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Book Review

Plonsky, L. (ed.) (2015). *Advancing quantitative methods in second language research*. New York: Routledge.

Reviewed by

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PART I. INTRODUCTION

1. INTRODUCTION

In this part the author pointed out the important section of quantitative studies that is statistical analysis which is mainly used by test ANOVA and correlations, these tests provide meaningful and informative answers to questions in L2. In general, the intention of writing this book is not blindly to give statistical sophistication or applied technical. But he is going to demonstrate to employ statistical procedures that at least minimally sufficient for the research questions. This volume of the book seeks to contribute to the budding methodological and statistical reform movement that is taking place in applied linguistic. It has three major themes for the role of researcher judgment in statistical analysis, transparency that is talking about decision making which is made upon statistical analysis but it is insufficient for the theoretical or practical potential of study that have been realized. It is logical to start a book with introduction part to give his readers a broad view of understanding to become more familiar with the aims of the book.

2. Why bother learning advanced quantitative methods in L2 research?

This part of the book is written by James Dean Brown that he is trying to give advance directions for quantitative research and it is essential for students to know more about statistical analysis part of the study in their research. That is a good question when students ask why bother? They need to know about the next step in understanding

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statistical after basic views. He mentioned sufficient advantages and disadvantages in writing a method for quantitative research, considering advantage point of this view we should avoid several problems to compare with each other in the study. He demanded students that accuracy and precision of measuring in research is necessary as variables are observable and quantifiable in the study it can be manifested by other analytical writers, the researcher should place null hypothesis as well as the importance of examining the descriptive statistics, the researcher should avoid to compare multiple problems that multiple dependent variables would be quantified by ANOVA or MANOVA that is possible to analyze the data with more variables, increasing statistical power, broadening research perspective, aligning research analysis more closely to the way that people think, reducing redundancy of variables, expanding types of variables, getting more flexibility in analysis, and simultaneously addressing multiple levels of analysis. It is clearly mentioned profitable points by James Dean Brown to consider advantages of learning statistical analysis and writing a good methodology for the study. He has mentioned disadvantages points as well as advantages, such as we have large sample size produce meaningful interpretation but we do not have this chance in the study to test on large sample, additional assumptions that ANOVA robust to violate additional assumption, need for data screening and complexity of analysis, all explanations are reliable and mainly focus on exact information that a researcher needs to know and it is potentially understood by researchers who have done such studies before or they want to become more powerful in their next steps for future studies.

PART II. ENHANCING EXISTING QUANTITATIVE METHODS

3. Statistical power, P values, Descriptive Statistics, and Effect Sizes

A “back-to-basics” approach to advancing quantitative methods in l2 research

It is written by Luke Plonsky to have a great introduction about L2 learning by research and it is not only statistical, he pointed the notion of statistical significance for quantitative research by showing a figure to explain as he talks more about null hypothesis significance testing(NHST) to describe the section precisely and more relevant date, then he writes about the result of NHST that may have in our research it is well explained by Plonsky considering the tables to manifest the idea of NHST. The other focus point in this chapter is on effect size that is mainly explained that they could have been somewhat negative, showing the problematic and practices part of effect size. I personally try to cope with his idea in this field that creates interest in me for more information to gather. All shapes and tables well fully explained in simple powerful sentences but too much explanation will be fatigue to read by the researcher, it is not actually a negative point but it is needed to pinpoint the results, it is believed to have a vast look at many terms in quantitative research such as descriptive statistics, correlation bivariate, regression, linear, analyze, and more to understand by demonstrating careful shapes that is logically defined and explained in more details.

4. A Practical Guide to Bootstrapping Descriptive Statistics, Correlations, T Tests, and ANOVAs

It was written by three authors who seems to be specialist in this field, Geoffrey T. Laflair, Jesse Egbert, and Luke Plonsky. It is notified to have explanation about bootstrapping term in applied linguistic, I think this section is a little complex to cope with the ideas of writers and enjoy to read about bootstrapping and its connection to statistical analysis of a research. When a researcher wants to consider bootstrapping analysis in his study should follow a step by step procedure that is developed in nonparametric as well as parametric. Example data for bootstrapping is not enough for a reader that is normally wants to use this procedure in his study. The rest of the parts are quiet enough to match with the ideas in this field. Bootstrapping is also explained in Pearson correlation coefficient, independent sample T –test, pairwise comparison, and ANOVA that is fully mentioned by some steps but a little confusion to recognize and it is hard to understand by statistics because it is too long to connect with examples.

5. Presenting Quantitative Data Visually

It is written by Thom Hudson to manifest graphical charts and tables in quantitative research that scholars believe in meaningful and useful interpretation of graphic data. The ability to create clear graphic charts caused to more understanding relationships among variables. He said good information about the importance of graphs and charts that will help to our study more understandable by readers. He fully explained bar charts and histogram, line graphs, and figures for examples are easy to follow the topic. It is interested to give more examples that is a positive points for this part of the book.

6. Meta-analyzing Second Language Research

It has been written by two authors Luke Plonsky and Frederick L. Oswald to manage the meta-analysis both in two aspects narrow and broad. The narrow definition is worked for statistical section of the study and it may have a big disadvantage by using statistical that we cannot avoid how sampling error variance confounds the interpretation of variation in research findings, and the broad view of study. Two writes try to reflect the meaning of meta-analysis, how to make it, how to design, and more familiar with coding process and size effect in a research. They simply arranged to define and explain and quiet acceptable examples to achieve the main idea of meta-analysis.

PART III. ADVANCED AND MULTIVARIATE METHODS

7. Multiple Regression

Eun Hee Jeon has written this chapter of this book to talk about regression in research analysis what is regression and why we use it? They are correlation-based statistical techniques and demonstrate the relationship between a criterion variable and multiple predictor variables. It is shown by many examples even the stages before preparing data for using regression in research. That is a step by step plan showing figures to have a careful perspective toward regression analysis in the research. This chapter is too long

to give the data for regression but it has a lot of benefits for students, professors and scholars to imagine in their mind precisely what can be happened by regression in a research. There is enough data to explain in all tables to find any information and statistically explained in this field to be more tangible by the reader's mind.

8. Mixed Effects Modeling and Longitudinal Data Analysis

This chapter was written by Ian Cunnings and Ian Finlayson to talk about mixed effect models. It has a good review of literature but examples are many to reach the readers 'minds attention. Statistical parts are a little confusing to reach the main goal of the chapter somewhat it is fairly explained to narrow down the topic of this chapter. In a broad view there is no connection between what you read and understand to match the idea of this chapter with so many examples.

9. Exploratory Factor Analysis and Principle Components Analysis

Shawn Loewen and Talip Gonulal have written this script to show a careful imagination for giving us types of factors analysis to explain it step by step to follow the representation. Determining the factor extraction method was a fully understandable part for factor analysis by logical implications. It has also determining factor retention criteria and rotation method to show by figures in short summary that has well done to contribute with the minds' of the reader. It has a little background but well explained method for this chapter.

10. Structural Equation Modeling in L2 Research

It is written by Rob Schoonen, and he tries to give its necessity to work about this topic in this chapter that is essential for researchers to provide a framework to investigate complex multivariate relationships which is call structural equation modeling. Conceptual motivation has more effect on structural equation modeling in L2 research, he is considering both measurement and structure in this model to open this framework clearly in the mind of researcher to encourage following this chapter to read. It is fairly explained for his notion to follow up by some examples, considering the advantage of SEM for this framework that this model will indicate this part that may not fully related but to uncover relationships that go beyond bivariate or multi bivariate relations. SEM is a collection of analysis that can be used to answer many research questions, so it seems necessary to follow this part in this book.

11. Cluster Analysis

This chapter has been written by Shelley Staples and Douglas Biber, The authors of this chapter consider conceptual motivation which is related to the main idea of their talk in this chapter. Cluster analysis provides a complementary way to group students based directly on variables, and to identify groups with positive or negative attitudes and intrinsic motivation. The distinction between dependent and independent variables is not relevant in cluster analysis, the goal is to create new idea of variables that minimize amount of variation in research and it is commonly used in statistical procedure. Cluster

analysis has been done in both area individual differences and outside individual differences which is studies less than the first one. Cluster analysis can also use to investigate the linguistic development. It is fulfillment to judge by cluster analysis and it seems to be the pone of a research. It is well performed how to make cluster analysis in a research by giving a good procedure to follow. Examples and figures are a lot to demonstrate in a cluster study for a research.

12. Rasch analysis

This chapter of the book which is written by Ute Knoch and Tim Mcnamara, is used more complex term than the previous chapters, it is unfamiliar term to consider it into a research development. Rasch analysis is an approach to measure ways into L2 research to provide a powerful new way of generalizing from person's performance on a test to statements of underlying ability, and it can be applied to a wide variety of data types. The authors have pointed out the different types of this model that can be used in research study to power the analysis for researchers. There are several steps to conduct Rasch analysis that even before conducting it I needed to create input for Rasch analysis. It is well defined by examples in showing figures to be more tangible by the researcher to encourage him to use this model in his research in spite of its difficulty to apply. The researcher should be a great analyze person to create such model and to be a practitioner in statistical analysis to put it into practice in L2 research.

CONCLUSION

This book is one of the great fulfillment operational books in the field of quantitative research for the researchers. I believe that many researchers may have simple thought for their quantitative research and it can be sometimes difficult for them to prepare a straightforward model of a reach and acceptable research with good analysis in terms and topics. Many of us may face to some difficulties in conducting a good research, by reading this book it quiet opens a new way toward our perspectives to find new idea about conducting a good research and it is also necessary to be informed by these profitable subjects that is well categorized in every chapter. I know that it may sometimes have difficult explanation by so many examples it is well revealed to have a view of knowledge in our mind to conduct further quantitative research upon those guidance of this book to show the power of reliability and validity of our study that will be limited by so many factors now a days. This book will encourage university students to find their own problematic subject and they can find enough information to produce a good paper. There are lots of examples to show the data for each chapters that shows a quiet challengeable significant matter among authors of this book to write all necessary data collection for providing good explanations by so many figures, bars, tables, etc. It can be so helpful for PhD students to look at quantitative studies with different perspectives to manage one of them in L2 research. This book suggested so many contents which is referred to study problems and we may not consider them in conducting a research. The differentiality of contents is attractive to role our look to have a vast view of interpretation for a research.