other economists
- Provides the conceptual and analytical base for other economic research
- It is synergistic and complementary with subject matter and problem-solving research

# Disciplinary... cont.

- Provides the foundations for applied research
- Circular as applied research reveals the shortcomings of disciplinary research
- Examples of some economic theories?  
(supply & demand, price elasticity, consumer utility ...)

# Subject-matter research

- *“research on a subject of interest to a set of decision makers “ (p 22)*
- Tends to follow subject-matter boundaries within a discipline ( eg. resource economics, production economics, labor economics)
- Inherently multidisciplinary, drawing information from many disciplines
  - eg. consumer economic draws from psychology, natural resource economics from biology, economic policy from political science



# Subject-matter research ... cont.

- Provides policy makers with general knowledge to make decisions about various problems.
- A primary source of policy applications for economics
- Subject-matter research is a cornerstone in economics – it involves direct application of economics to contemporary issues.

# Problem-solving research

- Designed to solve a specific problem for a specific decision maker
- Often results in recommendations on decisions or actions
- Problem-solving research is holistic – uses all information relevant to the specific problem (while disciplinary research tends to be reductionist)
- Disciplinary research is generally the most “durable” (long lasting); problem-solving research the least durable

# Analytic vs Descriptive Research

- Descriptive Research – the attempt to determine, describe, or identify something
  - The intent is often synthesis, which pulls knowledge or information together
- Analytic – the attempt to establish why something occurs or how it came to be
- All disciplines generally engage in both

# Methodology Defined & Described

Methodology and Method are often (incorrectly) used interchangeably

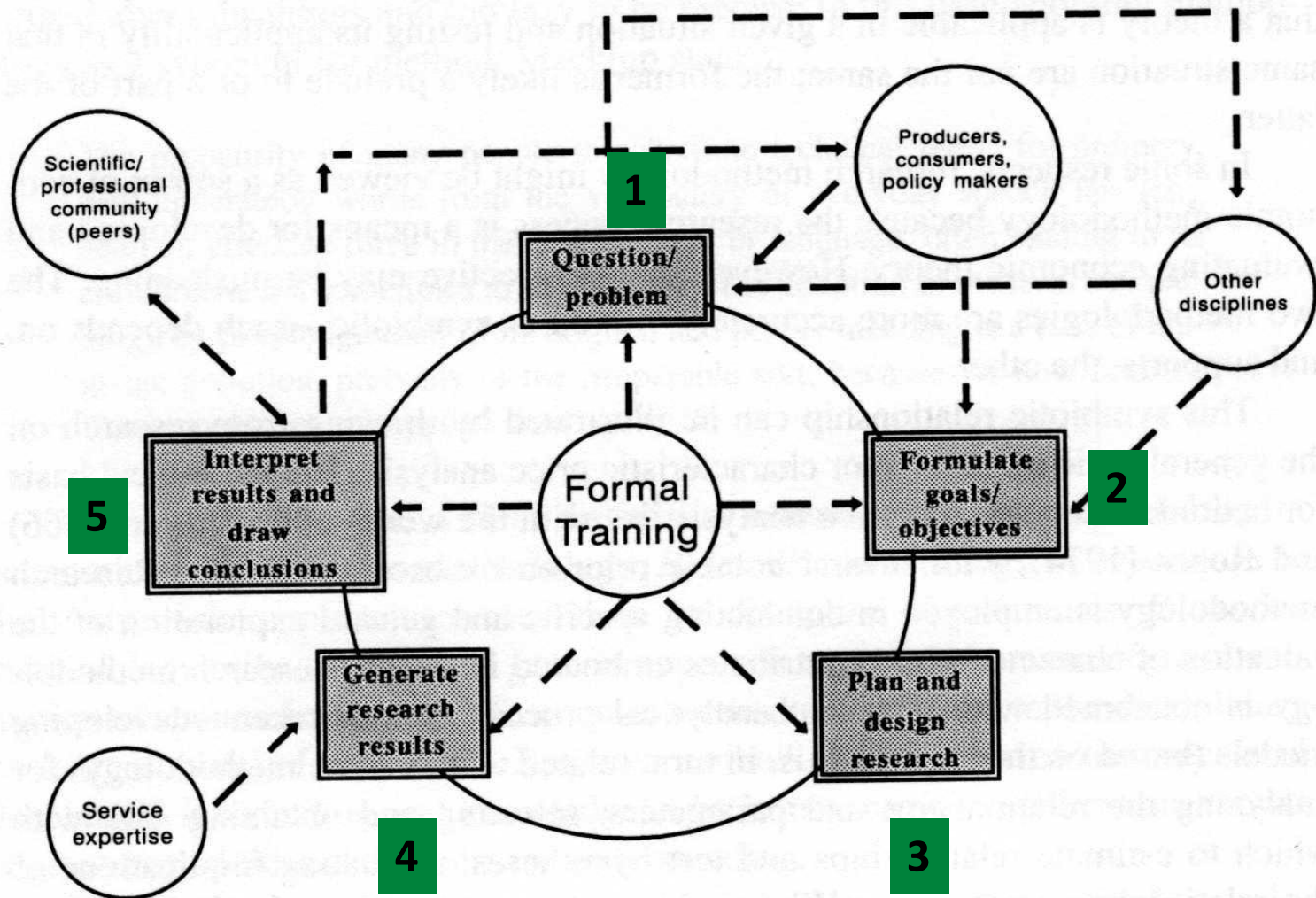
- Methodology – the study of the general approach to inquiry in a given field
- Method – the specific techniques, tools or procedures applied to achieve a given objective
  - Research methods in economics include regression analysis, mathematical analysis, operations research, surveys, data gathering, etc.

- Contrast research methodology in economics (the approach to research) to economic methodology (the general approach to economic reasoning and economic concepts)
- While these are different they are interdependent ( in the same way as science and research are related)

# The Process of Research

- The process is initiated with a question or problem (**step 1**)
- Next, goals and objectives are formulated to deal with the question or problem (**step 2**)
- Then the research design is developed to achieve the objectives (**step 3**)
- Results are generated by conducting the research (**step 4**)
- Interpretation and analysis of results follow (**step 5**)

# The Process of Research



**Figure 2.2.** Schematic of research process.

# Creativity in the Research Process

- Research is a creative process
- “...research includes far more than mere logic ... It includes insight, genius, groping, pondering – ‘sense’ ... The logic we can teach; the art we cannot” (p 30)
- Research requires (or at least works best) with imagination, initiative, intuition, and curiosity.
- There are different types of creativity, characteristic of different situations – “applied” and “theoretical” most closely associate with economic research



# Fostering Creativity (Ladd 1987)

- A. Gather and use previously developed *knowledge*
- B. Exchange ideas
- C. Apply deductive logic
- D. Look at things alternate ways
- E. Question or challenge assumptions
- F. Search for patterns or relationships
- G. Take risks
- H. Cultivate tolerance for uncertainty

# Fostering Creativity ... cont.

- I. Allow curiosity to grow
- J. Set problems aside ... and come back to them
- K. Write down your thoughts
  - “... frequently I don't know what I think until I write it”
- L. Freedom from distraction ... some time to think.

*Creativity may provide the difference between satisfactory and outstanding research.*