



# **Introduction to Research Methodology**

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# Outline

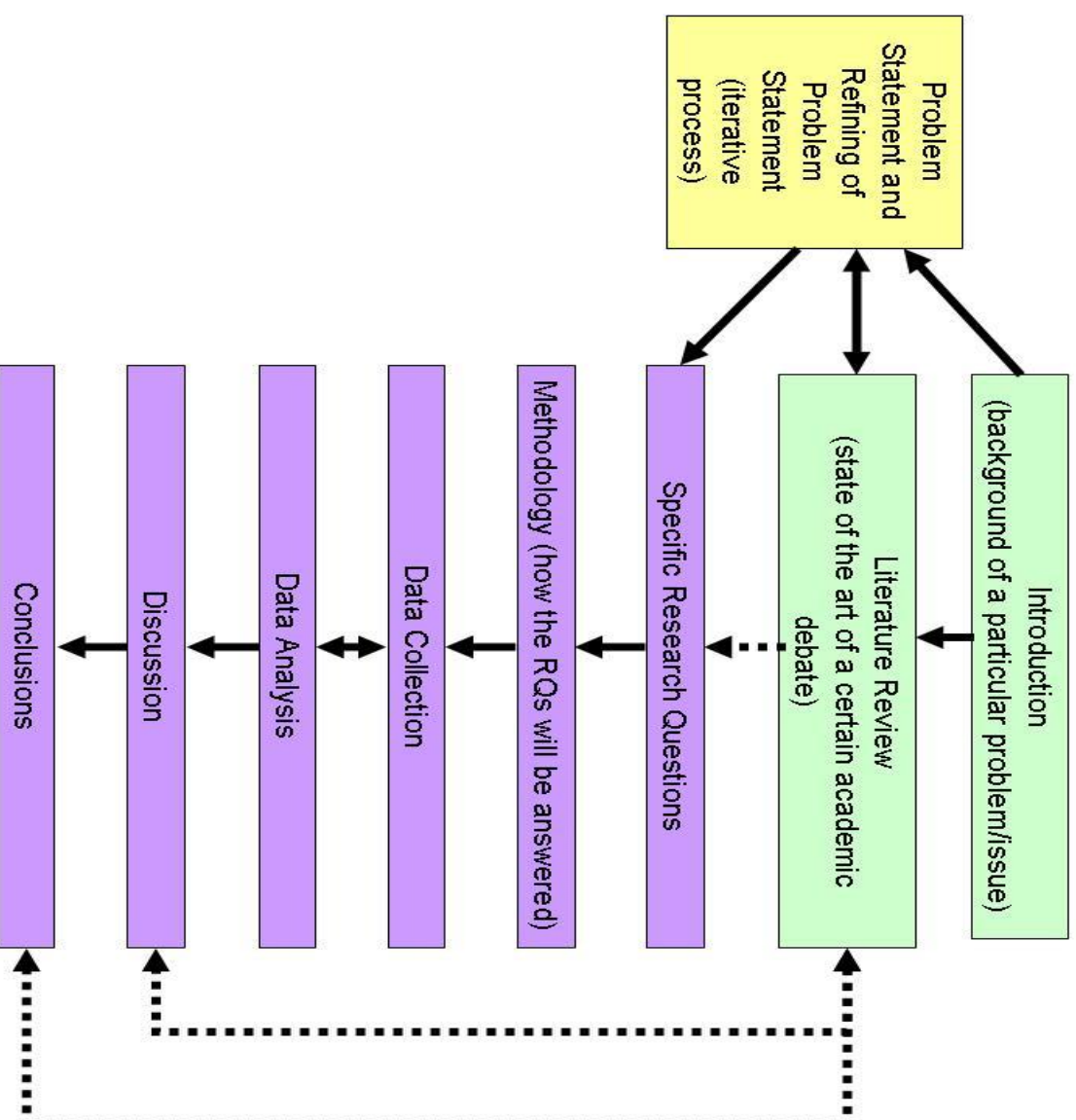
- ❑ Methodology
  - ❑ Methods
  - ❑ Approach
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# The Purpose of Research

- ❑ To learn about a specific phenomenon that you are researching
  - ❑ To investigate an issue to gain understanding in order to contribute to:
    - Theory
    - Decision making
    - Action
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# Research Process



# Research questions

- ❑ **Follow from the problem statement and literature review**
  - Questions to achieve the research objectives
- ❑ **Not too broad and not too narrow**
  - Do able given existing time frame and resources
- ❑ **Allows for testing of an hypothesis (if one is part of the MSc research)**
- ❑ **The objective of your research is to answer the research questions!**
- ❑ **Research question have to generate interest**



# Methodology

From Latin *methodus* + *-logia* -logy

The procedure of tackling your problem, including:

1. your world view, your assumptions, and theoretical framework that lead to your research focus
  2. the design of the process, including the research question or hypothesis, the methods, the analytic approach, the product and the timeline.
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# Methodology

- ❑ **World view + positionality leads to choice of topic**
- ❑ **Theoretical framework (conceptual framework)**
  - Concepts are abstractions in words that facilitate understanding

**They are linked to build theories that explain research results**

- ❑ **Research question/hypothesis**
- ❑ **Choice of methods: HOW**
  - **Data collection**
  - **Analysis**
  - **Recording**
  - **reporting**

# Methods

- ❑ **The instruments used to collect and analyse the information needed to answer the research question or test your hypothesis.**
  - Combination of instruments
- ❑ **Such as statistical analysis, interview, focus group discussion, etc.**
- ❑ **Data analysis: Modelling, SPSS, Excel**
- ❑ **The importance of triangulation**
  - Within the same method
  - Cross-method



# Selecting the methods

What method would we use:

- If we wish to find out how many people oppose private sector involvement?
  - If we are interested in opinions about water services provided (by a public or private utility)?
  - If we are interested in the process of increasing private sector involvement (privatization)?
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# Selecting the respondents (sources of data)

## **Questions to be taken into account:**

- Who will be a respondent and why?
  - How many respondents and how many times?
  - When and for how long?
  - Where?
  - How will be achieved?
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# APPROACH

**ap·proach**

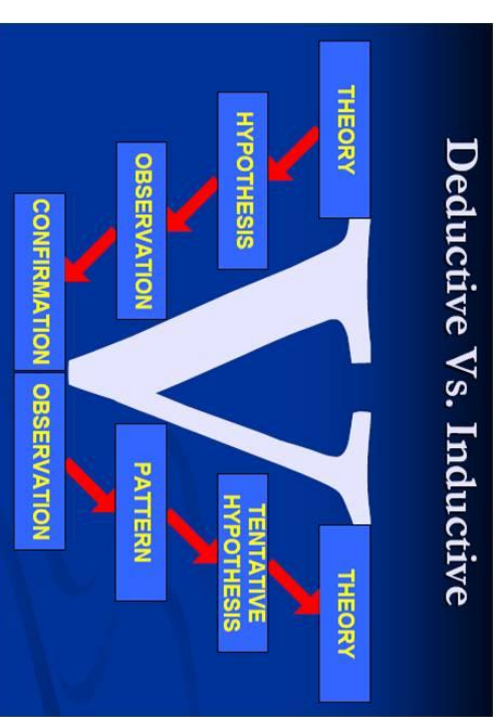
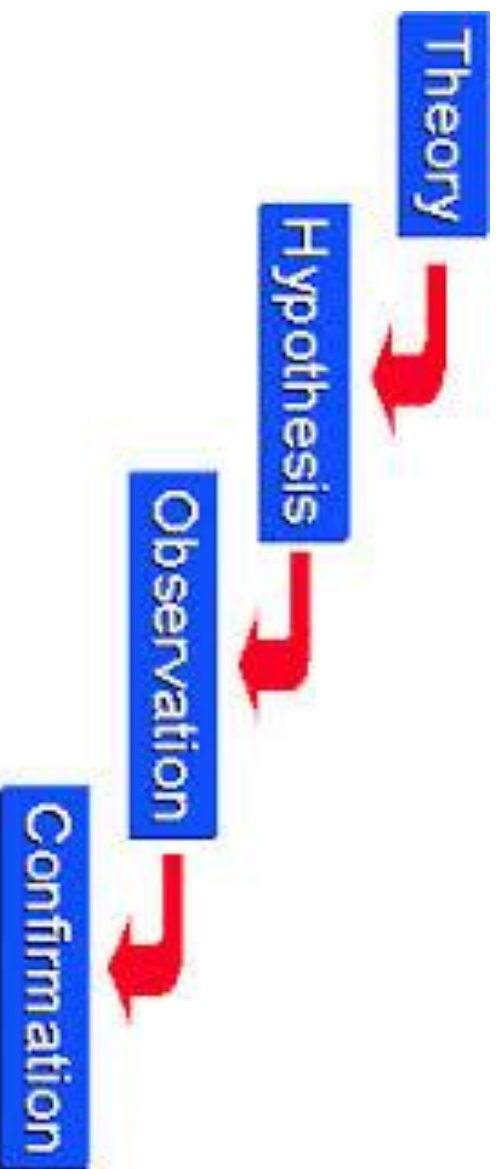
**Verb:** Come near or nearer to (someone or something) in distance: "the train approached the main line";

**Noun:** A way of dealing with something: "we need a whole new approach to the job".

The way to decide the problem

# APPROACH

- The research approach is a method of producing new knowledge or deepening your understanding of a topic or issue.

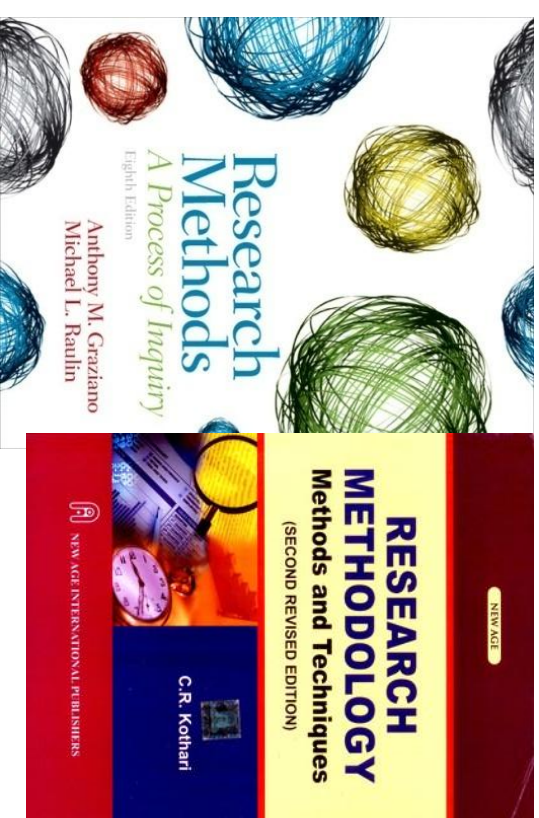


# RESEARCH METHODS

Crotty (1998) defined research methods as:

“The techniques or procedures used to collect, gather and analyse data related to some research questions or hypothesis”

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# **APPROACH DEVELOPMENT**

# A Continuum of Disciplinary Integration

(Adapted from Rosenfield, 1992)

## Transdisciplinary —→

Researchers from *different disciplines* *work jointly* to develop and use a shared conceptual framework that synthesizes and extends discipline-specific theories, concepts, and methods, to create new approaches to address a common problem

Across

## Interdisciplinary

Researchers from *different disciplines* *work jointly* to address a common problem. Some integration of perspectives occurs, but contributions remain anchored in their own disciplines.

## Multidisciplinary —→

Researchers from *different disciplines* *work sequentially*, each from their own discipline-specific perspective, with a goal of eventually combining results to address a common problem

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## Unidisciplinary

Researchers from a *single discipline* work together to address a common problem

Within

# TRANSDISCIPLINARY RESEARCH

*What's the difference?*

<b>Transdisciplinary Research</b>	<b>Multidisciplinary Research</b>	<b>Interdisciplinary Research</b>

# TRANSDISCIPLINARY RESEARCH

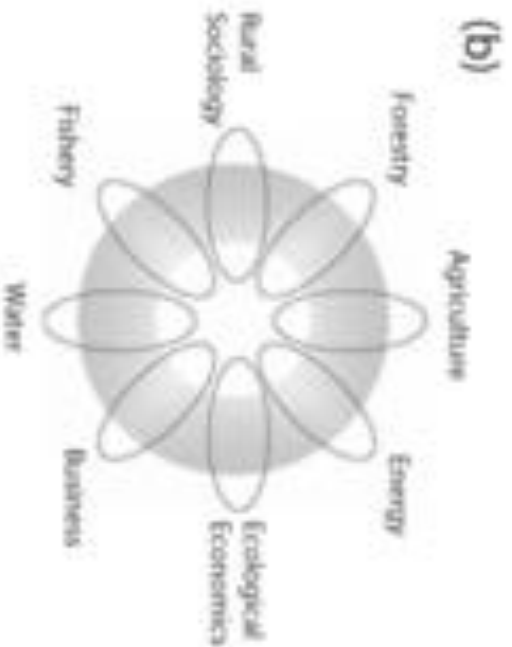
*What's the difference?*

<b>Transdisciplinary Research</b>	<b>Multidisciplinary Research</b>	<b>Interdisciplinary Research</b>
<p>Collaboration in which exchanging information, altering discipline-specific approaches, sharing resources and integrating disciplines achieves a common scientific goal (Rosenberg 1992).</p>	<p>Researchers from a variety of disciplines work together at some point during a project, but have separate questions, separate conclusions, and disseminate in different journals.</p>	<p>Researchers interact with the goal of transferring knowledge from one discipline to another. Allows researchers to inform each other's work and compare individual findings.</p>

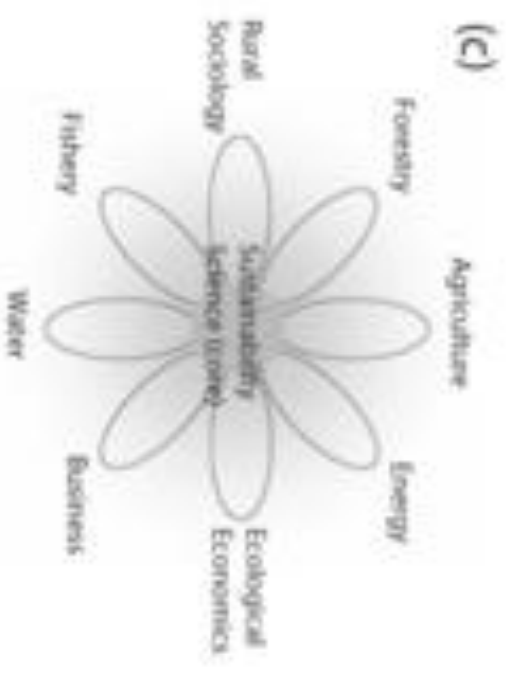
# From disciplinary to transdisciplinary approach



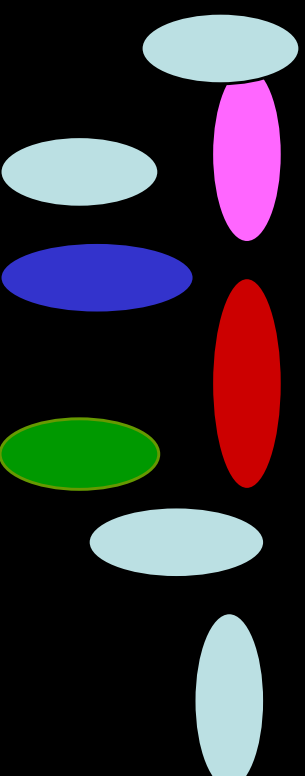
Multidisciplinary



Interdisciplinary

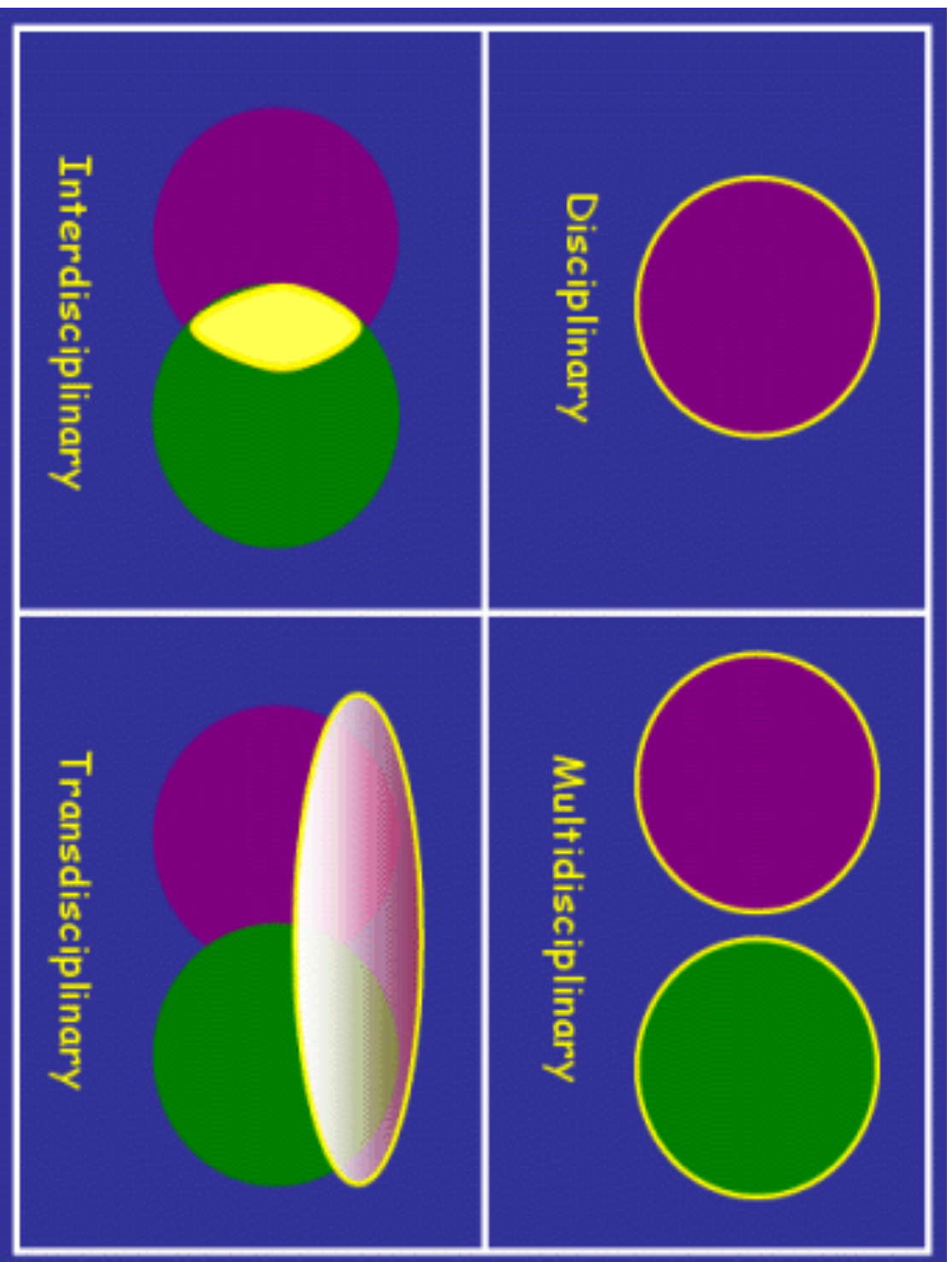


Transdisciplinary



Disciplinary

# From disciplinary to transdisciplinary approach



# Example

**Local knowledge amongst farming communities on response to water-induced hazards – Case study in**

**Xuan Thuy National Park, Vietnam**

- ❑ **Methodology: Human ecology framework**
- ❑ **Method: expert interview, focus group discussion, deep interview etc.**
- ❑ **Approach: interdisciplinary Approach**

# Exercise

## Define your concept:

- Methodology
- Method
- Approach
  - Transdisciplinary Research/ Approach
  - Multidisciplinary Research/ Approach
  - Interdisciplinary Research/Approach

# References

1. Rossiter, D. G. (2014): **Research Concepts & Skills. Volume 2: Skills.** University of Twente, Faculty of Geo-information Science & Earth Observation (ITC).
2. Rossiter, D. G. (2014): **Research Concepts & Skills. Volume 3: The UT/ITC thesis process.** University of Twente, Faculty of Geo-information Science & Earth Observation (ITC).
3. Blaxter, L.; Hughes. C., Tight, M. (2006): **How to research.** Third Edition. Open University Press. Poland.