

## Developmental Research Overview

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## All Research Studies

### Start with a Problem Statement

- Background
  - What is the problem being addressed
  - Supported by appropriate literature
- Significance
  - Why is the issue being addressed a problem
  - Supported by appropriate literature

### The Problem Statement Must

- Be specific
  - Narrow enough to be manageable
  - Terms explicitly define
- Be generalizable
  - Contribution to knowledge base
  - Specific instance of a more general problem?
  - Subset of a general problem?
- Be applicable to your field of study

### Proceed to a Statement of Goals

- Proposed solution to the problem
- Major types of solution
  - Research
  - Developmental problem solving
  - Descriptive problem solving

### Research Solutions

- Historical
  - Origin of the problem
  - Perspective through time
- Descriptive
  - Analysis of the problem
  - Current perspective
- Experimental
  - Test the efficacy of a possible solution
  - Scientific method

## And the Other Solution Types –

- Developmental problem solving
  - Build a “thing” to fix the problem
- Evaluative problem solving
  - Examine an existing solution

## Then Proceed to Methodology

- Detailed blueprint
- Questions to be answered
  - Who
  - What
  - When
  - Where
  - Why
  - How

## Developmental Study Example

## Example Problem

- A PhD is necessary for advancement and, in many cases job retention, in academia
- Many older professionals working in academic settings have difficulty participating in doctoral programs
  - Financial constraints
  - Time constraints

## Goals for the Study

## Goals

- Specify the product you propose to develop to address the problem
- Indicate how the product will resolve the problem
- Supported by appropriate literature

## Example

- Develop a database of PhD programs that can be successfully completed by an older professional

## Research Question(s)

- How will your product or solution address the problem
- Specific questions to be answered by
  - The product you develop, or
  - The development process
- Anchors the goals to the problem

## Example Research Questions

- What steps are necessary to develop database of PhD courses appropriate for adult professionals?
- What criteria set must that database satisfy in order to be considered successful?
- How can the criteria set be established?
- How can the criteria set be validated?
- How can the database be evaluated in terms of meeting criteria?

## Methodology

## Major Methodological Steps

- Establish product criteria
- Validate criteria
- Develop product
- Evaluate product

## Criteria Establishment

- Define a successful product
- List of product objectives
- Sources
  - Similar products
  - Literature
  - Surveys of potential end users
  - Expert panel

## Example

- Based upon a meeting with several colleagues in a similar life-situation (Focus Group), you determine the database must:
  - List program cost
  - List residence requirements
  - List school accreditation
  - List admission requirements
  - List fields of study for doctoral degree
  - Allow searching on any of the above
  - Be easy for the non-computer-literate user to use

## Criteria Validation

- Verify the value of the criteria
- Essential questions:
  - If the product meets all criteria will it indeed be a worthwhile product
  - Will meeting the criteria actually resolve the problem being addressed
- Sources include
  - Potentially, the same as those available for criteria establishment
  - The source chosen for criteria validation has to be different than that used to establish the criteria

## Example

- You ask the President, VP for Academic Affairs, Dean of Continuing Education Division, and Associate Dean of the College at your current employer (Expert Panel) if they would accept a PhD degree earned at an institution that met the criteria.

## Product Development

- Step-by-step process
  - Description of the steps followed
  - Rationale for decisions made during the development process
- Anchored to criteria
- Entails
  - Developing the product in a useable format
  - Packaging the product in a deliverable format

## Example

- Develop a database of all schools that offer PhD programs
- Develop appropriate queries to permit searching the database as specified
- Develop user interface for the database queries



## Product Evaluation

- Does the product in fact meet the criteria set for it?
- Sources can include
  - Pilot project
  - Summative committee
  - Survey
  - Expert panel



## Evaluation Questions

- What was used to test?
- Why was that testing scheme selected?
  - Supported by literature
- What statistical measures were used to evaluate the results of the test?
- What were the results of the test?
  - Changes suggested
  - Changes made
  - Changes not made