GECC Assessment of Social Sciences Goal
For CEDP 201-01,
Spring quarter, 2009
(Instructor: Ginny Mehlert, M. S., Special Faculty Lecturer)

- **GOAL BEING ASSESSED:**

Students will be able to identify the strengths and weaknesses of selected data and/or information-gathering techniques and research methodologies.

- **COURSE NAME/NUMBER/SECTION:**

The course that I teach and which was assessed this year is the Spring Quarter, 2009 CEDP 201-01 (Lifespan Development) class.

- **INSTRUMENT OR ASSESSMENT CRITERIA:**

The instrument used to assess the goal is one that I devised (see attached document titled *Research Knowledge Assessment*). It is based on questions that students have seen previously on their in-class exams and on questions that they may NOT have seen before but which cover material they were taught in class or that was covered in their textbook.

- **SUMMARY:**

\[ N = 35 \text{ students} \]

There are 20 items on this assessment document. The number and percentage of students who answered the items CORRECTLY are reported here:

<table>
<thead>
<tr>
<th>Item #1: 35/35 = 100%</th>
<th>Item #11: 22/35 = 63%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item #2: 30/35 = 86%</td>
<td>Item #12: 30/35 = 86%</td>
</tr>
<tr>
<td>Item #3: 6/35 = 17%</td>
<td>Item #13: 35/35 = 100%</td>
</tr>
<tr>
<td>Item #4: 22/35 = 63%</td>
<td>Item #14: 24/35 = 69%</td>
</tr>
<tr>
<td>Item #5: 34/35 = 97%</td>
<td>Item #15: 23/35 = 66%</td>
</tr>
<tr>
<td>Item #6: 21/35 = 60%</td>
<td>Item #16: 17/35 = 49%</td>
</tr>
<tr>
<td>Item #7: 26/35 = 74%</td>
<td>Item #17: 19/35 = 54%</td>
</tr>
<tr>
<td>Item #8: 23/35 = 66%</td>
<td>Item #18: 21/35 = 60%</td>
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<tr>
<td>Item #9: 35/35 = 100%</td>
<td>Item #19: 18/35 = 51%</td>
</tr>
<tr>
<td>Item #10: 15/35 = 43%</td>
<td>Item #20: 32/35 = 91%</td>
</tr>
</tbody>
</table>

The mean score for the class was 13.74/20 (69%).
The high score was 20/20 (100%), which was achieved by one student.
The low score was 8/20 (40%), which was achieved by two students.
• **INTERPRETATION OF RESULTS**

The results indicate that there are some items which the students found particularly easy, as evidenced by zero incorrect answers from the 35 students who participated in the assessment activity. These items are #s 1, 9, and 13. Item #1 and Item #13 assess students' knowledge of different research methodologies, such as naturalistic observation and self-report surveys. Item #9 assesses students' understanding of reliability in measuring research results.

I found it interesting that Item #9, which deals with research reliability, was among the three items that all students answered correctly, while Item #7 and Item #8, which are both about a related topic (research validity) were answered correctly by 74% and 66% of the students (respectively). While these results indicate students have good knowledge of reliability in research, they have a bit of difficulty understanding concepts related to validity in research.

Item #3 was missed most frequently, with only 17% of the class answering correctly. This item is about recognizing how sequential design studies differ from cross-sectional and longitudinal designs in research. This means, perhaps, that students do not grasp well the concept of sequential designs, which combine both cross-sectional and longitudinal designs.

Item #10 was the second most frequently missed item, with only 43% of the class answering correctly. This item is about the strength of correlations as reported in a correlation coefficient. Most students who missed this item answered incorrectly that a positive coefficient of .80 represented a stronger correlation that a negative coefficient of .95, which indicates perhaps that students believe the positive or negative sign in front of the number makes a difference in determining the strength of a correlation coefficient, when it does not, in fact, matter.

Also related to Item #10 is Item #16, which similarly assessed students’ knowledge of correlations. This item was also missed by many students, with only 49% of the students answering correctly. This is further evidence that many students are confused about when a correlation study is used instead of an experiment and about the difference between a negative correlation and a correlation coefficient that is zero.

Item #17 addressed students’ knowledge of the types of variables used in research, and it seems to indicate that students have a tendency to confuse the independent and dependent variables in an experimental study. Only 54% of the responding students answered this item correctly.
• ACTIONS PROPOSED TO BETTER ACHIEVE THE GOAL BASED ON INTERPRETATION OF RESULTS:

Creating additional in-class activities that ask students to identify research methods, types of research designs, and concepts related to measuring in research should be considered in order to give students more opportunities to demonstrate their research knowledge before the exam that covers that material is given in class.

While there is already a lecture that covers research methodology from chapter one of the text, an additional lecture that summarizes this material may be helpful in increasing student understanding of the differences between sequential, cross-sectional, and longitudinal designs, as well as the differences between and concepts related to experiments and correlation studies.

One or more homework assignments that focus on students’ understanding of research can be provided in the future, which may give an earlier indication of what students understand before the exam that covers research knowledge is given in class. This way, problems can be spotted and the lecture can be targeted to those problem areas in order to increase student understanding of the material. In-class activities that already deal with research can be expanded as homework or new homework assignments can be created. For example, it would be possible to find a copy of a research study and ask students to identify the type of methodology used by the researcher and to discuss the results of that study in detail. Other examples might be to have students devise their own research experiments and/or correlation studies, or to describe in writing how cross-sectional, longitudinal, and sequential designs differ and are used by researchers. They should also be able to find examples of these types of research methods in the library.

Providing the Research Knowledge Assessment to students at the beginning of the quarter (as a ‘pre-test’) may also help students to understand the material and to understand the importance of learning about research. Again, problems in student learning can be spotted early enough to address them in class or with another assignment. Only a ‘post-test’ will indicate whether this is helpful in increasing student understanding, so this is recommended as well.
RESEARCH KNOWLEDGE ASSESSMENT

1. Sam took notes on the behaviors exhibited by students studying in the residence hall study room. The students he was observing did not know he was taking notes on their behaviors. Sam’s study would best be described as a type of
   a. longitudinal research              b. naturalistic observation              c. sequential design

2. Maria has devised a survey about students’ involvement in student government at EWU. She plans to ask a group of this year’s freshman class to complete the survey and she will have the same students complete the survey again when they are seniors to see if their involvement changes across time. Maria has devised a
   a. longitudinal study                 b. research experiment                  c. cross-sectional study

3. Multiple groups of people are tested more than once over time in ___ research designs.
   a. sequential                      b. cross-sectional                    c. longitudinal

4. Which of the following is a problem associated with longitudinal research designs?
   a. Researchers cannot measure subjects over time.
   b. Subjects may drop out of the study before it has been completed.
   c. Longitudinal designs are not appropriate for use in correlation studies.

5. Cross-sectional studies are affected by ___ effects, meaning that differences between age groups may result as easily from environmental events as from developmental processes.
   a. cohort                           b. reliability                        c. population

6. A weakness with cross-sectional research designs is that they
   a. take longer to complete compared to longitudinal designs
   b. cannot be used to study the stability of behavior over time as well as longitudinal designs do
   c. are more expensive to conduct than sequential designs

7. If a test you are taking in Lifespan Development is supposed to measure your knowledge of information from chapter one of your textbook but instead contains material from chapter sixteen, you could argue that the test lacks
   a. standardization                   b. reliability                         c. validity

8. The ___ of a measure (test) refers to whether it really measures what researchers think it measures.
   a. generalizability                b. validity                           c. reliability

9. Which of the following terms is most closely associated with the reliability of a research study?
   a. randomization                    b. consistency                        c. generalizability

10. Which of the following correlation coefficients represents the STRONGEST correlation between variables?
    a. +.80                             b. +.95                              c. -.20

11. The term ___ is defined as a tool that allows researchers to synthesize the results of many studies to estimate relations between variables.
    a. meta-analysis                     b. validation study                   c. standardization procedure

12. Which type of research involves watching people and carefully recording what they do and/or say?
    a. sampling behavior with tasks     b. experiment                         c. systematic observations

Name: Answer Key

CEDP 201-01: Lifespan Development

Ginny Mehlert

Spring 2009

N=35 students

% Correct

100%

86%

17%

63%

97%

60%

74%

66%

100%

43%

63%

86%
13. Kenji was asked to fill out a survey indicating his preferences for different types of campus activities as part of a study of how EWU students spend their time outside of class. This type of survey is termed:
   a. naturalistic observation   b. self-report   c. sampling behavior with tasks

14. Beth's research involved studying the relationship between college tuition rates and the number of students who worked at least part-time while taking 12 or more credits during the school term. The results of her research indicated that there was a positive correlation between the two variables. This means that:
   a. as one variable increased, the other variable decreased  
   b. both variables tended to increase or decrease at the same time 
   c. as one variable increased or decreased, the other variable was not impacted

15. Which of the following represents an example of a NEGATIVE correlation between two variables? (The variables are in BOLD CAPITAL LETTERS.)
   a. As THE NUMBER OF HOURS STUDENTS SPEND STUDYING increases, THE LEVEL OF TEST ANXIETY AMONG STUDENTS decreases. 
   b. As THE NUMBER OF STUDENTS LIVING IN THE CAMPUS RESIDENCE HALLS increases, THE NUMBER OF COMPLAINTS ABOUT CAMPUS FOOD also increases. 
   c. As THE NUMBER OF STUDENTS ATTENDING EWU ATHLETIC EVENTS increases, there is no corresponding impact whatsoever on THE NUMBER OF STUDENTS WHO BRING COFFEE CUPS TO THEIR LIFESPAN DEVELOPMENT CLASS.

16. Which of the following statements is TRUE?
   a. Correlation studies are useful for demonstrating how one variable causes a change in another measured variable being studied. 
   b. Correlation studies are used when it is not possible or ethical to manipulate (control) the variables being studied. 
   c. When a correlation coefficient equals zero, a negative correlation exists between the variables being studied.

17. In an experiment, the behavior being observed and measured is called the ___ variable, and the variable being manipulated is called the ___ variable. 
   a. dependent; independent  
   b. correlational; experimental 
   c. independent; dependent

18. Which of the following represents an important guideline for codes of conduct that specify the rights of research participants and procedures for protecting these participants?
   a. Informed consent must be provided to the research participants at the conclusion of the study. 
   b. If participants must be deceived as part of the study, a thorough explanation must be provided to them as soon as possible following the research study. 
   c. Research results should be kept confidential rather than publicized.

19. Which of the following represents two examples of professional organizations and/or government agencies that have ethical codes of conduct for including research participants in a study?
   a. National Academy of Scientific Research; Research Oversight Committee in Higher Education 
   b. National Society for Ethical Research; United States Board of Scientific Research 
   c. American Psychological Association; National Institutes of Health

20. Which of the following statements is TRUE?
   a. Research results are sometimes used to inform and shape public policy. 
   b. If a participant wishes to drop out of a study after it has begun and after providing consent, this is permitted. 
   c. both a and b