**AIU Exam – Planning Your Research Project**

**Subject of Courses**: Research Methodology

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**Name of study material (video or book)**:

***Practical Research: Planning and Design by Paul Leedy***, (**Chapter 4)**

**Link to access study material (video or book):**

[**http://aiustudev.aiu.edu/submissions/profiles/resources/onlineBook/a2g3B6\_Practical Research\_ Planning And Design-2020.pdf**](http://aiustudev.aiu.edu/submissions/profiles/resources/onlineBook/a2g3B6_Practical%20Research_%20Planning%20And%20Design-2020.pdf)

**Exam Starts Here.**

**Introduction**:

 The topics covered by this exam all pertain to how to plan and design a research project. The first topic is how to approach planning a research project. Followed by how data applies to research and the role it takes. The next topic is how to use the data obtained and it link to research methodology. Another topic covered in this exam is how to choose a method of research and how it enhances the project. Next it examines assessment strategies and how to choose one appropriately. Then the chapter moves on into the ethics and the issues that can arise while researching the project. Finally, the last topic covered is importance of critically scrutinizing the overall research project.

 The first topic, *“Planning a General Approach”,* provides the researcher with the information needed to create a research design plan. It provides examples of research problems and explains the importance of being flexible when it comes to resolving these problems. This topic also provides a brief description of research planning and research methodology and the differences between the two.

 *“The Nature and Role of Data in Research”* is the next topic to be discussed in the chapter. In this topic, the researcher learns the definition of the term data and the differences between primary and secondary data. The topic also describes the processes used in collecting data. These processes discuss what data is needed, where the data is located, how the data is obtained, any limitations on the collected data, and how the data will be interpreted.

 The next topic discussed is from the section on *“Linking Data and Research Methodology”*. In this section of the chapter, the researcher learns the meanings of quantitative and qualitative methodologies and the differences between them. It also discusses how to combine these two methodologies. A practical application is also provided in this topic. This practical application steps through the process of choosing a general research approach including how a researcher decides whether to use a quantitative or qualitative approach.

 In *“Choosing Methods that Enhance the Value of Your Research Project”*, the researcher is exposed to methods used to help enhancing a research project. The topic describes the terms credibility and generalizability. It also includes strategies used to enhance a project’s credibility, and methods used to enhance a project’s generalizability.

 Topic five is all about *“Choosing Appropriate Assessment Strategies”*. It describes what the term assessment means and what is involved in determining an assessment. The topic also includes information on substantial and intangible phenomena and how to distinguish between them. Also included in this topic are the four types of measurement scales. A conceptual analysis exercise is included to help the researcher identify different scales of measurement. Next portion of this topic includes methods a researcher can use to check the validity and reliability of an assessment. A conceptual analysis on validity and reliability is also included to help explain these concepts.

 *“Ethical Issues in Research”* is the next topic. The topic is broken down to help the researcher understand applicable professional codes of ethics which includes section on protection from harm, voluntary and informed participation, right to privacy, honesty with professional colleagues, institutional review boards, and the difference professional codes of ethics.

 The final topic covered by this exam is *“Critically Scrutinizing you Overall Plan”*. This topic provides a couple of applications to help the researcher determine if a proposed research project is realistic and practical, how to do a pilot study to help in anticipating potential problems in a research project, and the use of project management software and electronic planners.

**Questions:**

Answer each question below with complete paragraphs. Give examples from your own experience to illustrate the ideas. As well, explain how would apply the knowledge and concepts in your own research work.

**Chapter 4**

**1.** You are interested in finding out whether business-run childcare or independent childcare better prepares preschoolers for kindergarten. You choose only 5-year-old children entering kindergarten who have been in the same childcare arrangement for at least 6 months to participate. You decide to measure the preparedness for kindergarten by using standard kindergarten entrance exam questions and kindergarten CTBS (a standardized test) scores given during the spring of the school year.

**i.** What is the research topic or question?

The research topic or question is which type of childcare better prepares a preschooler for kindergarten, business-run or independent.

**ii.** Is this a qualitative or quantitative approach to the research question?

Since the data collected to question is from a standardized test, and the purpose is to confirm or validate the question, then this approach is considered quantitative.

**iii.** On reflection, you decide that you would also like to know if there are differences in the social skills and behavior of children in business-run childcare compared with independent childcare, but you are uncertain about exactly what skills and behavior you might measure. Describe the approach you would take to address this problem.

To determine the differences in social skills and behavior of children in business-run childcare compared with independent childcare, the approach to be used is qualitative. Social skills and behavior are complex concepts not easily expressed with numerical data or standardized tests. Social skills a behavior really does not have discrete variables that can be measured. The type of data collected is subjective and can be biased based on one’s personal view.

**iv.** In what important ways would the data collected during the first part of your study differ from the data collected during the later part of your study?

Data collected in the first part is quantitative in nature, while the data collected in the second part is qualitative. Since the data collected in the second part is based on social skills and behavior, the results are more subjective, based on unknown variables, and require personal observation. These are all qualitative in nature unlike quantitative which normally consists of numerical data, uses known variables, collected through standardized testing, and require a more detached observation. The first set of data seeks to explain and predict which type of childcare better prepares preschoolers for kindergarten. The second set of data seeks to describe and explain the differences in preschoolers’ social skills and behavior. The first set of data collected allow researchers to use deductive reasoning to help draw a logical conclusion about which childcare is better. In contrast to the second set of data which requires researchers to use inductive reasoning to make specific observations and draw inferences about that data.

**2.** Dr. Smithson conducts a study comparing sleeping habits and work productivity of participants. He finds that participants who wake up no later than 6:00 a.m. are more productive workers than participants who wake up later than 6:00 a.m. In his conclusions, he asserts that people are more likely to be good workers if they wake up early rather than later.

**i.** Did Dr. Smithson’s study have internal validity?

Internal validity is defined as the extent to which the observed results represent the truth in the population we are studying and, thus, are no due to methodological error (Cancado & Lauris, 2014). Methodological error are errors resulting from the difference between the value obtained during the process of measurement and the real value of the magnitude of the measurement which affect the reliability of the results by increasing or decreasing the real differences among the studied variables(Patino & Ferreira, 2018)**.** In the case of this study, I do not believe that Dr. Smithson’s study has internal validity. The book discusses several different methods by which Dr. Smithson could have brought credibility to his study, and in the initial writeup of the question, I do not see any of these methods being used. Instead, I find that his assertation is more of a generalization.

**ii.** He decides to do a second study. How can he ensure that his second study has high internal validity? Evaluate at least three possible options, and explain your reasoning.

In the second study, Dr. Smithson could use on or more of the choices provided in the textbook on pg. 118-119 to bring internal validity to the study. One such choice that Dr. Smithson could do is to bring his results to the participants of the study and ask them if the agree with his findings. This is known as Respondent Validation. Doing this will provide Dr. Smithson with insights of the participants’ beliefs, attitudes, and experiences. Another choice that Dr. Smithson could use to provide a higher internal validity is to perform the study in a controlled laboratory setting. This will allow him to control the environmental conditions, measurement, and will all Dr. Smithson to really examine the cause and effect of his study. A final choice that Dr. Smithson could do to provide a higher internal validity to his study is to analyze the data to pinpoint discrepancies and outliers. By looking for this inconsistent data, Dr. Smithson can use this data to allow him to revise his initial hypotheses and assertations,

**iii.** Imagine that Dr. Smithson instead wants to examine the perspectives of this group of participants on worklife balance and the sorts of resources and supports that enhance work productivity, and he designs and conducts a qualitative study. What approaches could he employ to enhance the credibility of the study?

One of the best ways for Dr. Smithson to enhance the credibility of this study is to ask the participants to review his conclusions and see if they agree or disagree with them. This is known as respondent validation. This is used in qualitative studies to help researchers gain insights on the participants. Another qualitative approach that Dr. Smithson can use to help bring credibility to his study is through follow-up studies that are specifically designed to eliminate alternative explanations for findings.

**3.** The internal review board (IRB) is charged with identifying potential risks to participants; these are often risks that are unnoticed by the researchers as they plan a study. Identify concerns that the board might have regarding each of the following

examples. Keep in mind that research risks include physical, mental, and social risks beyond those found in typical daily activities.

**i.** Samuel wants to investigate how children respond to negative feedback. In his design, children complete difficult puzzles. Some of the children are informed erroneously that they are worse than their peers at solving these problems. Others are told that they perform better than their peers.

The board may be concerned with the ethical issues that could be raised by informing some of the children erroneously that they are worse than their peers at solving the problems. According to the text book pg. 135, “At a minimum, the researcher should treat all participants in a courteous and respectful manner.” (Leedy & Ormrod, 2021)

**ii.** Denise studies worker burnout in a CPA firm. She proposes to study workers firsthand by posing as a new clerical employee and working in an office facing many difficult issues for a year. Only in this way can she really appreciate what it is like for workers “in the trenches,” and she feels she can get honest answers from workers with burnout.

From an ethical standpoint, there are several sections that could be called into question when it comes to Denise’s study. The first falls within voluntary and informed participation. No where in her study does she state that she has established any type of informed consent with the other workers in the CPA firm. Another potential problem could fall within the topic of honesty with professional colleagues. Finally, there might be issues with participants right to privacy which could be affected by this type of study.

**iii.** As a kinesiologist interested in the relation between physical activity and academic performance, Danny proposes to limit the exercise of one group of children in his study while allowing the other group to exercise as they normally would.

The board may be concerned with the study and if it presents a physical risks or hazards to the participants. In this case any risks to one group to exercise normally especially if they are children. Another concern is that the researchers received written consent from the participants. Since the participants are children, then this consent needs to be obtained from the parents.

**iv.** Jane is a college professor interested in students’ beliefs about the typical instructional strategies of professors. As part of her ongoing research agenda, she requires students in her research methods course to fill out questionnaires.

The IRB may be concerned with providing the students with informed consent to participate in the study. Another possible issue would be the student’s privacy depending on what information the questionnaire asks for. A third issue is that the results of the research is based on a small control group and may not be able to be representative of the student body as a whole.

**Conclusion**: In the following space, write 4 to 8 paragraphs to conclude this course.

* Describe the 3 most important concepts you learned in this course.
* How would you use this knowledge to improve your life and work?
* How would you use this knowledge to increase your income?
* How would you use this knowledge to promote human rights in the world?

The three most important concepts that I have learned from this course are (1) the importance of drawing data from as many sources as possible, (2) choosing the proper method to enhance the credibility of the research project, and (3) the importance of choosing the appropriate assessment strategy. All three of these concepts are important to me because they will help me when it comes to writing my dissertation in the next phase. Understanding and applying these concepts will help me when I start working in the PE field which is a move upwards in the field of engineering where I am currently working. The importance of ethics as described in the end section of the textbook is important to me as it reminds me the importance to protecting the public. By finishing my research project, I hope that it will provide an opening into new fields of engineering which will help the population move forward to the next stages of life.

**Bibliography:**

Put here the references that you used to study and complete this exam. You should have at least 3 different references.

- Here are links to 2 videos on how to do bibliography automatically in Word. One is an AIU webinar on Bibliography. The other is a YouTube video. Login to your student page before opening the link to the AIU webinar.

<https://students.aiu.edu/student/AIUWebinar.aspx?p=1&id=356>

<https://www.youtube.com/watch?v=I-IEWabgf0I&t=19s>

# Bibliography

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Patino, C. M., & Ferreira, J. C. (2018). Internal and External Validity: Can You Apply Research Study Results to Your Patients. *Jurnal Brasileiro de Pneumologia*, 183.