

# Research Methodology and Design

## Lecture 1

### Definitions

#### What is Research?

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

#### What are methods?

A particular procedure for accomplishing or approaching something, esp. a systematic or established one.

#### What is design?

It is a logical structure of the inquiry (research)

### Types Of Research

Descriptive  
Explanatory  
Ethnographic  
Experimental  
Action research  
Case study  
Longitudinal vs. cross-sectional

### Quantitative vs. Qualitative

Quantitative: you collect data through some tools and you quantify them

Qualitative: you collect data through some tools and you explain and discuss, argue, hypothesis and philosophy them.

### Classical Report of Research

Abstract

Introduction

Literature Review

Methods

Data Analysis

Results

Discussion

Conclusion

Bibliography

Appendices

<http://privatewww.essex.ac.uk/~scholp/report.htm>

# LECTURE 2

## Classical Report of Research

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Abstract

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# LECTURE 3

## What is an Abstract?

### What is an Abstract

a summary of the whole thing

An abstract is a short summary of your completed research. If done well, it makes the reader want to learn more about your research.

It is important to note that the weight accorded to the different components can vary by discipline. For models, try to find abstracts of research that is similar to your research.

### Components of an Abstract

- 1) Motivation/problem statement: Why do we care about the problem? What practical, scientific, theoretical or artistic gap is your research filling?
- 2) Methods/procedure/approach: What did you actually do to get your results? (e.g. analyzed 3 novels, completed a series of 5 oil paintings, interviewed 17 students)
- 3) Results/findings/product: As a result of completing the above procedure, what did you learn/invent/create?
- 4) Conclusion/implications: What are the larger implications of your findings, especially for the problem/gap identified in step 1?

### Components of an Abstract

! You give what is really an introduction, missing out what the results were

! You tell us what each section of the writeup is going to talk about (e.g. 'In the third section we will describe the method'), not briefly what you did (e.g. 'The method we used was...')

! You include wording that refers forward like '... as we shall see...'. Again it is not an introduction. It should read as referring back to the whole completed project

### Example of an Abstract

The Factors Accounting for the Egyptian EFL University Students' Negative Writing Affect

This study attempts to identify the factors that account for the Egyptian English majors' negative writing affect, i.e. their high English writing apprehension and low English writing self-efficacy. The subjects were administered two scales measuring their writing apprehension and writing self-efficacy, then those students with scores falling into the extremes of the two scales were interviewed about their writing experience and background. To supplement the qualitative data obtained from the interviews, the subjects' scores on three linguistic tests used for measuring their English grammar and vocabulary knowledge were compared to their scores on the two scales. Analysing both types of data showed that there are six causes of the subjects' high English writing apprehension and four causes of

their low English writing self-efficacy. Based on the results reached, the study presents some recommendations for writing instruction and suggestions for further research.

### **Example of a Poor Abstract**

Friends of Children helps underprivileged elementary school children. There currently is a need for after-school programs in Anywhere Parish, like the one Friends of Children would like to provide. Such a program will help at-risk children do better in school, learn important interpersonal skills, and become better citizens. The after-school program will target kids in Anywhere Parish and will operate after-school on Monday through Friday in the local community center. Trained adults will provide homework assistance in all classroom topics, as well as provide games and fun activities. The objectives of the program are to make students better learners and improve their social skills and personal well-being. The impact of the after-school program will be evaluated by looking at student grades and satisfaction with the program. Friends of Children is requesting \$137,790 for this project.

### **Example of a Poor Abstract**

The poor example is incomplete – it does not provide the same level of detail found in the good example. This (poor) example does not grab the attention of the reader. There is no good description of the need, the organization and its mission is not well defined, and no basic details of the program are provided.



# LECTURE 4

## Introduction

### How to choose a topic?

Research to demonstrate not only research expertise in the relevant field but an appropriate level of originality. One way to achieve this is by a piece of work which applies existing ideas (e.g. previous findings, theories, research methods) to a new domain (e.g. provides a competent analysis of new data in terms of an existing theory or approach). Another way is by a piece of work which proposes a new and interesting account (maybe a new theory) of existing data. Clearly, the highest attainable level of originality would be to propose a novel theoretical account of novel data (a goal all academics strive for but few attain!).

Clearly, your chosen topic should be one which excites and stimulates your intellectual curiosity, and which is going to retain your interest throughout the period you work on it.

It may also be a topic which has some direct relevance to your future career aspirations, or special importance in the context where you normally work (esp. if you are a teacher)

It should be a topic which you personally feel confident that you are able to master within the time available for your research. For this reason, it is important not to be too wide-ranging in your choice of topic. On the contrary, there are a number of reasons for focusing your research as narrowly as possible on a topic which is highly circumscribed and specific. One reason for this is that the existing research literature is growing at such a rapid pace that it is no longer possible to keep up with the whole of the literature in a broad field, so that narrowing down your research topic reduces your background reading to much more manageable proportions. Secondly, the broader the topic you choose, the more open-ended your research becomes - and the less likely it is that you will complete it on time (so putting yourself under unnecessary financial, emotional and intellectual pressure). From this point of view, 'Language Acquisition by Bilinguals' is far too broad to be viable as a research topic; by contrast 'A case study of the development of personal pronouns in the grammar of a two-year old bilingual child' is a much more restricted, and hence more manageable research topic. Note that the weight accorded to the different components can vary by discipline. For models, try to find abstracts of research that is similar to your research.

### Introduction chapter

- what the topic is, in brief

**! You start telling us a lot of detail about the method and your results at this point**

**! Detailed research questions and hypotheses... premature to give them here**

- reasons for doing the work, e.g.

importance as a research topic in itself, in the context of current knowledge in the relevant field. This entails saying a bit about what general areas of ELT, linguistics or whatever the study relates to

importance for local situation of researcher (esp. if teacher). This entails possibly a detailed description of what that situation or context is (e.g. if your study is on writing, then how that is taught throughout the educational system etc.)

**! The research is presented as having interest only for the researcher's school/country. Classical research needs to be presented as having wider implications**

**! Long account of 'problems of teaching in my country'...none of which turn out to be the subject of your research**

**! Unfounded generalisations with no sources like 'standards of English have become poor in recent years'**

**! Multiple sections with titles like Importance of the study, Significance of the study, which are really not differentiated in content**

- outline of what will come in the chapters/sections that follow
- maybe brief definitions of some key terms to be used later

### **Components of an Abstract**

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# LECTURE 5

## Plagiarism

### What Plagiarism is

<http://www.essex.ac.uk/plagiarism/index.html>

# LECTURE 6

## Criticism Literature review

### Literature review

**REVIEW OF LITERATURE** covering these things but not necessarily in this order

- review and critique of previous research in the same general area (shortcomings of methods or argumentation previously used, new areas to look at suggested by previous results). Their findings, esp. with respect to variables you are interested in. This should at every point be explicitly connected to your specific project.

! The background review reads like an MA survey essay on some area of investigation, cataloguing other people's studies, with no comparison of them with each other, or critique, and no use explicitly made of them to connect to your own work by showing what they suggested for it.

! Too broad... need to focus rapidly on just what bits of articles and books are relevant to your study

! You report previous work as 'important' when actually it has no relevance to your own research (though it may be highly regarded in the field generally).

! You retail other people's criticisms of each other's research but do not resolve opposing views, argue your own view, or draw implications for your research.

! Review feels like the literature got on top of you, rather than that you are on top of the literature, and is too long (more than a third of the writeup)

! You mention the results of your own later research in your review

! see also <http://privatewww.essex.ac.uk/~scholp/litrevsarc.htm>

- theoretical background(s) or 'models' from which the ideas come (both pure and applied linguistic, and maybe in psychology, sociology...), or which you hope to shed light on

! Ostrich: you stick with one model you have learnt about and don't cover the rival theories or look in other disciplines that have something to say.

- Discussion of definitions of key terms... esp, vague ones (e.g. in ELT 'communicative', 'function', 'strategy', 'task' etc....) where you disentangle different opinions of scholars

! You catalogue a lot of people's definitions of X but fail to show where they agree/differ or which one you are adopting for your work and why.

- a review of methods used previously to gather relevant data, justifying yours (e.g. merits of interviews versus questionnaires etc.). Better here than in Method chapter/section if it is substantial.

# LECTURE 7

## Refining Research Ideas and Beginning to Design your Study

### Agenda

- ✚ So I have a good idea....now what?
- ✚ Research design elements:
  - ⊗ Sample selection
  - ⊗ Comparison/control groups
  - ⊗ One time versus Many times
  - ⊗ Reducing Confounds and Bias
- ✚ Variables and Operational Definitions
- ✚ Turning your research question into a research hypothesis

### Recap

- ✚ So....you have a good idea
- ✚ You realize that you could gather information to test that idea in some way
- ✚ You did a literature search to confirm it is a good idea (i.e., that it hasn't been done *well* before)
- ✚ Now what should I do to make it scientifically rigorous?.....
- ✚ **Research Design & Methods is what makes a good idea into a great research study**

### Elements of Research Design: Sample

- ⊗ “Sample” versus “Population”
- ⊗ Sample determination
  - **What group (population) is your research idea about?**
    - If it is about people in general – then it doesn't matter who you sample
    - Is it about a particular type of person, age group, culture, sex/gender, clinical group, occupation?
  - **Inclusion and Exclusion Criteria specified**

### Sample/Recruitment

- ✚ **Where will you get the data from that group?**
  - ⊗ Own organization versus other organization
  - ⊗ Do they have enough people there? (i.e., sample size)
  - ⊗ Will the people be interested or motivated to participate in your research?
  - ⊗ How long will it take? Are you willing to wait that long?
  - ⊗ Will you need to compensate them?



## Elements of Research Design: Data Format

### ⚙️ What format will the data be in?

- Questionnaire? Standardized versus survey?
- Interview? (individual versus focus group)
- Interviewer/observer rating scale?
- Retrospective chart reviews?
- Continuous versus categorical data (means versus frequencies)

### ⚙️ Data format affects statistics/interpretive methods you use (e.g., qualitative versus quantitative methods)