

Subject: Classroom Research
Level: Master- Semester 3- All
groups
Teacher: Redouane NAILI

Resource Book:

Nunan, D., & Bailey, K. M. (2008). Exploring Second Language Classroom Research: A Comprehensive Guide. Heinle ELT.

Introduction

□ Definition:

- ❖ Classroom
- ❖ Research

1. Question/problem/Hypothesis,
2. Data,
3. Analysis and Interpretation

□ Historical Background

- ❖ Product Studies
- ❖ Product-Process/ Process Studies

□ *Classroom Research vs Teacher Research*

Classroom-Oriented Research

Quantitative Research vs. Qualitative Research

	Quantitative Data Collection	Qualitative Data Collection
Quantitative Data Analysis	<p>Computing statistical comparisons of learners' test scores to see if there are any statistically significant differences between groups taught with different methods</p> <p>(Test scores = data that have been quantitatively collected; computing statistical comparisons = a quantitative data analysis procedure)</p>	<p>Tabulating the observed frequency of certain errors in language students' writing samples</p> <p>(Samples of language students' writing = data that have been qualitatively collected; tabulating the occurrence of certain errors = a quantitative data analysis procedure)</p>
Qualitative Data Analysis	<p>Categorizing language students as advanced, upper intermediate, intermediate, or lower intermediate on the basis of the learners' test scores</p> <p>(Test scores = data that have been quantitatively collected; proficiency categorizations = a qualitative data analysis procedure)</p>	<p>Summarizing written field notes to yield prose profiles of various teachers' teaching styles in an observational study</p> <p>(Field notes = data that have been qualitatively collected; summarizing = a qualitative data analysis procedure)</p>

TABLE 2.1 General areas of interest and more specific research topics

Area	Topic
Teacher questions	The relationship between teacher questions and learner responses Closed versus open questions Display versus referential questions
Direct instruction	Inductive versus deductive teaching Teacher input and learner output Wait time and learner output Teacher speech modifications
Error correction and feedback	What types of errors to correct When to correct errors How to correct errors Student self-correction
Classroom management	Departures from the lesson plan Managing mixed-ability groups Teaching large classes
Student interaction	L1 versus L2 talk Monitoring language use in group work Increasing the amount of student talk
Task analysis	The different demands that tasks make on learners Task type and difficulty The relationship between task types and learner language
Learning strategies	Strategy differences of good and poor learners The effect of consciously teaching strategies Strategy use by learners of various proficiency levels
Affective factors	Enhancing learners' motivation Managing learners' anxiety Learners' attitudes and achievement

Literature Review

- ☐ Reasons for Carrying out a literature review.

Constrcuts

- ☐ What is a construct?
- ☐ Construct Operationalization
- ☐ Operational definitions

Types of Data

- ☐ Nominal
- ☐ Ordinal
- ☐ Interval

TABLE 2.3 Codes and operationalizations for repair moves in text and voice chat sessions (from Jepson, 2005, pp. 88–89)

	Negotiation of Meaning (NOM; Long, 1983c)	Negative Feedback (NF; Long 1996)
Interlocutors (responding to text or speech initiated by another speaker)	CR: clarification requests (e.g., <i>What do you mean by X?</i>)	R: recasts (The interlocutor corrects the speaker's word or utterance by repeating it in its correct form. e.g., <i>This city is beautiful</i> in response to the speaker's <i>This city beautiful</i> .)
	CC: confirmation checks (e.g., <i>Did you mean/say X?</i>)	EC: explicit correction (The interlocutor tells the speaker of his/her mistake. e.g., <i>You should say, "This city is beautiful."</i>) Q: questions (The interlocutor asks a question in order to prompt the speaker to make a correction. e.g., <i>Can you try that again?</i>)

Characteristics of Experimental Designs

Population and Sample

Identifying Variables

A variable: anything that varies and has measurable characteristics.

Independent Variable vs. Dependent Variable

Counfounding Variable

Control Variable

Moderator Variable

Random selection and Random assignment

Causality

Treatment

Control group vs. Experimental group

TYPES OF HYPOTHESES

**Null Hypothesis -
Falsification**

**Alternative
Hypothesis**

**Alternative
Directional Hypothesis**

Reliability and Validity

Internal reliability



Would an independent researcher, on reanalyzing the data, come to the same conclusions?

External reliability



Would an independent researcher, on replicating the study, come to the same conclusion?

Internal Validity



Based on the research design, can we confidently claim that the outcomes are a result of the experimental treatment?

Exxternal Validity



Is the research design such that we can generalize beyond the subjects under investigation to a wider population?

INTERNAL and EXTERNAL Validity

**Increase Internal
Validity**



**Decrease External
validity**

THREATS TO INTERNAL VALIDITY

- Experience-Based Threats:
 - History
 - Testing (Practice Effect)
 - Expectancy
- Participants-Based Threats
 - Selection and Assignment
 - Maturation
 - Statistical Regression
 - Mortality
- Instrumentation-Based Threats
 - Inconsistencies or changes in data collection procedures
 - Piloting
 - Training

THREATS TO EXTERNAL VALIDITY



1- The reactive effects of testing

2- The reactive effects of experimental arrangements

- (Hawthorne Effect)

3- The interaction effects of selection bias

- Solution: Stratified Random Sampling

4- Multiple-treatment interference

Research Design

a plan, structure and strategy of investigation to obtain answers to research questions or problems

TYPES OF RESEARCH DESIGNS

True Experimental Designs are used to establish cause result relationships

Intact Groups Designs compare preexisting groups which have not been randomly selected and/or randomly assigned.

ex post facto Designs are used to investigate the *possible* influence of conditions after the fact. They allow comparisons of two or more groups without experimentation.

A Correlation Design is used to determine the relationship(s) between two or more variables as measured in one group of people using statistical procedures to detect correlations or factors that seem to "go together" in a patterned, predictable way

A Criterion Groups Design compares groups defined by preexisting condition(s); the criterion of interest. Random selection is possible, but the criterion of interest prevents random assignment.

The **experimental method**, one of the two 'pure' research paradigms. It involves

- (1) experimental designs,
- (2) quantitative data, and
- (3) Statistical analyses.

It refers to a collection of research designs.

Experimental Research Designs

Pre-experimental Designs

- One-shot case study
- One-Group Pre-Test Post-Test Design
- Intact Groups Design

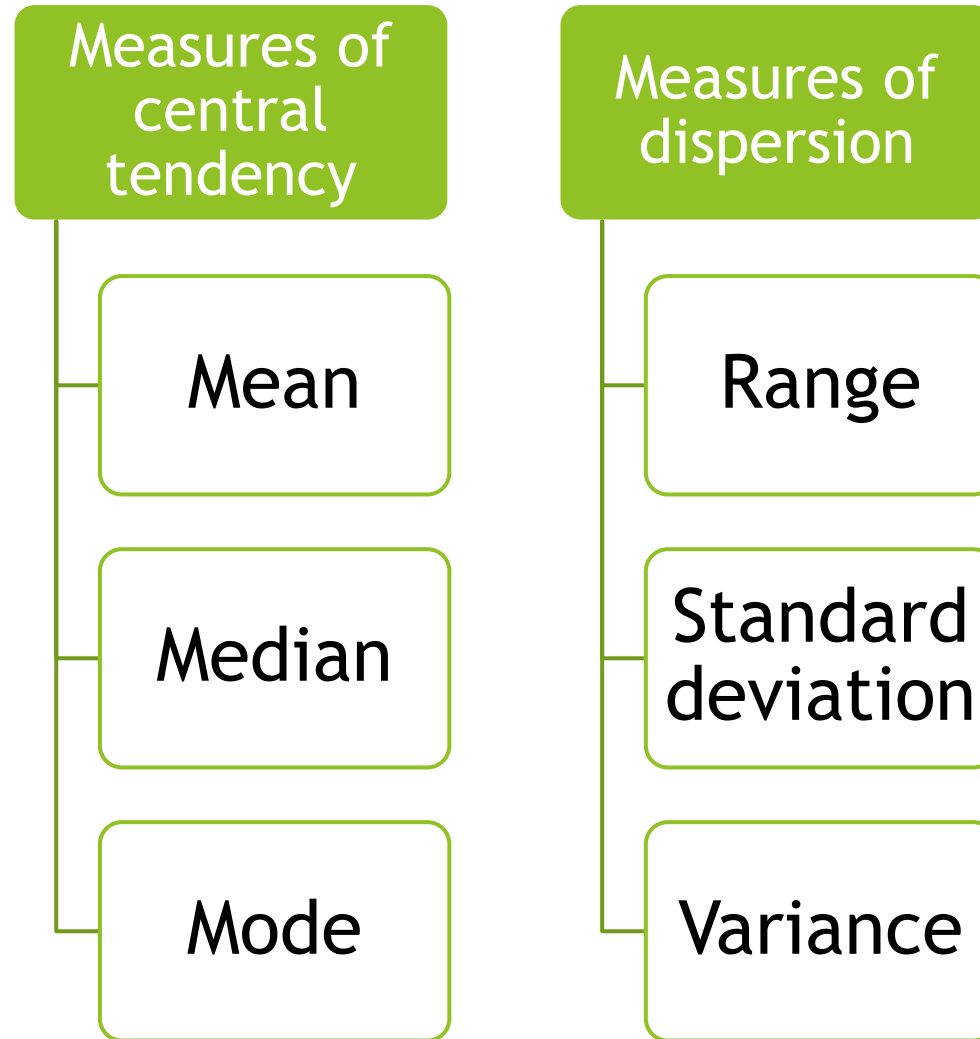
Quasi-experimental designs

- Non-equivalent Comparison Groups Design
- Time Series Design
- Equivalent Time Samples Design

True experimental designs

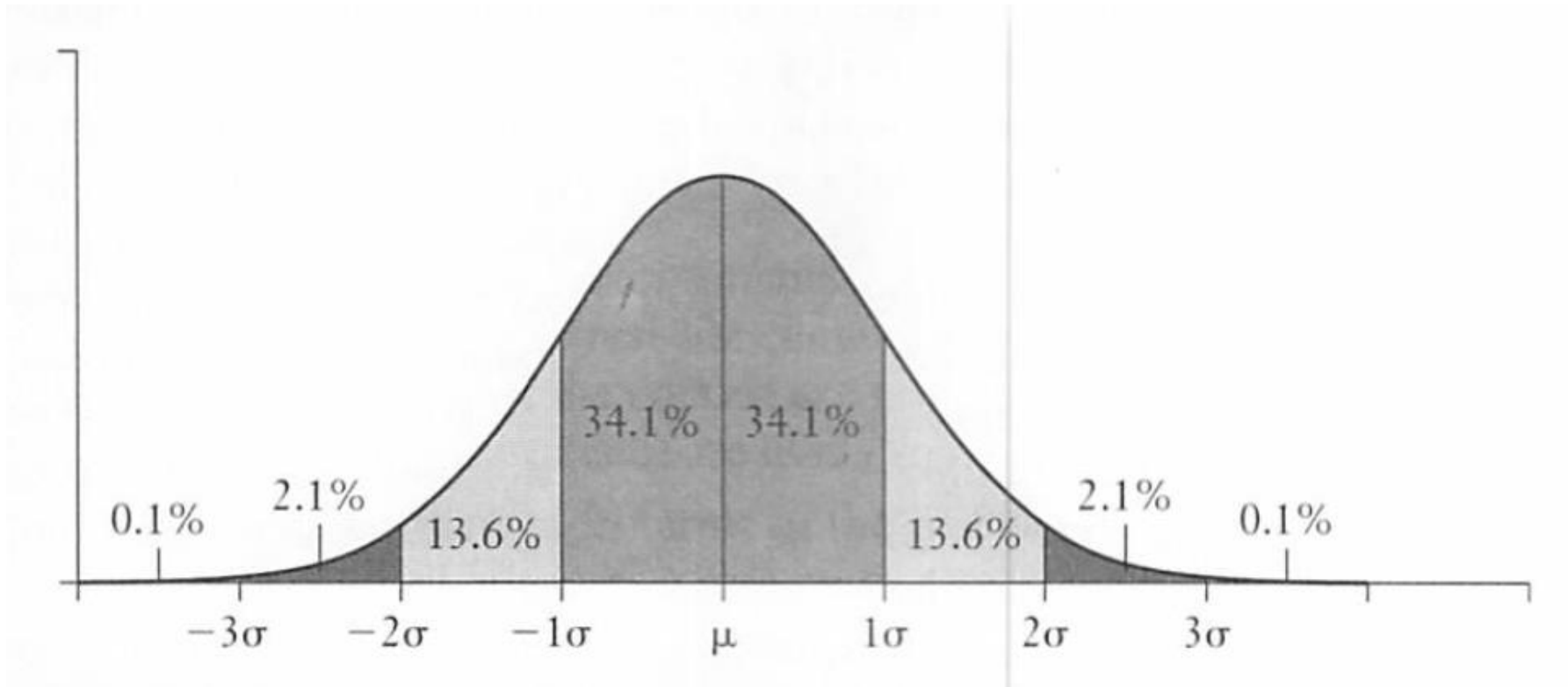
- Post-Test Only Control Group Design
- Pre-Test Post-Test Control Group Design

Descriptive Statistics



Inferential Statistics

Normal distribution: Bell-shaped Curve



Statistical Significance

Significant Relationships Between Variables

Statistical significance—the confidence that the finding is stable or trustworthy. $p(\alpha) < .05$

Degrees of freedom ($df=N-1$)

Pearson Correlation/ Spearman rho/Point-Biserial Correlation Coefficient

Chi-Square (Frequency data)

t-test (2means)

ANOVA