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A Workshop on Univariate and Multivariate Perspectives to Experimental Research Design

Title: Univariate and Multivariate Perspectives to Experimental Research Design

October 26-27, 2024 | 9AM TO 5PM

School of Educational Studies, Universiti Sains Malaysia/ Webex Online Platform.

OBJECTIVES OF THE WORKSHOP

1. Understanding Experimental Research Design

- Gain a fundamental understanding of experimental research, including various design types such as pre-test/post-test, repeated measures, and randomized control trials.

2. Writing a Statement of the Problem

- Learn how to write a problem statement that aligns with the nature of experimental research design.

3. Developing Research Questions

- Develop effective research questions and hypotheses suitable for experimental designs.

4. Sample Size and Sampling Strategies

- Understand sampling strategies and determine the appropriate sample size based on the number of dependent and independent variables and the data analysis techniques used (e.g., ANOVA, MANOVA, ANCOVA).

5. Theoretical Foundations of Experimental Design

- Learn how to apply theories to explain and support the experimental research design.

6. Data Collection and Analysis

- Explore methods for collecting, managing, and analyzing data in experimental research.

7. Ethical Considerations

- Understand the ethical considerations in experimental research, including issues related to informed consent and participant protection.

Registration, Payment Process and Other Information :



<https://forms.gle/7AN5e5XMV3a1LhPQ7>

Further information:

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Target Audience:

Graduate students, researchers, and educators interested in enhancing their knowledge and skills in experimental research design.





About the Presenter



PRESENTER
Professor Dr. Mageswary Karpudewan
School of Educational Studies
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Prof. Dr. Mageswary Karpudewan is an eminent researcher in Chemistry Education and Environmental Studies with extensive expertise in Social Science Research Methodology, particularly Mixed-Method Research. Within Mixed-Method Research, Experimental Design constitutes a prominent quantitative strand of her work. She has published extensively on Mixed-Method and Experimental Design research in top-tier journals, including WOS Q1 and Q2 journals. Her expertise is further recognized through her roles as an Associate Editor for Tier 1 journals, such as *Chemistry Education Research and Practice* and *the Journal of Science Teacher Education*, published by Taylor & Francis. Additionally, her positions on the editorial boards of several Tier 1 journals further underscore her authority in research methodology.

Workshop Overview:

Sessions	Day 1	Day 2
Morning	Introduction to Experimental Research: <ul style="list-style-type: none"> - Overview of experimental research design and its applications. - Types of experimental designs. 	Analyzing Experimental Data: <ul style="list-style-type: none"> - Introduction to statistical techniques for analyzing experimental data. - Interpreting results and drawing conclusions.
	Formulating Research Problem, Questions and Hypotheses: <ul style="list-style-type: none"> - Developing clear, testable research problem and questions. - Aligning hypotheses with research objectives. 	Practical Session: <ul style="list-style-type: none"> - Design problem statements, formulate research questions, and develop hypotheses. - Apply theories accurately to explain the research design. - Implement appropriate sampling size and strategies, along with data collection and analysis techniques.
Afternoon	Sampling Strategies <ul style="list-style-type: none"> - Identify appropriate sample strategy and sample size 	Ethical Considerations in Experimental Research: <ul style="list-style-type: none"> - Navigating ethical challenges in experimental research.
	Data Collection Strategies: <ul style="list-style-type: none"> - Methods for accurate data collection in experiments. - Managing experimental data. 	Workshop Wrap-up and Q&A: <ul style="list-style-type: none"> - Summary of key takeaways. - Open discussion and questions.