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Week 1

What is research anyway?

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What is research anyway?

“The systematic investigation into and study of materials and sources in order to establish facts and new conclusions.”

- Oxford Dictionary

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What is research anyway?

“If we knew what we were doing it wouldn't be research”

- Albert Einstein

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What is research anyway?

“By seeking and blundering, we learn”

- Johann Wolfgang von Goethe

What is research anyway?

“Scientific research consists in seeing what everyone else has seen but thinking what no one else has thought.”

- Unknown

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What is research anyway?

“It is enormously easier to present in an appealing way the wisdom distilled from centuries of patient and collective interrogation in Nature than to detail the messy distillation apparatus. The method of science as stodgy and frumpy as it may seem, is far more important than the findings of science.”

- Carl Sagan

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So what is it...

- It is a process (the research method).
- It is systematic.
- It uses evidence (prior research) to guide further evidence collection.
- It situates findings in data.
- It is different from “science”.

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So why do we “do” research?

- We’re curious and want to understand things.
- We want to make the world better.
- Address problems that no one has addressed, yet.

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The “why” continued...

- Provide services that work and are cost-effective, as well as efficient.
- To effectively influence policy and practice.
- It is needed for funders.
- It is needed for grant writing.
- It enhances the profession's prestige & legitimacy.
- It is necessary in academic careers.
- Curiosity!

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Why bother?

- We need to investigate our research and practice skills.
- There is little that is truly “known”.
- In service fields, **FEW** do research but **EVERYONE** provides services.
- We need to improve services, treatments, and programs.
- We need to know if services, treatments, & programs work.

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Research can be empowering.

- Helps improve practice.
- Uses interventions shown to be effective.
- Critically assesses research evidence.
- Documents practice results.
- Demonstrates that you ARE making a difference.

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How do we acquire knowledge?

Intuition Tradition Authority Experience

The Research Method

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Intuition

- Knowledge that stems from a “gut” feeling or some subconscious process.
- Not to be confused with **professional judgement**, which is a conscious process where facts and experience are both considered to form a basis for making reasoned decisions.

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Tradition

- Knowledge that is passed on through tradition.
- Sometimes based on authority.
- The accepted way of doing things, or the way that things have “always” been done.
- Differentiate between knowledge (based on facts) and beliefs (based on faith).
- Accept that both are neither final nor certain.

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Authority

- Knowledge that is passed down from experts or authorities (e.g., scientists, expert practitioners, master teachers) in a field.
- Be open to questioning the accuracy of authority figures.
- Be particularly skeptical of the media as a source of evidence.

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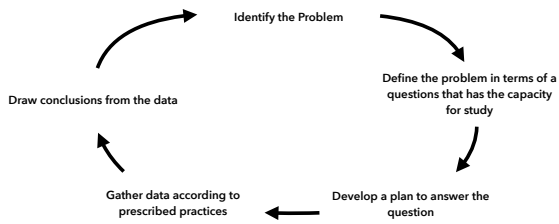
Experience

- Knowledge that is gained by doing.
- Through experience, you gain knowledge but you also gain biases.

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Research Method

The Research Process



Skills needed to do research.

- You (and/or your team) need(s) to understand how to:
 - Work in research contexts
 - Design a research study
 - Collect data
 - Be culturally sensitive
 - Analyze data
 - Write research reports and proposals

The Knowledge-Level Continuum

Why is the knowledge-level continuum important?

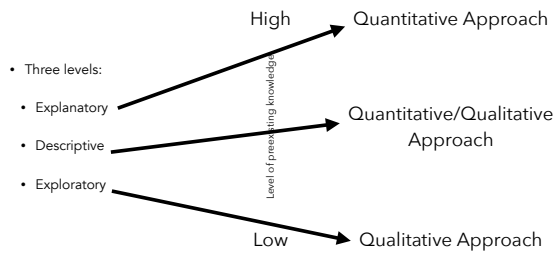
- Research has 3 purposes:
 - Descriptive (understand clients or agencies)
 - Evaluate (or explore needs of clients or agencies)
 - Explain (determine causes of problems)
- Because there is always an alternative, and sometimes a better way to solve problems.

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The knowledge-level continuum



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Exploratory Research Studies

- Become **familiar** with basic facts, people, and concerns.
- Develop a **well-grounded** mental picture of what is occurring.
- Generate items and **develop tentative theories**.
- Determine the **feasibility of doing** additional research studies.
- Formulate questions and **refine issues** for more systematic inquiry.
- Develop techniques and a **sense of direction** for future research.

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Descriptive Research Studies

- Provide an accurate **profile** of a group.
- **Describe** a process, mechanism, or relationship.
- Give a verbal or numerical **picture** (e.g., percentages).
- Find information to **stimulate new explanations**.
- Create a **set of categories** or classify types.
- **Clarify a sequence**, set of stages, or steps.
- Document information that **confirms or contradicts** prior beliefs.

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Descriptive Research Studies

*Where Qual and Quan Meet

- Provides a description of the population
- Can only describe the “who, what, when, where and how” of a situation... not what caused it.
- It provides the number of times something occurs, lends itself to statistical calculations such as determine the average number of occurrences or central tendencies.
- One of it's major limitations is that it cannot help determine what caused a specific behavior, motivation, or occurrence.

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Explanatory Research Studies

- Determine the **accuracy** of a principle or theory.
- Link different issues under a **common** general statement.
- **Build and elaborate** a theory so it becomes more complete.
- Provide **evidence** to support or refute an explanation.
- Primary goal is to understand the **nature of the relationship** between the independent and dependent variable.
- **Causal relationships** between variables.

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Pure and Applied Studies

- | | |
|---|--|
| <ul style="list-style-type: none">• Pure• Goal is to develop theory and expand the knowledge base.• Produces <u>theoretical</u> results. | <ul style="list-style-type: none">• Applied• Goal is to develop solutions for problems and applications in practice• Produces <u>practical</u> results. |
|---|--|

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Definitions.

- **Phenomena:** observation.
- **Construct:** definition used for explanation.
- **Variable:** measurable arm of construct.
- **Constant:** no difference.

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Definitions, cont.

- **Dependent variable:** measured operationally defined. Value depends on another. Typically, focus of the study.
- **Independent variable:** measured or experimentally defined. Related to or affects DV.
- **Extraneous variables:** preexisting, intervening variable in the environment. Many are "controlled" for.

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Definition, cont.

- **Quantitative:** generation of numerical data.
- **Qualitative:** generation and interpretation of non-numerical data.
- **Mixed methods:** integration of quan and qual data.

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Definition, cont.

- **Philosophical worldview:** represents a set of beliefs related general orientation of the world.
- **Ontology:** someone's belief in the nature of truth and reality.
- **Epistemology:** someone's belief about how we acquire knowledge about that truth and reality.

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Definition, cont.

- **Post-positivism:** single reality or objective truth.
- **Constructivism:** multiple realities exist and meaning is varied and complex.
- **Pragmatism:** concerned with solutions to problems.
- **Transformative:** tied to politics; action oriented
- **Two-eyed seeing:** many ways to understand the world; rooted in indigenous studies.

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Exercise (Discussion Post #1)

- Read the abstracts in the discussion post #1.
- Consider how each of the research studies described above might look if guided by a different philosophical worldview. Would the research focus remain the same? How might the methods change? Is there any implication for the conclusions drawn at the end of the abstract?

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Discussion Point #2

- Consider your own worldview.
- Given what was discussed in this first lecture, what paradigm would you say you operate from?
- Why do you believe this is your paradigm?
- Do you have trouble picking just one?

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Conclusion

- Knowledge is essential.
- There are many ways of knowing, one of which is the research method.
- Research can be approached in different ways.
- Research defines a preferred way of thinking and action.

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