This course supports the assessments for Research Proposal. The course covers 1 competency and represents 2 competency units.

**Introduction**

*Note: To find out who your assigned course instructor is for this course, see the "Educational Research Course Instructor Details" page.*

**Overview**

As a professional educator, you will want to be familiar with research proposals for several reasons, including:

- to conduct the research or evaluation needed for your graduate degree,
- to consume research to keep your educational practice informed,
- to know which research is valuable and which is not, and
- to review the research proposed by others so you can make informed, correct decisions.

Research can significantly contribute to practice. More and more practitioners are being asked to gather data to learn the answers to questions that affect student performance. This course will expose you to the principles of scientific inquiry that are used in the study of educational needs and problems. Research is important for educators because it allows them to:

- become familiar with sources of data and information to help improve teaching and learning,
- stay informed in a society that is driven by scientific inquiry,
- learn how to read and critically evaluate published research, and
- learn how to design and conduct research to answer questions important to improving educational practice.

The questions posted for each section will highlight important concepts that you either need to know in order to make a good choice or need to address in your writing. This course also builds on prior knowledge you have obtained or skills you have learned in other Research Fundamentals courses. It is designed to cover the major components in the process of designing a research proposal.

Although this course has study notebook assignments and a couple of tasks before the final task, the focus is on the final task, which is the complete research proposal. The notebook assignments and two tasks cover important skills for successful completion of the final task.

A research proposal starter table provided in this course is a useful tool for you to jot down ideas for your research proposal. Download the table and fill it out as much as you can before you start this course. This prelearning activity will help you with your work as you complete this course. You will revise the table as you go through this course.

As you work through this course and its assessments, you should focus all assignments and
tasks on topics within your chosen program of study.

Watch the following video for an introduction to this course:

**Competencies**
This course provides guidance to help you demonstrate the following competency:

- **Competency 508.3.6: Research Proposal**
  The graduate completes a research proposal.

**Teaching Dispositions Statement**
Please review the [Statement of Teaching Dispositions](#).

**Course Instructor Assistance**
As you prepare to successfully demonstrate competency in this subject, remember that course instructors stand ready to help you reach your educational goals. As subject matter experts, mentors enjoy and take pride in helping students become reflective learners, problem solvers, and critical thinkers. Course instructors are excited to hear from you and eager to work with you.

Successful students report that working with a course instructor is the key to their success. Course instructors are able to share tips on approaches, tools, and skills that can help you apply the content you’re studying. They also provide guidance in assessment preparation strategies and troubleshoot areas of deficiency. Even if things don’t work out on your first try, course instructors act as a support system to guide you through the revision process. You should expect to work with course instructors for the duration of your coursework, so you are welcome to contact them as soon as you begin. Course instructors are fully committed to your success!

**Preparing for Success**

The information in this section is provided to detail the resources available for you to use as you complete this course.

Watch the following Getting Started video for additional information which will help you complete this course successfully:

*Note: View the video in full screen at 720p for best results.*

**Learning Resources**
The learning resources listed in this section are required to complete the activities in this course. For many resources, WGU has provided automatic access through the course. However, you may need to manually enroll in or independently acquire other resources. Read the full instructions provided to ensure that you have access to all of your resources in a timely manner.

**Automatically Enrolled Learning Resources**
VitalSource E-Text

You will be automatically enrolled for the following learning resource. Simply click on the link provided to access the learning materials.


Supplemental VitalSource E-Texts

The following textbook is recommended but is not required reading. This text is supplemental and will not be linked specifically in any of the activities, but you have access to this resource in e-text form by clicking the linked title provided below.


*Note: This e-text is available to you as part of your program tuition and fees, but you may purchase a hard copy at your own expense through a retailer of your choice. If you choose to do so, please use the ISBN listed to ensure that you receive the correct edition.*

Other Learning Resources

You will use the following learning resources for this course.

**APA Formatting With Purdue OWL**

Successful completion of this course requires an understanding and application of proper APA formatting. Please review the [Purdue OWL APA Formatting and Style Guide](#) for formatting guidelines and solutions for a range of citation types. If you find yourself in need of additional information on APA formatting, you are welcome to purchase a copy of the most recent edition of the Publication Manual of the American Psychological Association at your own expense.

**Pacing Guide**

The following pacing guide is available as a reference to help you plan your studies as you engage with activities in this course:

- [Pacing Guide Research Proposal](#)

**Overview of Research Proposal**

You will develop a research proposal in this course. Aside from the results and conclusion sections, a research proposal has most of the components of a complete research study.

The purpose of a proposal is usually to get approval before research is conducted. All the elements in the proposal should be clearly written to avoid confusion or rejection. Through the proposal, you explain to the reviewer:

- why you want to conduct the research (the purpose and importance),
how you will conduct the research (the design and procedure),
how you will collect and interpret data (data collection and data analysis), and
what the expected results are.

According to Gay, Mills, and Airasian, 2009, the scientific method found in the link below is an orderly process consisting of the following five steps:

1. problem statement
2. formulation of hypothesis
3. collection of data
4. analysis of data
5. conclusions

**Figure 1. The Scientific Method**

This scientific method will be the basis for your research proposal, with some variations depending on the research method you choose for your proposal. Based on the scientific method, a list of components is commonly included in a research proposal.

Components of a Research Proposal:

- Abstract
- Statement of the problem
- Research questions
- Literature review
  - Hypothesis (or predictions)
- Methodology
  - Subjects or participants
  - Data collection and instruments
  - Research design
  - Procedure
- Data analysis

*Note: The text in the first level of bullets represents main headings, which are centered; the text in the second level of bullets represents subheadings, which are flushed to the left. This heading structure is in line with APA style and should be used in your research proposal. To review APA style, visit the Purdue OWL APA Formatting and Style Guide.*

**Reference**


**Overview of Research Plan**

Once a research problem is formulated, you will need to select a research method. Open the link below and review the various research methods for each of the three research paradigms.
This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**

**Brainstorming Ideas for Your Research Proposal**

Read the following in *Educational Research*:

- **chapter 5 ("Selection of a Sample")**

This chapter discusses the importance of a research plan and its components. While reading, you should take notes (you can use the "Notes" feature within this course).

Post to the message board the type of research you are considering and why.

A research proposal starter table is provided to help you brainstorm your research plan. It is highly recommended that you fill out the table with your ideas for each component before you start the activities in the "Review of Quantitative Research Methods" section.

You will revise the table in the sections that follow.

**Quantitative Research**

This section reviews some of the most commonly-used quantitative research methods: survey research, correlational research, causal-comparative research, and experimental research, including single-subject experimental research. This section also reviews the various components of a quantitative research method. For the performance assessment, you will review each research method so that you can select the method that is most appropriate for your topic. Once you have decided on a method, you will study the details of that method in order to design a sound research study.

**Experimental Research**

When you want to investigate if a type of instruction or an instructional strategy is effective in improving students' test scores in a certain subject, experimental research is an appropriate method.

Well-designed true experimental research can establish a cause-effect relationship. However, in many situations, especially in education, a true experimental design may not be possible. To overcome this limitation, some variations are available to meet different research needs. Read the chapters that discuss various group designs as well as the steps involved in conducting such research.

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**

  The graduate completes a research proposal.

**Experimental Research**
Read the following in *Educational Research*:

- chapter 9 ("Causal-Comparative Research")
- chapter 10 ("Experimental Research")

It is fair to say that the majority of research concepts are related to experimental research. A good understanding of how to design experimental research will help you with other research methods. Below is a list of questions you need to consider when designing an experimental research study.

Take notes while reviewing the chapters and revise the research starter table proposal if you plan to design an experimental research study.

Consider the following questions and use the "Notes" feature in the course to record your thoughts:

- Are you going to have a control group?
- How many groups will you have?
- How are you going to assign students into groups?
- What group design is most appropriate for your research topic and purpose?
- What is the difference between single variable design and factorial design?
- What is the difference between true experimental design and quasi-experimental design?
- What are the advantages and disadvantages of using a pretest?
- What is your independent variable?
- What is your dependent variable?
- How are you going to control any extraneous variables?
- How do you control major threats to the internal and external validity of your experiment?

**Survey Research**

Survey research is also referred to as descriptive research in *Educational Research*. According to *Educational Research*, survey research "...determines and reports the way things are; it involves collecting numerical data to test hypothesis or answer questions about the current status of the subject of study" (Gay, Mills, & Airasian, 2009, p. 9). There is no manipulation of variables or control of laboratory setting. The purpose is to "gather information about a group’s beliefs, attitudes, behaviors, and demographic composition" (Gay, Mills, & Airasian, 2009, p. 176).

Because survey research typically relies on self-report from participants, its results are less desirable than those from experimental research. However, in education, survey research using questionnaires is a popular tool for gathering data about the participants' attitudes, motivations, current skills levels, or demographic information. Thus, questionnaires are often used in action research, formative evaluation, or experimental research.

**Reference**

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
The graduate completes a research proposal.

### Survey Research

Read the following in *Educational Research*:

- **chapter 7 ("Survey Research")**

If you plan to design survey research, complete the research proposal [starter table](#) and consider the following questions:

**What is the purpose of survey research?**

- In what situation is survey research appropriate?
- What are the procedures involved in constructing a questionnaire?
- What type of data will a questionnaire collect?
- What data analysis techniques are used in survey research?

Use the "Notes" feature within this course of study to record your thoughts.

### Correlational Research

The purpose of correlational research is to find out if there is a strong correlation between two variables. Correlational research does not ascertain effectiveness of a new type of instruction or strategy; rather, it is often used to explore the relationship between an independent variable and a dependent variable—especially when experimental research is too costly or not possible early in the research stage. Very often, correlational research serves as a springboard for future experimental research.

The relation between two variables is represented by the correlation coefficient $r$, with a value ranging from -1 to 1. The $r$ value indicates how strong the association or relation is between two variables. When $r$ is 0, there is no relation at all. The closer the $r$ is to -1 or 1, the stronger the relation between the two variables. If you use a computer program to run a correlation analysis with multiple variables, it will produce a correlation matrix with a correlation coefficient for each possible pair of variables.

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
The graduate completes a research proposal.

### Correlational Research
Read the following in *Educational Research*:

- chapter 8 ("Correlational Research")

If you plan to design correlational research, complete the research proposal starter table and consider the following questions:

- What is the purpose of correlational research?
- In what situation is correlational research appropriate?
- How is correlational research different from survey research?
- What type of data do you collect for correlational research?
- How is data collected for correlational analysis?
- When do you use Pearson r as the method for computing a coefficient?
- When do you use Spearman rho as the method for computing a coefficient?
- Does a high correlation between two variables indicate a causal relation?
- What are the major steps involved in basic correlational research?
- What data analysis techniques are used in correlational research?

Use the "Notes" feature within this course record your thoughts.

**Causal-Comparative Research**

Causal-comparative research is a unique method that uses existing data to examine causal relations between variables. The established groups already differ on some variables, and causal comparative research attempts to "...identify the major factor that has led to this difference" (Gay, Mills, & Airasian, 2009, p. 218). Causal-comparative is similar to correlation research in that it does not manipulate any variables, and it is used to help identify variables that you can further explore by conducting experimental research. It differs from correlational research in that it attempts to establish a cause-effect relationship.

Causal-comparative research focuses on the differences between groups, and correlational research focuses on relations among variables (Gay, Mills, & Airasian, 2009, p. 218). The major difference between causal-comparative research and experimental research is that the independent variable in experimental research is manipulated. The advantage of causal comparative research is the ability to use existing data to identify some important variable that might help improve students' performance in a subject area-without the hassle and cost of experimental research. The limitation of causal-comparative research is the researcher's limited control over the groups, and thus the inability to establish true cause-effect relation or to generalize the results to the larger population. Actually, the sample is its population.

**References**


This topic addresses the following competency:

- Competency 508.3.6: Research Proposal
The graduate completes a research proposal.

**Causal-Comparative Research: Reading**

Read the following in the *Educational Research*:

- chapter 9 ("Causal Comparative")

If you plan to design causal-comparative research, complete the research proposal [starter table](#) and consider the following questions:

- What is the purpose of causal-comparative research?
- In what situation is causal-comparative research appropriate?
- How does causal-comparative research differ from correlation research or experimental research?
- Why is causal-comparative research called ex post facto?
- What are the limitations of causal-comparative research?
- What are the steps involved in conducting causal-comparative research?
- What are the three control techniques for overcoming problems of initial group differences on an extraneous variable?
- What data analysis techniques are commonly used in causal-comparative studies?
- How would you interpret results from a causal-comparative research?

Use the "Notes" feature within this course to record your thoughts.

**Qualitative Research**

This section reviews some of the most commonly-used qualitative research methods: narrative research (formerly known as *historical research* in *Educational Research*) ethnographic research, and case-study research. It also reviews action research. The tools for collecting qualitative data are indispensable in action research. Therefore, it is important that you get very familiar with all the qualitative data collection tools. Action research uses many of the tools for qualitative research.

**Qualitative Data Collection**

Qualitative research is exploratory and understanding-oriented, relying heavily on verbal description. The researcher is the critical source of data collection and interpretation; the researcher is "...the primary data collection instrument" (Gay, Mills, & Airasian, 2009, p. 366).

The researcher collects data mainly through the following data collection methods or instruments:

- Observation
  - Participant observation
  - Non-participant observation
  - Recording observation
- Interview
o Unstructured interviews
o Structured interviews
o Focus groups
o E-mail interviews
● Questionnaires
● Records
  o Archiving documents
  o Journals
  o Maps
  o Videotape and audiotape
  o Artifacts

References

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
  The graduate completes a research proposal.

**Qualitative Data Collection: Reading**

Read the following in *Educational Research*:

- chapter 14 ("Qualitative Data Collection")

Then read the lecture notes on qualitative research.

If you are planning to use any tools to collect qualitative data, put them down in the "Instruments" section of your research proposal starter table and also consider the following questions:

- What is protocol for observations?
  o Why is it important?
  o What topics should be included in a protocol?
- What are the guidelines for recording information and organizing field notes?
- What are the guidelines for interviews?
- What are the guidelines for developing a questionnaire?
- What strategies can be used for ensuring the validity of qualitative research?
- What is data triangulation in qualitative research?

Use the "Notes" feature in this course to record your responses.

**Narrative Research, Ethnographic Research, and Case-Study Research**

Narrative research tells stories about people's lives and uses interviews and other artifacts
Ethnographic research is a method for studying "...cultural patterns and perspectives of participants in their natural setting" (Gay, Mills, & Airasian, 2009, p. 404). The researcher typically stays in a natural setting for a long period of time observing participants' perspectives and cultural patterns. This method could be used to observe students' behaviors in a class or teachers' teaching patterns in a school. Through ethnographic research, the researcher gains rich insight into a learning site, although this method takes a large amount of time. Ethnographic research is perhaps the most time-consuming research method.

Case-study research focuses on one single entity, which could be an individual, an organization, a class, a school, or a school district. The researcher will define the unit of study. According to Educational Research, case-study research allows the researcher to answer questions such as "what happened?" and "how or why did it happen?" It also allows the researcher to study processes, such as how a program has been implemented (Gay, Mills, and Airasian, 2009). Case-study research is more flexible and manageable than the other two qualitative research methods. Elements of case-study research are used in action research since the latter combines elements from both qualitative and quantitative research.

References

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
  The graduate completes a research proposal.

**Narrative, Ethnographic, and Case-Study Research**

Read the following in the *Educational Research*:

- chapter 15 ("Narrative Research")
- chapter 16 ("Ethnographic Research")
- chapter 17 ("Case Study Research")

Be sure to read the examples listed at the end of each chapter.

While reading, consider the following questions:

- What are the steps involved in conducting qualitative research?
- What data collection techniques are appropriate for each of the three qualitative research methods?

Post your responses in the message board.
Action Research

Action research has become an increasingly popular research method. For the performance assessment, you will review action research in more detail to learn the steps and common techniques used in conducting it. Experimental design is a powerful research method for establishing cause-effect relation and an ideal design to ascertain the effect of an instructional strategy or method on a dependent variable. However, in many real-life situations, randomly assigning students into either the experimental group or control group is not possible.

Introduction to Action Research

Usually, teachers do not randomly assign students to different groups, for fear of depriving some students of potential benefits of a teaching method. It is also believed that human behaviors are more complex than numerical data can possibly describe. In addition, traditional research using experimental design is somewhat detached from daily classroom problems. As a result, action research has become an important method for practitioners to reflect on and investigate daily classroom issues without many of the constraints of experimental design. Action research is "...a dynamic and responsive model" that can be adapted to "provide teacher researchers with 'provocative and constructive ways' of thinking of their work" (Gay, Mills, & Airasian, 2009, p. 489).

References


This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
  The graduate completes a research proposal.

Action Research

Read the following in the *Educational Research*:

- chapter 20 ("Action Research")

If you plan to design an action research study, complete the research proposal starter table and consider the following four steps involved in conducting action research:

1. Identify an area of focus.
2. Collect data.
3. Analyze and interpret data.
4. Develop an action plan.

Data collection for action research can use various instruments or methods. Data can be collected using objective tests such as pre and posttests, observations, surveys, interviews, teacher reflections or journals, students' writing samples, etc. Action research for the performance assessment requires at least three sources of data for data triangulation "...to
obtain a more complete picture of what is being studied and to cross-check information” (Gay, Mills, & Airasian, 2009, p. 377).

However, you do not need to use all the available data collection tools; the more tools you propose to use, the more errors might occur. For each data collection tool, you need to describe how you will analyze the data collected from it. Never include a data collection instrument in the data collection section without a plan for analyzing its data in the data analysis section.

References

Data Analysis

In the performance assessment, you are required to describe how you will analyze the data to be collected. Even though you will not actually collect the data, you need to describe your plan for data analysis. You will need to clearly and precisely describe which techniques you will use to analyze your data. It is recommended that you repeat your purpose here first, and then describe how you will organize the data after they are collected.

For qualitative data, you will likely organize the data into meaningful categories to display some patterns or themes. For quantitative data, you may choose one of the following: correlation analysis, ANOVA or ANCOVA, t-test, or chi-square. Describe what you expect to find from the analysis and what the expected results will reveal.

Try to answer the following key questions regarding your data analysis in this section:

- What is the purpose of the research?
- How are you going to organize the data after they are collected?
- What method(s) will you use to analyze the data?
- What is the rationale behind the use of a particular analysis method(s)?
- What results would you expect the data analysis method(s) to produce?
- How would you interpret the expected results?

Record your findings in the notes section or in your personal study journal. If your data analysis has not answered these questions, the section is still missing some information and you need to make revisions.

How to Choose the Appropriate Data Analysis Techniques

Picking the appropriate analysis techniques for your data type is a daunting task. All of the learning prior to this section has been preparing you for this task, and yet it still proves to be a difficult task for most students. To do this task correctly, you need to have a clear idea of the type of research method you have chosen and the type of data you propose to collect.

The main purpose of the research proposal starter table is to allow you to grasp all of these critical elements and line them up in a straight line. If you get one element wrong, an expert such as the Research Fundamentals course instructor will be able to tell that the line of
elements is not straight, it is crooked and you need to straighten it. The table in the "Data Analysis Techniques: Reading" section is created to give some quick tips of what analysis techniques can be used for a particular instrument or method.

This topic addresses the following competency:

- **Competency 508.3.6: Research Proposal**
  The graduate completes a research proposal.

**Data Analysis Techniques: Reading**

Read the following in the *Educational Research*:

- chapter 12 ("Descriptive Statistics")
- chapter 13 ("Inferential Statistics")
- chapter 18 ("Qualitative Research: Data Analysis and Interpretation")

Be sure to read the examples listed at the end of each chapter.

### Instruments/Methods, Data Types, and Data Analysis Techniques

<table>
<thead>
<tr>
<th>Instruments / Method</th>
<th>Data Type</th>
<th>Variable</th>
<th>Data Analysis Technique</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Objective Test (pre- and posttest)</td>
<td>Quantitative, numerical</td>
<td>Interval</td>
<td>T-test ANOVA ANCOVA Correlation</td>
<td>T-test is for two groups only; ANOVA and ANCOVA are for two or more groups; partial out the initial group differences; correlation is for finding out relation between variables.</td>
</tr>
<tr>
<td>Questionnaire (using Likert scale)</td>
<td>Quantitative, numerical</td>
<td>Ordinal</td>
<td>Descriptive Chi square (test of significance)</td>
<td>Chi square, an inferential statistical technique, is used for nominal or ordinal data.</td>
</tr>
<tr>
<td>Questionnaire (questions)</td>
<td>Qualitative</td>
<td>Nominal</td>
<td>Categorical analysis</td>
<td>Coding Classifying Finding patterns</td>
</tr>
<tr>
<td>Field Notes from Observations or Interviews</td>
<td>Qualitative</td>
<td>Nominal</td>
<td>Categorical analysis</td>
<td>Coding Classifying Finding patterns</td>
</tr>
<tr>
<td>Journals, writing samples</td>
<td>Qualitative</td>
<td>Nominal</td>
<td>Categorical analysis</td>
<td>Coding Classifying Finding patterns</td>
</tr>
</tbody>
</table>

*Note: This table is NOT in APA style. APA-style tables do not have vertical and middle*
horizontal lines. See the Purdue OWL APA Formatting and Style Guide.

Commonly-Used Tests of Significance

Review the following figure in the link below for the commonly-used tests of significance.

- Commonly-Used Test of Significance

Qualitative Data Analysis During Data Collection

Review the following figure in the link below for the qualitative data analysis during data collection:

- Qualitative Data analysis During Data Collection

Qualitative Data Analysis After Data Collection

Review the following figure in the link below for the qualitative data analysis after data collection:

- Qualitative Data Analysis After Data Collection

Writing the Proposal

By now, you should have completed the research proposal starter table. The Research Fundamentals course instructor can help you with your plan. After you have finalized your research plan, you may start to write each section.

Take the opportunity to discuss your progress and plans with the course instructor either through chat/IM, the message board, or a phone call.

Access the TaskStream Assessment Tasks

The performance assessment consists of two tasks. The final task is the complete research proposal. Specific instructions are provided for both task.

This topic addresses the following competency:

- Competency 508.3.6: Research Proposal
  The graduate completes a research proposal.

RJVT Task 1 and JVT Task 2 Performance Tasks

Complete the following tasks in TaskStream:

- JVT2: RJVT Task 1
- JVT2: JVT Task 2

For details about this performance assessment, see the "Assessment" tab in this course.

Final Steps
Congratulations on completing the activities in this course! This course has prepared you to complete the assessments associated with this course. If you have not already been directed to complete the assessments, schedule and complete your assessments now.