METODOLOGI PENELITIAN (RESEARCH METHODOLOGY)

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RULES AND REGULATIONS:

MOBILE PHONE IN SILENT MODE DURING CLASS SESSION

15 MINUTES LATE TOLERANT

80 % ATTENDENCE REQUIRED TO PARTICIPATE IN FINAL EXAM.

UNIVERSITY RULES AND REGULATIONS SHOULD BE OBEYED

ASSESSMENTS

FINAL EXAM (UAS): 25%

MIDTERM EXAM: 25%

ASSIGMENT #1: 25%

PRESENSI: 10%
ATTITUDE : 15%

GRADING:

0 ----- 50:E

>50 -- 60:D

>60 -- 75:C

>75 -- 80:B

>80 -- 100:A

Research Method, Methodology and Research Design

Research

What is Research?

"Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue".

At a general level, research consists of three steps:

1. Pose a question
2. Collect data to answer the question
3. Present an answer to the question

THE SIX STEPS IN THE PROCESS OF RESEARCH

When researchers conduct a study, they proceed through a distinct set of steps. Years ago these steps were identified as the "scientific method" of inquiry (Kerlinger, 1972; Leedy & Ormrod, 2001). Using a "scientific method," researchers:

- Identify a problem that defines the goal of research
- Make a prediction that, if confirmed, resolves the problem
- Gather data relevant to this prediction
- Analyze and interpret the data to see if it supports the prediction and resolves the question that initiated the research

The **process of research consists of six steps:**

1. Identifying a research problem
2. Reviewing the literature
3. Specifying a purpose for research
4. Collecting data
5. Analysing and interpreting the data
6. Reporting and evaluating research

WHAT IS RESEARCH

RESEARCH?

- what is it?
- should you be doing it?
- how do you do it?

DEFINITIONS OF RESEARCH

"Systematic investigation towards increasing the sum of knowledge"

(Chambers 20th Century Dictionary)

"an endeavour to discover new or collate old facts etc. by the scientific study of a subject or by a course of critical investigation."

(The Concise Oxford Dictionary)

*The good researcher is not 'one who knows the right answers' but 'one who is struggling to find out what the right questions might be'. (*Phillips and Pugh (2005: 48))

What is research?

- **research.** 1.a. the systematic investigation into and study of materials, sources, etc, in order to establish facts and reach new conclusions. b. an endeavour to discover new or collate old facts etc by the scientific study of a subject or by a course of critical investigation. [Oxford Concise Dictionary]

What is research?

- Research is what we do when we have a question or a problem we want to resolve
- We may already think we know the answer to our question already
- We may think the answer is obvious, common sense even
- But until we have subjected our problem to rigorous scientific scrutiny, our 'knowledge' remains little more than guesswork or at best, intuition.

What is research?

- First priority is to formulate your question
- Then figure out how you are going to answer it
  - How have others answered it?
  - How does your proposal fit in with what others have done?
  - How will you know when you have answered it?
- Then you can present your answer

DEFINITIONS OF RESEARCH

- Research is defined by the Higher Education Funding Council for England (HECFE) as '*original investigation undertaken in order to gain knowledge and understanding' (RAE, 2008).*
- *Three key terms in this definition have been italicized* for emphasis; *original, gain and knowledge and understanding.*

Originality

- There is no point in repeating the work of others and discovering or producing what is already known
- *originality is doing something that has not been done be*fore. While this remains a relatively simplistic definition, it is important to discuss how originality relates to projects.

Originality

- What can **you do that is original?**
- **What type of things** can **you produce that are original?**

Originality

You can be original in two ways.

1. You can be original in the way you do things –for example, doing something someone has done before but using a different techniqueor approach.
2. You can be original by producing or developing something that has not been produced before.

Originality

Number of areas in which your project can be original:

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Originality

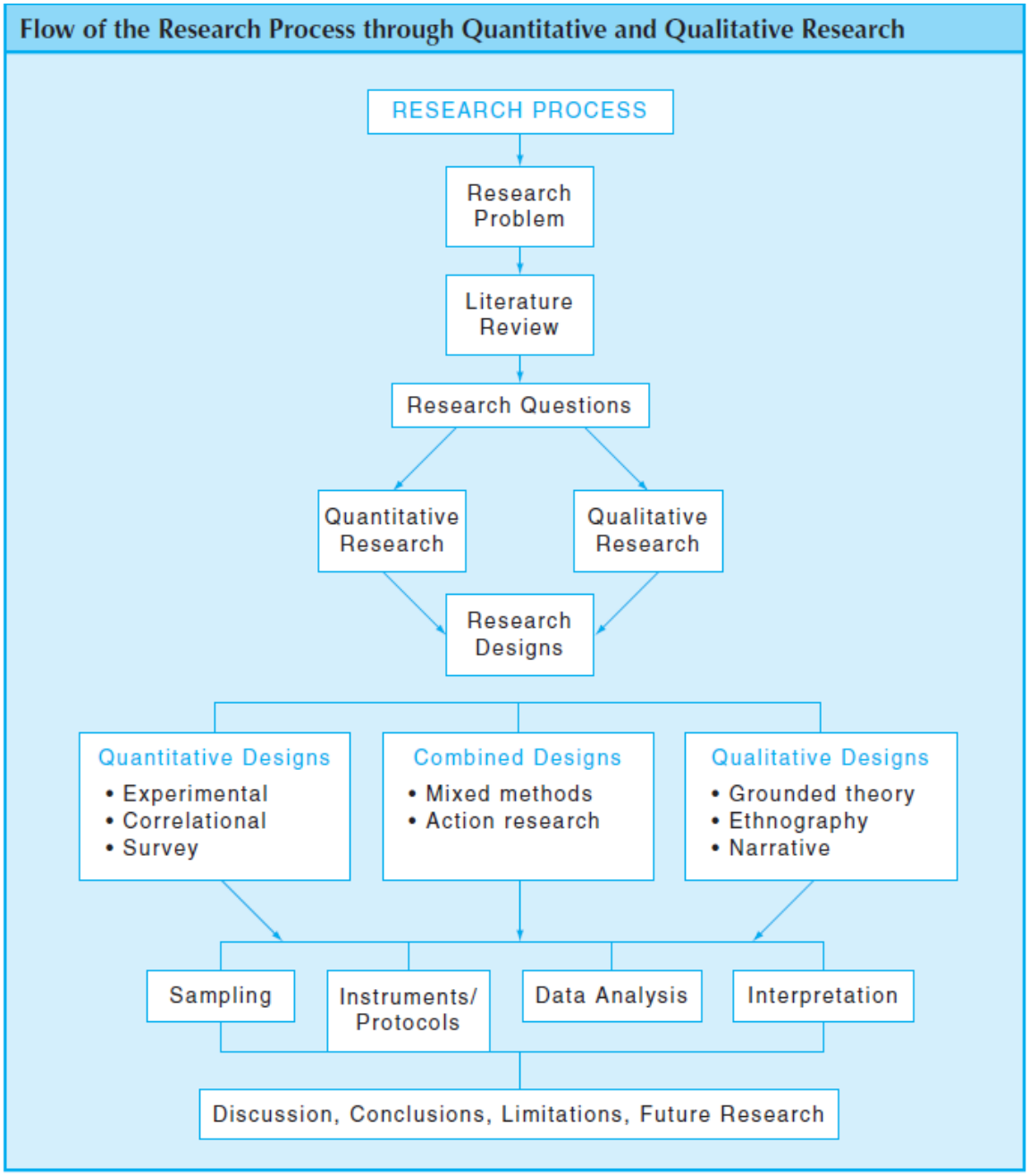
- Identifies a number of areas in which your project can be original:
  - **Tools, techniques, procedures and methods. You may apply new tools and techniques**. to existing problems or try new procedures and methods in contexts where they have not been applied before.
  - **Exploring the unknown.** Although rare, you may investigate a field that no one has thought to investigate before.

Originality

- Identifies a number of areas in which your project can be original:
- **Exploring the unanticipated.** Although you may investigate a field of research that has been looked at many times before, you may come across unexpected results or exciting new directions as yet unexplored.
- **The use of data.** You can interpret data in different ways, use them in new ways or apply them in alternative areas that have not yet been investigated.

Contribution to knowledge

- Body of knowledge represents world understanding
  - Theories
  - concepts
  - models,
  - the sciences,
  - the arts and so forth.
- Knowledge is stored in:
  - books,journal articles,
  - conference proceedings,
  - documents,
  - reports, the Internet, art, peoples, minds and more.


Flow of the Research Process through Quantitative and Qualitative Research
RESEARCH PROCESS
Research Problem
Literature Review
Research Questions
Quantitative Research
Qualitative Research
Research Designs
Quantitative Designs
• Experimental
• Correlational
• Survey
Combined Designs
• Mixed methods
• Action research
Qualitative Designs
• Grounded theory
• Ethnography
• Narrative
Sampling
Instruments/ Protocols
Data Analysis
Interpretation
Discussion, Conclusions, Limitations, Future Research

Quantitative Research Methods

Quantitative Research is an approach for testing objective theories by examining the relationship among variables.

These variables, in turn, can be measured, typically on instruments, so that numbered data can be analysed using statistical procedures.

The final written report has a set structure consisting of introduction, literature and theory, methods, results, and discussion.

The researcher in this form of inquiry have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate the findings.

Quantitative Research haracteristics

The major characteristics of quantitative research are:

Describing a research problem through a description of trends or a need for an explanation of the relationship among variables

Providing a major role for the literature through suggesting the research questions to be asked and justifying the research problem and creating a need for the direction(purpose statement and research questions or hypotheses) of the study

Creating purpose statements, research questions, and hypotheses that are specific, narrow, measurable, and observable

Collecting numeric data from a large number of people using instruments with preset questions and responses

Analyzing trends, comparing groups, or relating variables using statistical analysis, and interpreting results by comparing them with prior predictions and past research

Writing the research report using standard, fi xed structures and evaluation criteria, and taking an objective, unbiased approach

Qualitative Research Method

Qualitative Research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem.

The process of research involves emerging questions and procedures, data typically collected in the participant‘s setting, data analysis inductively building from particulars to general themes.

The researcher making interpretations of the meaning of the data.

The final written report has a flexible structure. The researcher in this form of inquiry support a way of looking at research that honors an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation.

Qualitative Research Characteristics

In qualitative research, we see different major characteristics at each stage of the research process:

- Exploring a problem and developing a detailed understanding of a central phenomenon
- Having the literature review play a minor role but justify the problem
- Stating the purpose and research questions in a general and broad way so as to the participants' experiences
- Collecting data based on words from a small number of individuals so that the participants' views are obtained
- Analyzing the data for description and themes using text analysis and interpreting the larger meaning of the findings
- Writing the report using flexible, emerging structures and evaluative criteria, and including the researchers' subjective reflexivity and bias

Mixed Methods Research

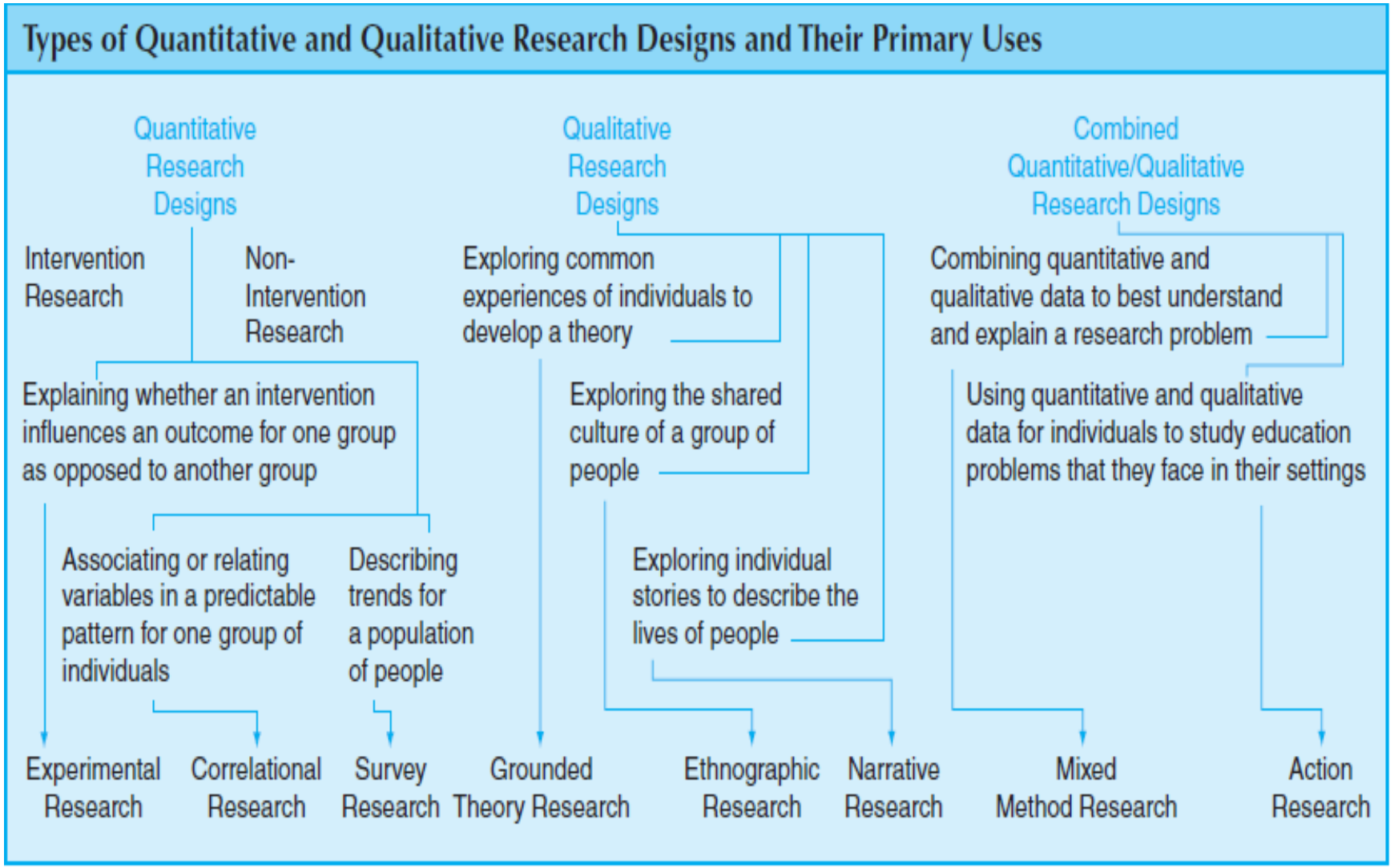
Mixed Methods Research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks.

The core assumption of this form of inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone.

What is a research design?

- A research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problems. It includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of data. (Kerlinger, 1986)
- According to Selltiz, Deutsch and Cook(1962), 'A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure'.
- Research designs are the specific procedures involved in the research process: data collection, data analysis, and report writing.

Research Designs Associated with Quantitative and Qualitative Research



Quantitative Research Designs

Experimental Designs: Some quantitative researchers seek to test whether an educational practice or idea makes a difference for individuals. Experimental research procedures are ideally suited for this study. *Experimental designs (also called intervention studies or group comparison* studies) are procedures in quantitative research in which the investigator determines whether an activity or materials make a difference in results for participants. You assess this impact by giving one group one set of activities (called an *intervention) and withholding* the set from another group.

Correlational Designs: In some studies, you may be unable to provide an intervention or to assign individuals to groups. Moreover, you focus more on examining the association or relation of one or more variables than in testing the impact of activities or materials. *Correlational designs* are procedures in quantitative research in which investigators measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis. This degree of association, expressed as a number, indicates whether the two variables are related or whether one can predict another. To accomplish this, you study a single group of individuals rather than two or more groups as in an experiment.

Survey Designs: In another form of quantitative research, you may not want to test an activity or materials or may not be interested in the association among variables. Instead, you seek to describe trends in a large population of individuals. In this case, a survey is a good procedure to use. *Survey designs are procedures in quantitative research in which you* administer a survey or questionnaire to a small group of people (called the *sample) to* identify trends in attitudes, opinions, behaviors, or characteristics of a large group of people(called the *population).*

Qualitative Designs

Grounded Theory Designs: Instead of studying a single group, you might examine a number of individuals who have all experienced an action, interaction, or process. *Grounded theory designs are* systematic, qualitative procedures that researchers use to generate a general explanation (grounded in the views of participants, called a *grounded theory) that explains a process,* action, or interaction among people. The procedures for developing this theory include primarily collecting interview data, developing and relating categories (or themes) of information, and composing a figure or visual model that portrays the general explanation. In this way, the explanation is "grounded" in the data from participants. From this explanation, you construct predictive statements about the experiences of individuals.

Ethnographic Designs: You may be interested in studying one group of individuals, in examining them in the setting where they live and work, and in developing a portrait of how they interact. An ethnographic study is well suited for this purpose. *Ethnographic designs are qualitative* procedures for describing, analyzing, and interpreting a cultural group's shared patterns of behavior, beliefs, and language that develop over time. In ethnography, the researcher provides a detailed picture of the culture-sharing group, drawing on various sources of information. The ethnographer also describes the group within its setting, explores themes or issues that develop over time as the group interacts, and details a portrait of the group.

Narrative Research Designs: You may not be interested in describing and interpreting group behavior or ideas, or in developing an explanation grounded in the experiences of many individuals. Instead, you wish to tell the stories of one or two individuals. *Narrative research designs are* qualitative procedures in which researchers describe the lives of individuals, collect and tell stories about these individuals' lives, and write narratives about their experiences. In education, these stories often relate to school classroom experiences or activities in schools.

Mixed Method Designs

Mixed Methods Designs: You decide to collect both quantitative data (i.e., quantifiable data) and qualitative data (i.e., text or images). The core argument for a mixed methods design is that the combination of both forms of data provides a better understanding of a research problem than either quantitative or qualitative data by itself. *Mixed methods designs are procedures for* collecting, analyzing, and mixing both quantitative and qualitative data in a single study or in a multiphase series of studies. In this process, you need to decide on the emphasis you will give to each form of data (priority), which form of data you will collect fi rst (concurrent or sequential), how you will "mix" the data (integrating or connecting), and whether you will use theory to guide the study (e.g., advocacy or social science theory).

Action Research Designs: Like mixed methods research, action research designs often utilize both quantitative and qualitative data, but they focus more on procedures useful in addressing practical problems. *Action research designs are systematic procedures* used by researcher to gather quantitative and qualitative data to address the problems. In case of educational research, they are focused on improvements in their educational setting, their teaching, and the learning of their students. In some action research designs, you seek to address and solve local, practical problems, such as a classroom-discipline issue for a teacher. In other studies, your objective might be to empower, transform, and emancipate individuals in educational settings.

Thank you