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UNIVERSITI TEKNOLOGI MALAYSIA



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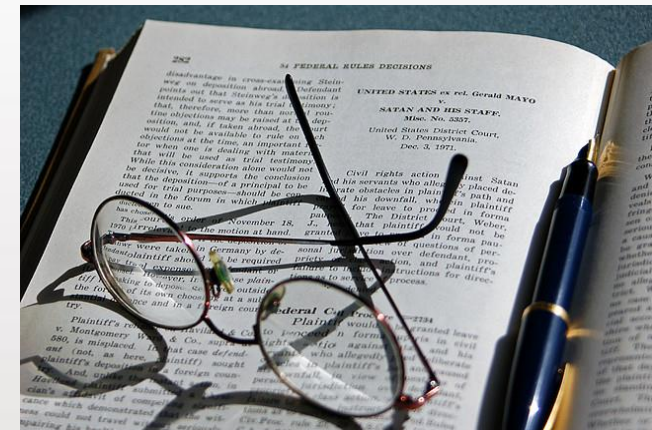
Introduction to Educational Research

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Introduction to Educational Research

At the end of this topic students will be able to:

- List and describe the different methods of knowing
- Describe the characteristics of educational research
- Describe the major steps involved in conducting educational research



How do people know about something?

- Experience
- Authority
- Reasoning
 - Inductive
 - Deductive
- Scientific method



What is educational research?

Research

- *Formal systematic application of the scientific method to the study of problems.*

Educational Research

- *Formal, systematic application of the scientific method to the study of educational problems.*

Goal of conducting Educational research

- to describe, explain, predict, and control situations involving human beings

Who are the people involved?

- teachers
- policy makers
- students
- parents

Conducting educational research

- ***Exploration***
 - to generate ideas about something
- ***Description***
 - to describe the characteristics of something or some phenomenon
- ***Explanation***
 - to show how and why a phenomenon exists
- ***Prediction***
 - to make accurate predictions
- ***Influence***
 - to give impact to the world

Steps in conducting educational research

1. **Selection and definition of a problem**
 - A problem is a question of interest.
 - The problem can be tested or the question answered through the collection and analysis of data.

Steps in conducting educational research

2. **Execution of research procedures**
 - Procedures include activities related to collecting data about the problem.

Steps in conducting educational research

3. **Analysis of Data**

- Data are analyzed to enable the researcher to test the hypothesis or answer the research question.
- How it is done depending on the research approach and the type of analysis chosen

Steps in conducting educational research

4. **Drawing and stating conclusions**
 - Conclusions are based upon analyses of the data and are stated in terms of the original hypothesis or research question.

Approaches to Educational Research

- Educational research is often broadly categorized as qualitative, quantitative and Mixed method.

Approaches to Educational Research

Quantitative

- Numerical data
- Describes, predicts or controls variables of interest
- The world is relatively uniform, stable, and predictable.

Qualitative

- Narrative and visual data
- Gains insights into phenomenon of interest
- Knowledge is situated and contextual. There are different perspectives.

Examples

Quantitative

- What are the factors which determine the performance of Malaysian secondary school students in Mathematics?

Qualitative

- What are the experiences of studying Mathematics among secondary school students in Malaysia?

Can you think of other examples of Quantitative and Qualitative research?

References

- Cresswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed methods approaches. Thousand Oaks: Sage Publications.
- Gay, L.R., Mills, G.E., & Airasian, P. (2009). Educational Research: Competencies for analysis and application. New Jersey: Pearson Education.

Thank you & Good Luck