Qualities of a good data gathering procedures

Lesson no. 17

Qualities of a good data collection procedures (QofGDGP)

- Research
  - Deals with numbers and statistics
  - the numbers that are gathered are based on various data gathering techniques
- Qualities of any data-collection technique
  - Reliability and validity

QofGDGP: Reliability issues

- The consistency of the data results=the method should give the same results no matter who or what takes the measurement or observations

- Two or more observers should see the same things and give the same or similar judgments

- Researchers utilizing instruments would expect them to give consistent results regardless of time of administration

Correlation Coefficient

- A correlation coefficient is a number that quantifies the degree to which two variables relate to one another.

- Correlation coefficients used to indicate reliability are referred to as reliability coefficients.

- Reliability coefficients range between 0.00 and +1.00.

- A coefficient of 0.00 means there is no reliability in the observation or measurement.

- A coefficient of 1.00 indicates that there is perfect reliability or consistency.

- This means that the observation/measurement procedure gives the same results regardless of who or what makes the observation/measurement.

QofGDGP: Reliability issues (Examples)

- For example, if the researcher is assessing participants' L2 pronunciation abilities, administering the instrument 2 weeks later should produce similar results if it is reliable. However, if there is a month or two between testing sessions, any training on pronunciation may create differences between the two sets of scores that would depress the reliability coefficient.

QofGDGP: Validity issues

- The ability of an instrument or observational procedure to accurately capture data needed to answer a research question.

- Types of validity
  - *content validity, predictive validity, face validity, construct validity*

Facets of Validity

TABLE 6.3
Multiple Facets of Construct Validity

FACETS	Criterion Related		Content Coverage	Face Appearance
Trait accuracy	Capacity to succeed	Current characteristics	Cognitive/behavioral/affective change	Consumer satisfaction
Utility	Predictive	Diagnostic, placement	Achievement of objectives	Public relations
Procedures				
Types	Aptitude tests	Language proficiency tests, attitude scales	Tests, quizzes, performance assessments	All
Examples	MLAT	TOEFL, IELTS	Exercises to test treatment effects	All

QofGDCP: Validity issues (Examples)

- For example, if you wanted to use the results from the TOEFL to measure the effects of a treatment over a 2-week training period, this would be invalid.

- The reason is that the TOEFL was designed to measure language proficiency, which develops over long periods of time. It was not designed to measure the specific outcomes that the treatment was targeting.