Faculty of social and human sciences Instructor: Ms. Dehamcha Samira

Module: English

3rd year LMD

Lesson 03

Advanced research

1. Advanced research methodologies:

Advanced research methodologies refers to a sophisticated and precise approaches, utilizing specialized techniques and expertise to thoroughly investigate research questions with rigor.

A) Experimental designs:

Strengths: enables precise control over variables, making it useful for testing hypotheses in controlled settings.

Limitations: findings may not apply broadly beyond specific conditions, and ethical concerns may arise in certain experimental designs.

B) Case studies:

Strengths: offers detailed insights into real-life situations, useful for exploring intricate aspects of a subject and generating hypotheses for further research

Limitations: focusing on a specific case makes it challenging to generalize, and findings may be influenced by subjectivity and research bias.

C) Mixed-method approaches:

Strengths: blends qualitative and quantitative data to understand a research question thoroughly. Triangulation enhance the reliability and validity of findings.

Limitations: needs expertise in both qualitative and quantitative methods. The integration process can be complex, requiring careful planning to maintain methodological rigor.

2. Critical literature review:

Before moving to critical literature review we need to know what a literature review is.

Literature review is a summary of existing research on a specific topic, helping to understand what is already known and identifying gaps in knowledge. Meanwhile, a critical literature review assesses and analyzes existing research on a topic, evaluating the strengths, weaknesses, and contributions of each study to inform the reader about the literature's quality and relevance to the research question.

- **Advanced literature review techniques:**

A). Thematic Synthesis:

- Recognize common themes throughout the literature.

- Examining the evaluation of things over time or across various contexts.

B). Meta-Analysis:

- Conducting a systematic review and statistically analysing quantitative findings across multiple studies.

- Evaluating the overall impact and checking for variations among studies.

C). Conceptual Synthesis:

- Illustrating conceptual frameworks outlined in the literature.

- Assessing how key concepts and theoretical perspectives are interconnected.

D). Criticizing methodologies:

- checking how the studies you reviewed were conducted.

- evaluating the trustworthiness (whether it is trusted or not), accuracy (whether it is precise or not), and applicability (the practicality) of research designs.

E). Identifying Research Gaps:

- Points out where the current literature lacks.

- Suggest potential research paths addressing the identified gaps.

3. Quantitative data analysis:

- **Regression Analysis:**

- **Purpose:** find links between variables and predict outcomes.

- **Types:** simple linear regression for one predictor, multiple linear regression for multiple predictors.

- **Application:** find the important factors affecting the outcome and assesses how each contributes.

- **Factor Analysis:**

- **Purpose:** reveal hidden factors that influence the observed variables.

- **Types:** Exploratory Factor Analysis (EFA) to identify latent factors, Confirmatory Factor Analysis (CFA) to test predefined factor structures.

- **Application:** simplify data, grasp underlying structures, and confirm the validity of measurement instruments.

4. <u>Qualitative data analysis:</u>

- **Narrative Analysis:**

- **Purpose:** find and understand the stories and narratives in qualitative data.

- **Process:** recognize central themes, character evolution, and plot structures.

- **Application:** gain a profound insight into individual experiences and viewpoints.

- **Grounded Theory:**

- **Purpose:** formulated theories based on the data, letting themes and concepts naturally emerge

- **Process:** utilizing iterative coding, ongoing comparison, and theoretical sampling in the research process.

- **Application:** create hypotheses and theories directly derived from the collected data.

5. <u>Ethical considerations in advanced research:</u>

What is ethical consideration in advanced research?

Ethical consideration in advanced research involve treating participants in a professional way, getting their permissions, keeping things confidential, and being honest when reporting

findings. It is also about considering how the research might affect society and avoiding conflicts of interest.

Complex Ethical Dilemmas:

1. Informed consent in experimental designs:

- Striking a balance between obtaining informed consent and preserving the integrity of experiment.

- Making sure participants comprehend possible risks and benefits.

2. Confidentiality in Qualitative Research:

- Keeping participants' identities confidential in thorough qualitative studies.

- Securing private information while preserving the depth of the data

3. Dual role of researchers:

- Dealing with situations where researchers play dual roles as both researchers and service providers.

- Handling situations where conflicting interests may arise.

6. Importance of Ethical Research Practices:

- **Maintaining Trust:**

- Building and sustaining trust with participants, stakeholders, and the wider community.

- Acknowledging that trust forms the basis for the validity and reliability of research findings.

- **Human rights and dignity:**

- Respecting the rights and dignity of research participants.

- Making sure research doesn’t harm or violate the rights of individuals or communities.

- **Scientific Integrity:**

- Encouraging honesty and integrity in scientific practices.

- Dealing with problems related to research misconduct and plagiarism.

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