01-02-2024 Thursday

Lecture # 4

* SCIENTIFIC RESEARCH :-

systematically (step by step)

→ to investigate/explore

① Identification of a Problem :-

ANGER / HAPPINESS

↓

explore the problem

② Review of Literature :- → Through articles etc

③ Formation of Hypotheses:

→ tentative statement

↓

example : sleep time & test scores (have a link)

→ Hypotheses could be right or wrong
→ links two or more variables

④ Selection of Research Method :

→ Crucial method
→ HOW, WHERE, WHY

⑤ Data Collection:

→ through surveys, interviews, questionnaires

⑥ Analyze the Data:

↳ through ~~statics~~, statistics, probability etc

⑦ Conclusion:

↳ finding the result
↳ finding the reason or justification of hypotheses' success or failure
↳ evaluate the ~~conclusion~~ hypotheses

⑧ Communication of results (Generalizibility):

↳ Generalize over the population from the results generated from the sample size

★ Descriptive methods of Data Collection:

1) Naturalistic Observation:-

↳ Simply observe the naturally

example ~~of~~ observing adjustment issues within the students in the first semester

↳ A disadvantage is that there environment cannot be controlled
↳ Researcher bias (disadvantage)
↳ As it is can observe the behaviour of stu individuals naturally

2) Laboratory:

↳ Can observe individuals in a controlled environment

↳ Disadvantage : less or No generalizibility

3) Case Study:

↳ Can be conducted on a small group of people (6-7 persons)

↳ in depth investigation of individuals (advantage)

example : observing childhood trauma

↳ Less generalizibility (disadvantage)

example: for anger issues, a therapy model is made and is conducted on an individual and if it is a success then it can be conducted on other people.

④ Surveys:

↳ Easily collect data from a large number of people (advantage)

↳ Lack of seriousness/authentic data (disadvantage)

⑤ Correlation research:

↳ research between two different variables

∴ variables :- to change ~~var~~/ vary

example : ↳ childhood abuse and crime rates

↳ working hours and level of stress

Correlation

Positive Correlation (one variable increases, the other increases too)

example : more time a student invests in studying and the scores

Negative Correlation (one variable decreases, the other decreases too)

example :

⑥ Experimental Research:

↳ experiment on one variable and find the effect on the other variable

independent variable → manipulated/treatment

dependent variable → impact

∴ Placebo effect : No treatment is given to one group

example: 20 sample

compare these
- ↳ 10 → Therapy/Experimental group
- ↳ 10 → Placebo effect ↓ Control group

example: experiment on plants (one under sunlight, one under dark)