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Aalto University  
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# Visual Communication Design Research Methods

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# Research Essentials

Visual Communication Design Research Methods

## The purpose of research

is to learn what has never been known before; to ask a significant **question** for which no conclusive answer has previously been found; and, by collecting and interpreting relevant data, to find an **answer** to that question.

Leedy & Orrod



DEFINING A RESEARCH PROBLEM

## Defining a research problem

This is similar to defining a design problem

## Defining a design problem

- Defining the design problem is the basis of any design project
- To find a design solution, the design problem must be defined
- Problem definition is the first step in the design process

## Defining a design problem

The aim of the design process is to find "a novel solution" to the design problem

## Defining a research problem

The aim of the research process is to find "the answer" to the research problem

## Defining a research problem

- The research problem should address a specific question
- The question should lead to new knowledge in the field of study
- This could be a new way of thinking, new applications of knowledge, or further areas of research

## Defining a research problem

- Important to avoid defining certain types of research problems
- Those that only lead to self-learning, and don't lead to any new knowledge
- Those that don't ask the question "why?"
- Those that only lead to "yes" and "no" answers

## Defining a research problem

It is also important to find a problem that is interesting, intriguing, motivating...and often challenging!

DEFINING A RESEARCH PROBLEM

FORMULATING A RESEARCH STATEMENT

## Formulating a research statement

A research statement is "carefully phrased and represents a single goal of the total research effort"

Leedy & Ormrod

## Formulating a research statement

- It specifies the aims and objectives of the research
- It should be clear and understandable to even non-experts
- It should consider the limitations and scope of the problem
- It may be necessary to address several sub-problems

DEFINING A RESEARCH PROBLEM

FORMULATING A RESEARCH STATEMENT

FORMING A RESEARCH QUESTION

## Forming a research question

A research question is formed based on the research statement, particularly when it is not possible to "guess" the answer

## Forming a research hypothesis

Sometimes it is possible to form a hypothesis based on "a logical supposition, a reasonable guess, an educated conjecture"

Leedy & Ormrod

## Forming a research hypothesis

- It provides a tentative answer to the research problem
- It can direct research thinking and effort towards the answer
- It must be supported or not supported by the research data
- If not supported by the data, it may lead to new a hypothesis

## Forming a research question or hypothesis

- Questions are more useful for qualitative research methods
- Hypotheses are more useful for quantitative research methods
- Either way, the research must start with one or the other
- The aim is to answer a question, or prove/disprove a hypothesis

DEFINING A RESEARCH PROBLEM

FORMULATING A RESEARCH STATEMENT

FORMING A RESEARCH QUESTION

REVIEWING RELATED LITERATURE

## Reviewing related literature

The aim of the literature review is to provide a theoretical basis for the research

## Reviewing related literature

- Covers the state of knowledge in the area of research
- Identifies areas that need further research (i.e. knowledge gap)
- Justifies the need for the proposed research question
- Is more than just a summary of the previous research

## Reviewing related literature

The main point to bear in mind is that a review should provide the reader with a picture, albeit limited in a short project, of the state of knowledge and of major questions in the subject.

Judith Bell

## Reviewing related literature

It involves questioning assumptions, querying claims made for which no evidence has been provided, considering the findings of one researcher compared to those of others and evaluating.

Judith Bell

### The review of the literature checklist

1: Evidence of reading will always be required in any research.

*Though in a small study, it may not be necessary to produce a full literature review.*

2: Researchers collect many facts but then must select, organize and classify findings into a coherent pattern.

*The aim is to produce a critical review, not a list of everything you have read.*

3: Your framework will not only provide a map of how the research will be conducted and analysed but it will also give you ideas about a structure for your review.

*It will help you to draw together and summarize facts and findings.*

4: Literature reviews should be succinct and, as far as is possible in a small study, should give a picture of the state of knowledge and of major questions in your topic area.

*If you have been able to classify your reading into groups, categories or under headings, writing your review will be relatively straightforward.*

Judith Bell

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FORMING A RESEARCH QUESTION

REVIEWING RELATED LITERATURE

CHOOSING A RESEARCH APPROACH

## Choosing a research approach

This requires deciding on what methodology and methods to use

## Methodology

A system of **methods** used in a particular area of study or activity

en.oxforddictionaries.com

## Method

A particular **procedure** for accomplishing or approaching something, especially a systematic or established one

en.oxforddictionaries.com

## Methodologies and methods

A methodology is a collection (toolkit) of different methods (tools) suitable for a particular type of research approach

## Methodologies and methods

Methodologies are different approaches used for research  
- e.g. ethnography, historical research, etc.

## Methodologies and methods

Methods are different techniques used for research  
- e.g. questionnaire, interview, observation, etc.

## Choosing a research approach

There are many different research methodologies, each with their own suitable collection of methods



