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Getting Started in Research: Development of projects from ideas.

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What is research? Are there different types?

Definitions:

1. QUANTITATIVE RESEARCH

'Quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world. (think quantity –numerical)

This research method is used:

to describe variables;

to examine relationships among variables;

to determine cause-and-effect interactions between variables.'

Reference: Burns N, Grove SK (2005) *The Practice of Nursing Research: Conduct, Critique, and Utilization* (5th Ed.). St. Louis, Elsevier Saunders

Definitions:

Qualitative research

Involves looking in-depth at non-numerical data. Think of the word 'quality' when you think of qualitative data - you are taking a deep, quality look at a phenomenon.

Sometimes research projects can be both qualitative and quantitative- not mutually exclusive and one is not better than another.

Why research?

1. Find out more about the world?
2. Add grant applications, publications and qualifications to my CV to get a better job?
3. Contribute to our collective knowledge?
4. Win a Nobel prize?
5. Because my supervisor tells me I should?

To answer a question or questions?

Questions?

Where do boys and girls come from?

Now we have come up with a ‘question’ we guess what the answer is (usually an educated one based on prior knowledge)

Guess is _

Boys are found in Gooseberry bushes and storks bring girls…..obviously!

This guess is our ‘hypothesis’ and it is testable

Questions:

1. Would ensuring dementia patients brush their teeth twice daily improve their well being during a hospital stay?
2. Could essential oils be combined with erythromycin to improve its efficacy as a topical treatment for acne?
3. Where do you find MRSA in health care facilities?

Within these questions the are multiple questions?

Are these good questions? Define ‘good’.....

Define the question(s) first!!!!!!! Also ask is this research? –discuss later

Scientific method

Order

Question

Hypothesis

Test hypothesis-

Experimental

(experiment/ trial) Design

and implementation

Data or results

Reject hypothesis, modify hypothesis (re-test)or accept hypothesis

Theory

Questions, literature review and proposal

- Most important aspect is the -Question or Questions
- If these are not right then the rest will not be.

- Question may have been answered already so don't reinvent the wheel.
  - Literature review and grant proposal
  - Need access to literature databases
  - http://www.csu.edu.au/division/library/find-info/databases

Don’t take too long. You won’t find everything but it must be thorough.

Grant proposal - Introduction and objectives

Introduction

background to the problem, the questions you are asking.

Objectives of the study

To answer the question but there are others along the way (very important that these are to the point and highlighted).

Methodology and experimental procedures

Methodology

What experimental work do you propose and what results do you anticipate getting.

Quantitative, variables, controls

Qualitative , survey written, interviews, opinions or hard data or both?

- Consider numbers here and what statistics you will use.

Breaking News - A boy found under Gooseberry bush proves old adage ... Replicates and numbers of respondents.

Outcomes and benefits–very important

1. Publications in peer reviewed journal articles...bla bla bla
2. Proposed changes in practice locally or internationally
3. Tangible benefits – time, economics. Evidence based..... improved care.

Most important

1. That you are interested in discovering something new
2. It starts with sensible questions. Thank you