

Introduction to the Process of Research



Key Ideas

- Reasons research is important
- Problems with research today
- Research defined
- The Research Process
- Ethical Considerations in Research
- Skills needed for research

What is Research?

- The researcher asks a question
- The researcher collects data
- The researcher indicates how the data answered the question

Scientific vs. non scientific research

Scientific research is a systematic way of gathering data and harnessing [curiosity](#). This research provides [scientific](#) information and theories for the explanation of the [nature](#) and the properties of the world. It makes practical applications possible. While non scientific research does not follow systematic way of gathering data and harnessing curiosity

Scientific research is a systematic way of analyzing and interpreting new or existing material through experimentation and observation, While Non scientific research is based upon investigation of natural phenomenon without systematic

In general. Scientific research and non scientific research, both are used in collection of data, information and knowledge that can be added to the existing one. Can be used to solve different disputes such as political conflict economic issues and social conflict.

Comparisons between traditional and scientific knowledge styles

Indigenous Knowledge

assumed to be the truth

sacred and secular together

teaching through storytelling

learning by doing and experiencing

oral or visual

integrated, based on a whole system

intuitive

holistic

subjective

experiential

Scientific Knowledge

assumed to be a best approximation

secular only

didactic

learning by formal education

written

analytical, based on subsets of the whole

model- or hypothesis-based

reductionist

objective

positivist

Comparisons between traditional and scientific knowledge *in use*

Indigenous Knowledge

lengthy acquisition

long-term wisdom

powerful prediction in local areas

weak in predictive principles in distant areas

models based on cycles

explanations based on examples, anecdotes, parables

Classification:

- a mix of ecological and use
- non-hierarchical differentiation
- includes everything natural and supernatural

Scientific Knowledge

rapid acquisition

short-term prediction

powerful predictability in natural principles

weak in local areas of knowledge

linear modeling as first approximation

explanations based on hypothesis, theories, laws

Classification:

- based on phylogenetic relationships
- hierarchical differentiation
- excludes the supernatural

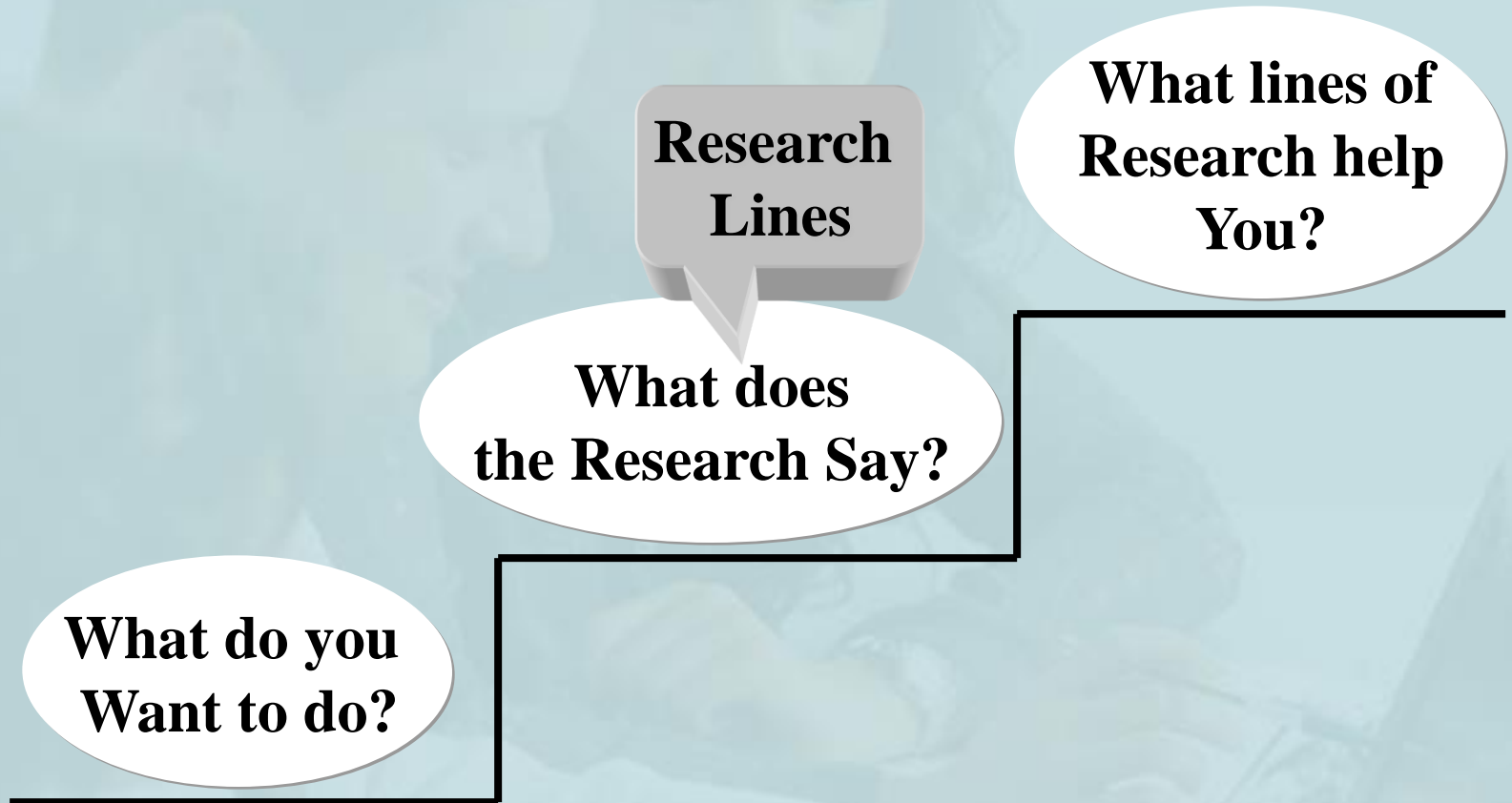
Importance of Research

- Reason 1: Research Adds Knowledge About Educational Issues
 - Addresses gaps in knowledge
 - Expands knowledge
 - Adds voices of individuals to knowledge

Importance of Research

- Reason 2: Research Helps Improve Practice
 - Educators gain new ideas
 - Educators gain new insight into methods
 - Educators gain new insight into students

Lines of Research



Importance of Research

- Reason 3: Research Informs Policy Debates
 - Research helps people weigh different perspectives on issues
 - Research helps people make informed decisions regarding policy

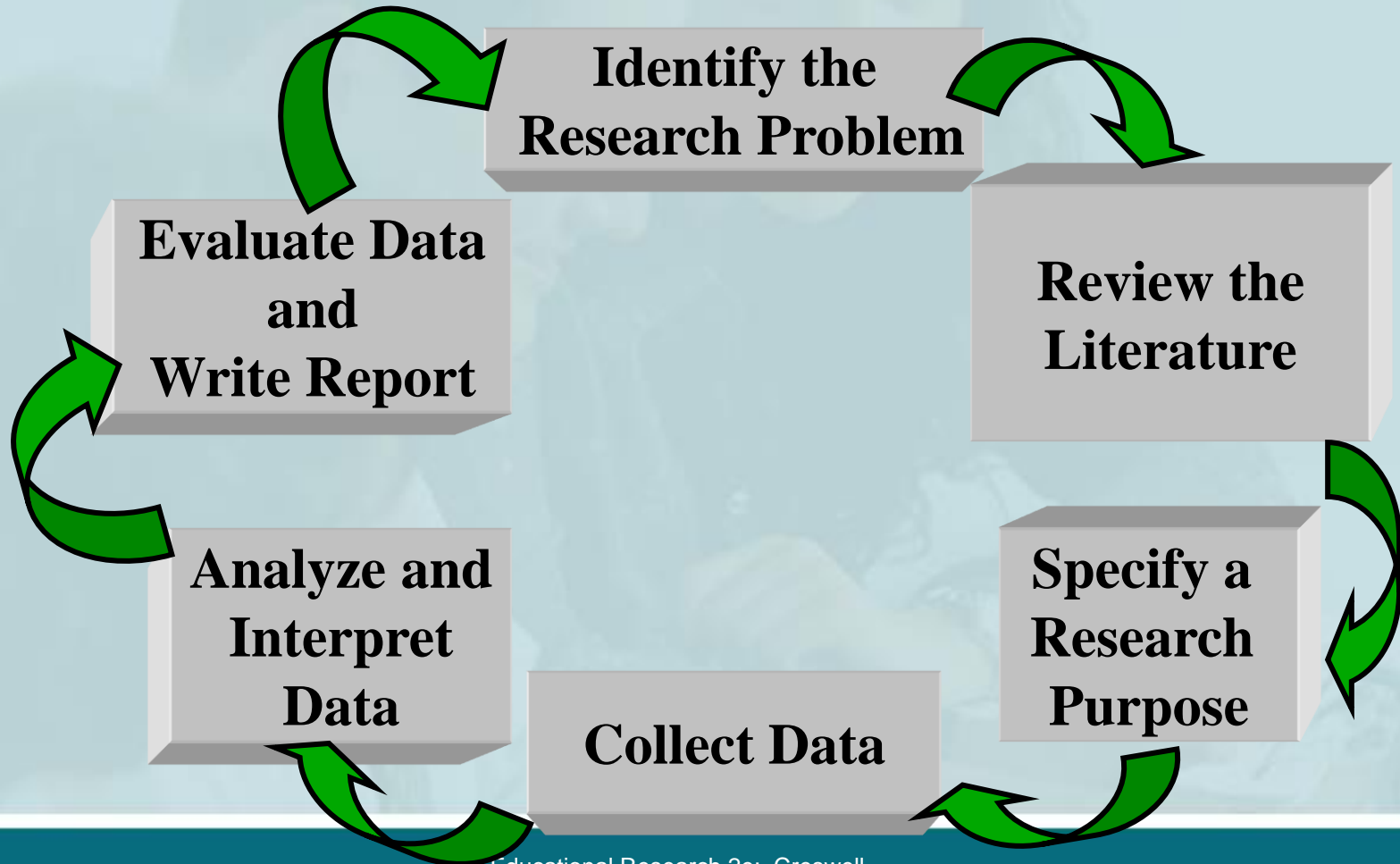
Importance of Research

- Reason 4: Research Builds Student Research Skills
 - Organizational skills
 - Analytical skills
 - Writing skills
 - Presentation skills

Problems With Research Today

- Contradictory or vague findings
- Questionable data
- Unclear statement about the intent of the study
- Lack of full disclosure of the data collection procedure
- Inarticulate rendering of the research problem

The Research Spiral



Research Spiral: Identify the Research Problem

- Specify a problem
- Justify a problem
- Suggest a need to study it for audiences

Research Spiral: Reviewing the Literature

- Locate the Resources
 - Books
 - Journals
 - Electronic Resources
- Select Resources
 - Determine the relevant resources for the topic
 - Organize the resources by developing a “Literature Map”
- Summarize the resources in a Literature Review

Research Spiral: Specify a Purpose for the Research

- Identify the purpose statement
- Narrow the purpose statement to research
 - Quantitative: Research Questions and or hypothesis
 - Qualitative: Central Phenomenon and sub-questions

Research Spiral: Collecting Data

- Determine the data collection method
- Select the individuals to study
- Design data collection instruments and outline procedures
- Obtain permissions
- Gather information

Research Spiral: Analyzing and Interpreting Data

- Breaking down the data
- Representing the data
- Explaining the data

Research Spiral: Reporting and Evaluating Research

- Determine the audience for the report
- Structure the report
- Write the report sensitively and accurately

Ethical Considerations in Research

- Respect the rights of the participants
- Honor the requests and restrictions of the research site
- Report the research fully and honestly

Skills Needed for Research

- Curiosity to solve puzzles
- Lengthen your attention span
- Using the library and computer resources
- Writing and editing