The Effects of using e-Portfolios in Teaching and Learning Curriculum

Ami L. Stovall

Texas A&M University-Commerce

# Research Methods Report # 1

## Correlational Design

A correlational research study seeks to explore relationships between variables, and there can be two or more, as well as scores (Citation). This study does not depend on experimentation, including controlling and manipulating the variables. One uses this type of research design to forecast an outcome and how these outcomes differ from each other. Also, in this research, a researcher can use a variable to predict the outcome or score of another variable. Correlation studies deliver vital statistics about what research moving forward would be necessary to explore variables revealed to be associated with the results or characteristics previously studied (Curtis, Comiskey, C., & Dempsey, O. 2016). Citation is not in APA format. To ensure quality survey design of correlation study, there are vital steps to implement, and these steps begin with making a claim or creating a hypothesis (Citation). The next step involves selecting a data collection process and, once established, collecting the data for the study. Once the data is collected, compile and analyze the data to determine the study’s results. Finally, it is often essential to perform further research for the study. Actions that are important to help increase participant response rates include providing incentives and keeping the study applicable, relevant, and brief (Citation).

Additionally, choosing the appropriate time to conduct the study and selecting the right audience while providing multiple avenues for participants to receive and participate in the research often includes gentle reminders or nudges (Citation). Make sure to communicate the importance of survey participation to the prospective participants. Ensure the study uses intuitive and ease-to-follow technology platforms that can be used from multiple computers and mobile devices for participants. Correlation studies seek to view relationships (Citation). For example, students who get a good night’s sleep tend to perform better on school exams. It does not show how or why these are related, but they are related. Another example is that children who play violent video games tend to exhibit aggressive behavior.

## Causal-Comparative Design

A causal-comparative study investigates the contributing relationship between a dependent and an independent variable (Citation). This is a type of research study that is done after the fact. Additionally, this research determines the cause or significance of variances occurring among two or more variables or groups. Often it is difficult or impossible to manipulate conditions, so an advantage of this study type is to investigate the cause-and-effect relationships. Causal-comparative research is advantageous when determining if one variable in a study of two or more groups is the direct causal influence (Citation). Rumrill (2004) stated that these studies compare variances between influential or whole groups on theory-driven dependent measures. Another advantage to this method of research is that it affords the researchers artificial reproducing scenarios, which saves resources and time. This type of research does not involve ethical dilemmas; study one independent variable where the researcher does not manipulate the variable. Furthermore, these causal-comparative studies allow researchers to check retrospectively (Citation).

There are some disadvantages to using causal-comparative research, including the researchers’ lack of control (Citation). Often obtaining conclusive study results necessitate repeating trials. Also, securing study results is, in most settings, indecisive or uncertain at most. One of the most challenging issues with using causal-comparative design studies is the randomization of subjects to numerous groups. The researcher must locate the groups that are already formed can be trying (Citation).

To ensure quality survey design of correlation study, there are vital steps to implement, and this type of study begins with articulating the problem (Citation). The next step involves selecting the groups of subjects to study. The next step includes selecting the instrumentation for the analysis, which may consist of questionnaires, interviews, devices for observing, and others. This research method seeks to compare a cause-effect relationship between two or more subjects (Citation).

Needed to move this up to the above paragraph as two sentences is not sufficient for a new one. An example of a causal-comparative research scenario would be how an individual’s weight affects their coping skills with daily life stressors. Or another scenario is: How does time affect the age of an individual?

## Experimental Design

Experimental design studies research possible cause and effect, usually comparing two or more groups (Citation). Knight 2010 stated that research or experimental design affords a much more significant role than just defining and guiding the statistical analysis of an experiment. There are variables in these types of studies, including dependent and independent. It is advantageous to conduct experimental design research when seeking to make forecasts and draw conclusions on a subject area. These studies are performed when the researcher seeks to control variances or differences or to provide research question answers (Citation).

Like any other method of research study, experimental design has advantages and disadvantages. Such benefits include the researchers’ control over variables; due to this method of research, there is the ease in determining cause and effect (Citation). Also, due to the specific set up of controls and the strict conditions placed on the study, the results of experimentation are improved when repeated experiments are obtained and inspecting results over again (Citation).

Conducting experimental design studies often takes more time to perform, which can be a disadvantage (Citation). Also, raising outlooks during experimental studies may interfere with post-test scores. Other disadvantages include human or instrumentation errors, personal biases, obtaining inadequate samples, costs, and the ability of researchers to impact a variable of the experiment such that consequences are observed (Citation). Experimental design guides the investigation by arranging data gathering, explains the statistical analysis of the resultant data, and leads to the explanation of the results (Knight, 2010).

The experimental design seeks to determine if one variable causes another variable (Citation). For example, the garage door opener at my home would not close the door, so my husband went outside, visually observed or inspected the garage door opener, and attempted to close and open the garage door with the various remotes. They all were working properly, but the garage door would not close. Next, he inspected the garage door itself and the garage door rails and motor. Upon viewing these parts closely, he noticed that one of the garage door opener rails had vibrated loose away from the garage wall. So next, he used the remote to close the garage door while observing the loosened garage door rail. He noticed that once the garage door got halfway down, the railing on that loosened side and the garage door rail began to vibrate, which caused the garage door to stop and then open again. Next, my husband used a clamp to keep the loose garage door rail from shaking, and then he closed the garage again using the remote. The garage door completely closed all the way successfully. In conclusion, what we thought was the occasional garage door opener sensor obstructed “I, me, my, our, ours, and we” are not to be used in any part of the research proposal. After experimenting with the variables of the garage door system, we determined that the loosened garage door rail caused the garage door opener not to close the garage “I, me, my, our, ours, and we” are not to be used in any part of the research proposal.

## Survey Design

Survey research studies are advantageous when a researcher seeks to collect an extensive set of information in a short time (Citation). This method is easy to conduct a research study and is quick. Survey studies are often administered to gather population data so that information on the population can be obtained like opinions, personal facts, attitudes, income, sex, religion, ethnicity, or other characteristic statistics. Also, survey design is good to use when seeking to explore trends in populations and subpopulations (Citation).

There are benefits of this method Need to be specific since you started a new paragraph- of research consisting of collecting a large amount of data in a short time, and the cost of conducting research is minimal compared to other study methods (Citation). Surveys can be completed online through various mobile devices and made available to participants from a large and broad demographic. Also, surveys are generated quickly, and they are administered easily. Surveys can collect data for compiling information on various topics, opinions, personal facts, behaviors, and attitudes (Citation).

There are some weaknesses to using surveys to do research. One disadvantage is that sometimes there may be technical difficulties that hinder the investigation (Citation). Also, there can be biases like a social attraction where a participant may not be completely forthcoming with an answer to a health question, and they report better health than they are. Likewise, a survey is only as good as the researcher who created it, where the survey design needs to be revised and generate the necessary data to analyze, report and conclude the optimal research intended. Survey design can involve nonresponse prejudice reporting as well (Citation). Additionally, when conducting web surveys, fewer response rates might lead toward nonresponse partiality (Sauermann & Roach 2013).

Using survey questionnaires may be problematic as they do not provide for namelessness, some questionnaires involve training the people administering them, and these people who administer the questions could influence answers (Citation). This may affect the legitimacy of survey results regardless of the sample size (Sauermann & Roach 2013). Sauermann and Roach (2010) noted that it is necessary to comprehend better web survey response conduct and change techniques to increase web survey return rates.

## Mixed-Methods Design

Mixed-methods research design is unique in integrating both qualitative and quantitative studies to help the researcher get a more comprehensive picture (Citation). This study is usually conducted when qualitative or quantitative studies alone are less thorough. Mixed-methods research is advantageous to use when you want another perspective or when you want to practice the newest study approach. This research design is also good to use when having access to qualitative and quantitative data as well (Citation). Mixed-methods research attracts from the strengths collectively of qualitative and quantitative approaches in addition to providing an innovative approach to examining contemporary issues in health care, for example (Fetters, Curry, & Creswell, 2013).

Advantages occur in the mixed-method design, and this type of study combines strengths of both forms, qualitative and quantitative research (Citation). Another benefit is that the validity of the study increases. Mixed-method research is also reliable, which can provide more confidence in the findings. Furthermore, this method offers to cancel out the disadvantages (Citation).

The mixed study methods are not without disadvantages; one potential is that this design is expensive (Citation). Mixed-method studies are time-consuming to administer. Also, the study methods must be complementary, and the skills required to analyze both sets of data from the research being done can be a limitation (Citation). Furthermore, the flexibility integral in mixed methods research can result in a more all-inclusive and accurate understanding of the studied subjects (Ponterotto, Mathew, & Raughley, 2013). Remove shading from citation.

There are essential steps to make sure of quality mixed method design (Citation). First, decide if this research method is appropriate and indicated, including skills, knowledge, time, and audience consideration. Next, determine the motivation and purpose, which includes being clear, reviewing intentions, and reasons for collecting both qualitative and quantitative data. Select the most suitable design strategy and methods for data collection before collecting data from both designs and choosing the proper order of data collection. Next, create research questions for mixed-method questions. Collect the quantitative and qualitative data while following outlined laborious procedures. Analyze data collected as it relates to the research design, which may include separate, integrated, or both analysis processes. Following the analysis, write the report in the possible integrated and multi-staged studies in the appropriate writing structure (Citation). Needed to remove the background shading on this paragraph.

# References

Curtis, Missing initial Comiskey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Researcher*, *23*(6), 20–25. https://doi.org/10.7748/nr.2016.e1382

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs-principles and practices. *Health Services Research*, *48*(6 Pt 2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Knight. Incomplete (2010). Study/experimental/research design: Much more than statistics. *Journal of Athletic Training*, *45*(1), 98–100. https://doi.org/10.4085/1062-6050-45.1.98

Ponterotto, J. G., Mathew, J. T., & Raughley, B. (2013). The value of mixed methods designs to social justice research in counseling and psychology. *Journal for Social Action in Counseling & Psychology*, *5*(2), 42–68. https://doi.org/10.33043/jsacp.5.2.42-68

Rumrill Jr, P. D. (2004). Non-manipulation quantitative designs. *Work*, *22*(3), 255-260.

Sauermann, Missing initial & Roach, M. (2013). Increasing web survey response rates in innovation research: An experimental study of static and dynamic contact design features. *Research Policy, 42*(1), 273–286. https://doi.org/10.1016/j.respol.2012.05.003

Some of the above sources have background shading that needs to be removed.

|  |  |
| --- | --- |
|  | **Research Methods Report Grading Rubric***CLAQWA (modified), Flateby & Metzger – University of South Florida* |
| Points | **Assignment Requirements** |
| 25 | Addresses and develops each aspect of the assignment and goes beyond the assignment prompt to address additional related material. |
| 20 | Addresses each aspect of the assignment. |
| 15 | Addresses the appropriate topic and partially fulfills assignment requirements. |
| 10 | Addresses the appropriate topic, but omits most or all of the assignment requirements. |
| 5 | Off topic or vaguely addresses the topic. |
|  | **Quality of Details** |
| 25 | Provides details that help develop each element of the text and provide supporting statements, evidence or examples necessary to explain or persuade effectively. |
| 20 | Provides details that support the elements of the text with sufficient clarity, depth, and accuracy. |
| 15 | Provides details that are related to the elements of the text, but do not support those elements with sufficient clarity, depth or accuracy. |
| 10 | Provides details that are loosely related to the elements of the text, but are lacking clarity, depth, and accuracy. |
| 5 | Provides details that do not develop the elements of the text. |
|  | **Quantity of Details** |
| 25 | All points are supported by a sufficient number of details. |
| 20 | All points are developed, but some may need additional details. |
| 15 | Additional details are needed to develop some points. |
| 10 | Additional details are needed to develop most points. |
| 5 | Virtually no details are present. |
|  | **Grammar and Mechanics** |
| 25 | Sentences are grammatically and mechanically correct. |
| 20 | Rare grammatical and mechanical errors exist, but do not affect readability. Missing several citations. |
| 15 | A limited variety of grammatical errors exist. |
| 10 | A variety of grammatical errors appear throughout the text possibly affecting readability. |
| 5 | Most sentences exhibit multiple grammatical and mechanical errors, obstructing meaning. |
|  | **Earned Points Total: 95/100** |