

CHAPTER 1: Introduction to Research in Education

APPLICATION EXERCISES

- 1) Answer the discussion questions for Chapter 1 found in the textbook.
- 2) The following items are designed to help focus your attention on several important points in Chapter 1. Respond to each item in a succinct manner.
 - a) Defend the use of research as a valuable source of knowledge on which educators can rely.
 - b) Discuss the differences between a quantitative and qualitative approach.
 - c) Locate a quantitative research article and a qualitative research article. Explain why you have classified each as quantitative or qualitative.
 - d) Identify a problem or a question that could be the subject of a research study that is of interest to you. Identify the sequence of steps that you would take to research the problem.
- 3) Create your own cognitive map of the chapter.
- 4) A teacher is trying to decide whether to teach simple addition facts (e.g., $1 + 2 = 3$; $3 + 2 = 5$; etc.) by using manipulatives or drill. She has heard good things from other teachers in the school about their use of drill, but she has very little information about the use of manipulatives except that their popularity is somewhat recent. The teacher decides to go by the recommendations of the other teachers and use drill.
 - a) What source of knowledge did the teacher use in making her decision?
 - b) What are the limitations of this source?
 - c) Describe a different approach that the teacher could have used to make her decision.
- 5) The following is an abstract from a research article.

The study was designed to compare the efficacy of two instructional methods, oral recitation and transcription, on the spelling accuracy of five students with learning disabilities. During oral recitation, the student orally spelled the words presented by the experimenter. Transcription was similar to the recitation method, except that the students were also required to write the word as they spelled it. Results showed that all students achieved higher accuracy with the transcription method.

- a) Is this an example of basic, applied, action, or evaluation research? Defend your answer.
 - b) Is this a quantitative or qualitative study? Explain your answer.
- 6) Choose one of the following research articles to respond to the items below:
 - Chapter 1 – *Relationship Between Perceived and Actual Motor Competence Among*

College Students

- Chapter 8 – *Students' Perceptions of School Climate and Trait Test Anxiety*
 - Chapter 9 – *The Effects of Metacognitive Reflective Assessment on Fifth and Sixth Graders' Mathematics Achievement*
 - Chapter 11 – *A Phenomenological Investigation of African American Counselor Education Students' Challenging Experiences*
 - Chapter 13 – *Majoring in STEM - What Accounts for Women's Career Decision Making? A Mixed Methods Study*
 - Chapter 14 – *Can Using Daily Number Talks Help First Graders Internalize Numbers?*
- a) What type of research design was used?
 - b) State the research question(s). What method was used to answer the question(s)?
 - c) Why was the method used appropriate to answer the question(s)?
 - d) Provide details about how the participants were selected, the type of data collected, and the ways in which the data were collected.
 - e) Was the article chosen an example of qualitative, quantitative, mixed methods, or action research? What are the characteristics of the design that make it so?
 - f) Would the research described in the article be considered basic, applied, action, or evaluation research? What are the characteristics of the research that make it so?

CLASSROOM ACTIVITIES

- 1) Modify the Application Exercises for Chapter 1 by assigning small groups of students to respond to selected items and present their responses to the class.
- 2) Have students share with the class an example of research that has affected their personal and/or professional lives.
- 3) Have students identify a problem or a question that could be the subject of scientific inquiry. Instruct them to identify the sequence of steps they would take to research the problem or question.
- 4) Ask students to read two articles from the following chapters, then discuss the differences between the two studies in terms of the items below:
 - Chapter 1 – *Relationship Between Perceived and Actual Motor Competence Among College Students*
 - Chapter 8 – *Students' Perceptions of School Climate and Trait Test Anxiety*
 - Chapter 9 – *The Effects of Metacognitive Reflective Assessment on Fifth and Sixth Graders' Mathematics Achievement*
 - Chapter 11 – *A Phenomenological Investigation of African American Counselor Education Students' Challenging Experiences*
 - Chapter 13 – *Majoring in STEM - What Accounts for Women's Career Decision Making? A Mixed Methods Study*
 - Chapter 14 – *Can Using Daily Number Talks Help First Graders Internalize Numbers?*
 - a) Goals of the researchers
 - b) Research designs used,

- c) Selection of participants,
- d) Types of data collected and the techniques used to collect that data,
- e) Nature of the data analyses, and
- f) Relationships between the researchers and the participants.

Ask the students to classify each article as either quantitative, qualitative, mixed methods, or action research on the basis of the characteristics above and defend their choice.

- 6) Divide the class into small groups. Each group should propose a research question that illustrates basic, applied, action, and evaluation research. Share the research questions in a group discussion.