This is the title of a thesis submitted to Iowa State University

Note that only the first letter of the first word and proper names are capitalized

by

Wilbur Terrance Johnson

A thesis submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Human Development and Family Studies (Marriage and Family Therapy)

Program of Study Committee:
Susan D. Ross, Major Professor
Mary Jones
Bjork Petersen

The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation/thesis. The Graduate College will ensure this dissertation/thesis is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2021

DEDICATION

I would like to dedicate this thesis to my wife Glenda and to my daughter Alice without whose support I would not have been able to complete this work.

TABLE OF CONTENTS

Page

LIST OF TABLES v

LIST OF FIGURES vi

ACKNOWLEDGMENTS vii

ABSTRACT viii

CHAPTER 1. GENERAL INTRODUCTION 1
1.1 Overview 2
1.1.1 Hypothesis 2
1.1.2 Second Hypothesis 2
1.2 Criteria Review 2
1.3 References 3

CHAPTER 2. PAPER 1 TITLE GOES HERE 4
2.1 Abstract 4
2.2 Overview 4
2.3 Introduction 4
2.3.1 Hypothesis 5
2.3.2 Second Hypothesis 5
2.4 Criteria Review 5
2.5 Conclusion 5
2.6 References 6
2.7 Appendix A: Appendix A Title Goes Here After The Colon 6
2.7.1 Procedure details 6
2.8 Appendix B: Appendix B Title Goes Here After The Colon 6
2.8.1 Procedure details 6

CHAPTER 3. PAPER 2 TITLE GOES HERE 7
3.1 Abstract 7
3.2 Overview 7
3.3 Introduction 7
3.3.1 Hypothesis 8
3.3.2 Second Hypothesis 8

3.4 Criteria Review . . . 8
3.5 Conclusion . . . 9
3.6 References . . . 9
3.7 Appendix: Appendix Title Goes Here . . . 10
3.7.1 Procedure details . . . 10

CHAPTER 4. PAPER 3 TITLE GOES HERE . . . 11
4.1 Abstract . . . 11
4.2 Methods and procedures . . . 11
4.3 Introduction . . . 11
4.3.1 Hypothesis . . . 12
4.3.2 Second Hypothesis . . . 13
4.4 Results . . . 13
4.5 Conclusion . . . 14
4.6 References . . . 14
4.7 Appendix: Appendix Title Goes Here . . . 14
4.7.1 Procedure details . . . 14

CHAPTER 5. PAPER 4 TITLE GOES HERE . . . 15
5.1 Abstract . . . 15
5.2 Introduction . . . 15
5.2.1 Hypothesis . . . 16
5.2.2 Second Hypothesis . . . 17
5.3 Criteria Review . . . 17
5.4 Results . . . 17
5.5 Conclusion . . . 17
5.6 References . . . 17
5.7 Appendix: Appendix title goes here . . . 18
5.7.1 Procedure details . . . 18

CHAPTER 6. GENERAL CONCLUSION . . . 19
6.1 Summary And Discussion . . . 19
6.1.1 Hypothesis . . . 19
6.2 References . . . 21

LIST OF TABLES

Page

Table 4.1 This table shows a standard empty table. Please check the code caption for extended instructions 12

Table 4.2 This table shows a standard empty table with a limited caption width 13

Table 5.1 Moon Data 16

Table 6.1 This table shows almost nothing but is a sideways table and takes up a whole page by itself 20

LIST OF FIGURES

Page

Figure 1.1 Example of Rmarkdown based code chunk that includes R code . . . 1

Figure 4.1 This table shows a standard empty figure 12

Figure 5.1 Durham Centre 16

ACKNOWLEDGMENTS

I would like to take this opportunity to express my thanks to those who helped me with various aspects of conducting research and the writing of this thesis. First and foremost, Dr. Susan D. Ross for her guidance, patience and support throughout this research and the writing of this thesis. Her insights and words of encouragement have often inspired me and renewed my hopes for completing my graduate education. I would also like to thank my committee members for their efforts and contributions to this work: Dr. August Tanner and Dr. Lewis Hargrave. I would additionally like to thank Dr. Tanner for his guidance throughout the initial stages of my graduate career and Dr. Hargrave for his inspirational teaching style.

ABSTRACT

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in general and the heading and style match the rest of the document.

CHAPTER 1. GENERAL INTRODUCTION

This chapter will have the introduction to your thesis as a whole.

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

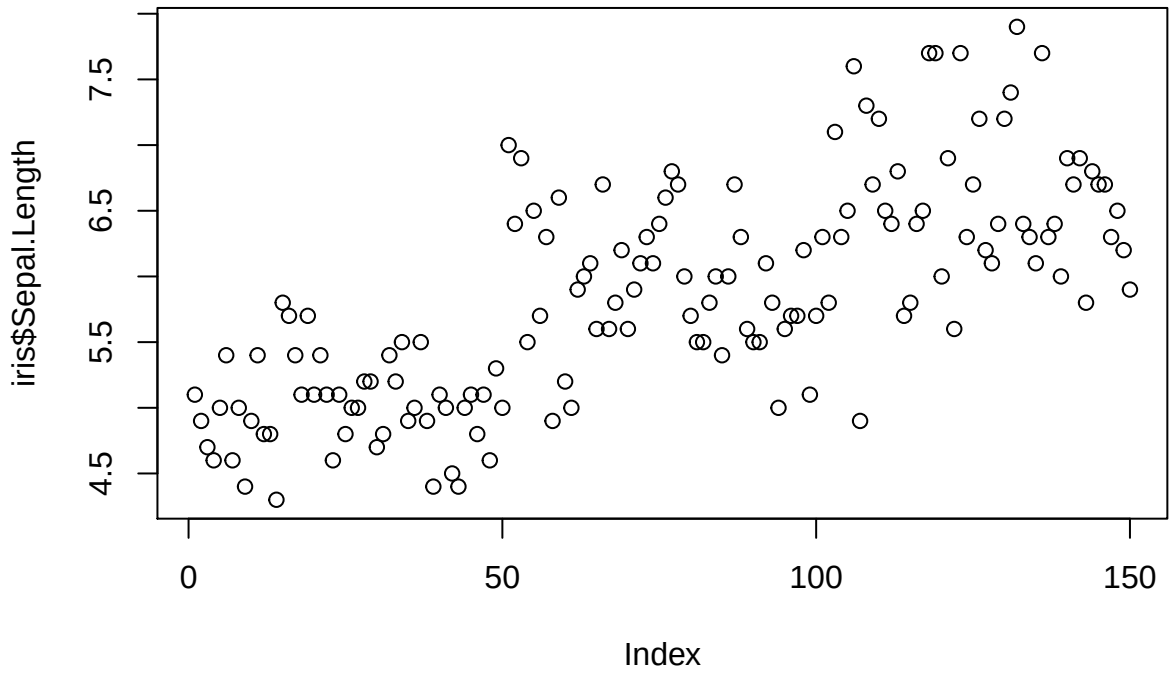

Figure 1.1 Example of Rmarkdown based code chunk that includes R code

1.1 Overview

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief. Figure 1.1 is an example of R code chunk generating a figure.

1.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

1.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

1.1.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

1.1.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny Allen, 1984, Bruner, 1960

1.2 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

1.3 References

Allen, B. S. (1984). System-assigned learning strategies and cbi. *Journal of Instructional Computing Research*, *1*(1), 3–18.

Bruner, J. (1960). *The process of education*. Random House.

CHAPTER 2. PAPER 1 TITLE GOES HERE

Authors and Affiliations

Modified from a manuscript to be submitted to/ under review/ published in *Name of the Journal*

2.1 Abstract

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in the first paper general. You can use the same abstract as your paper here.

2.2 Overview

The construct of this section or any further section is same as the authors paper. This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

2.3 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

Allen, 1984, Bruner, 1960 and Cox, 1974 did the initial work in this area. But in Struss' work [Struss, 1996] the definitive model is seen.

2.3.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

2.3.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

2.3.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

2.3.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

2.4 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

2.5 Conclusion

The conclusion of the paper goes here. Cox, 1974

2.6 References

Allen, B. S. (1984). System-assigned learning strategies and cbi. *Journal of Instructional Computing Research*, *1*(1), 3–18.

Aupetit, B. (1991). *A Primer on Spectral Theory*. Springer-Verlag.

Bruner, J. (1960). *The process of education*. Random House.

Cox, S. (1974). Computer-assisted instruction and student performance in macroeconomic principles. *The Journal of Economic Education*, *6*(1), 29–37.

Struss, J. A. (1996). *An investigation of the sequence of utilizing a simulation in an introductory programming course* (Master's thesis). Iowa State University.

2.7 Appendix A: Appendix A Title Goes Here After The Colon

If there is an appendix that needs to go with the paper it can be as a section Aupetit, 1991

2.7.1 Procedure details

Details of the paper specific appendix procedures

2.8 Appendix B: Appendix B Title Goes Here After The Colon

If there is an appendix that needs to go with the paper it can be as a section Aupetit, 1991

2.8.1 Procedure details

Details of the paper specific appendix procedures

CHAPTER 3. PAPER 2 TITLE GOES HERE

Authors and Affiliations

Modified from a manuscript to be submitted to/ under review/ published in *Name of the Journal*

3.1 Abstract

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in the first paper general. You can use the same abstract as your paper here.

3.2 Overview

The construct of this section or any further section is same as the authors paper. This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

3.3 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

Allen, 1984, Bruner, 1960 and Cox, 1974 did the initial work in this area. But in Struss' work [Struss, 1996] the definitive model is seen.

3.3.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

3.3.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

3.3.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

3.3.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

%% Remove this if needed, this lines forces the lines of the TOC starting with the below sub-heading "Critical Review" to go to the next page. Remove this formatting line as it will be required only if you want to force a table of contents entry to the next page along with the other subsequent entries.

3.4 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

3.5 Conclusion

The conclusion of the paper goes here.

Allen, 1984, Bruner, 1960, Halmos, 1982, Rudin, 1973, Conway, 1990, Conway, 1978, Kadison and Ringrose, 1983, Kadison and Ringrose, 1986

3.6 References

Allen, B. S. (1984). System-assigned learning strategies and cbi. *Journal of Instructional Computing Research*, *1*(1), 3–18.

Aupetit, B. (1991). *A Primer on Spectral Theory*. Springer-Verlag.

Bruner, J. (1960). *The process of education*. Random House.

Conway, J. B. (1978). *Functions of One Complex Variable*. Springer-Verlag.

Conway, J. B. (1990). *A Course in Functional Analysis* (Second). Springer-Verlag.

Cox, S. (1974). Computer-assisted instruction and student performance in macroeconomic principles. *The Journal of Economic Education*, *6*(1), 29–37.

Halmos, P. R. (1982). *A Hilbert Space Problem Book* (Second). Springer-Verlag.

Kadison, R. V., & Ringrose, J. R. (1983). *Fundamentals of the Theory of Operator Algebras, Part I*. Academic Press.

Kadison, R. V., & Ringrose, J. R. (1986). *Fundamentals of the Theory of Operator Algebras, Part II*. Academic Press.

Rudin, W. (1973). *Functional Analysis*. McGraw-Hill.

Struss, J. A. (1996). *An investigation of the sequence of utilizing a simulation in an introductory programming course* (Master's thesis). Iowa State University.

3.7 Appendix: Appendix Title Goes Here

If there is an appendix that needs to go with the paper it can be as a section Aupetit, 1991

3.7.1 Procedure details

Details of the paper specific appendix procedures

CHAPTER 4. PAPER 3 TITLE GOES HERE

Authors and Affiliations

Modified from a manuscript to be submitted to/ under review/ published in *Name of the Journal*

4.1 Abstract

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in the first paper general. You can use the same abstract as your paper here.

4.2 Methods and procedures

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

4.3 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

As can be seen in Table~4.1 it is truly obvious what I am saying is true.

Table 4.1 This table shows a standard empty table. In case of long captions, we want to use the long caption as the description to the table and image but not use it in the table of contents and list of figures/ tables. In order to do this, there are two captions which have been provided, remove the first square bracket options if there is only one small caption. You can use citations like this too Enflo, 1987

4.3.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

This can also be seen in Figure~4.1 that the rest is obvious.

Figure 4.1 This table shows a standard empty figure

4.3.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

4.3.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

4.3.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

Here certain criteria are explained thus eventually leading to a foregone conclusion as can be seen in Table 4.2.

Table 4.2 This table shows a standard empty table with a limited caption width

4.4 Results

Include any results

4.5 Conclusion

The conclusion of the paper goes here.

Read, 1985 Enflo, 1987, Daughtry, 1975 Kim et al., 1975

4.6 References

Aupetit, B. (1991). *A Primer on Spectral Theory*. Springer-Verlag.

Daughtry, J. (1975). An invariant subspace theorem. *Proc. Amer. Math. Soc.*, *49*, 267–268.

Enflo, P. (1987). On the invariant subspaces problem for Banach spaces [Seminare Maurey-Schwartz (1975-1976)]. *Acta. Math.*, *158*, 213–313.

Kim, H. W., Pearcy, C., & Shields, A. L. (1975). Rank-one commutators and hyperinvariant subspaces. *Michigan Math. J.*, *22*(3), 193–194.

Read, C. J. (1985). A solution to the invariant subspace problem on the space l_1. *Bull. London Math. Soc.*, *17*, 305–317.

4.7 Appendix: Appendix Title Goes Here

If there is an appendix that needs to go with the paper it can be as a section Aupetit, 1991

4.7.1 Procedure details

Details of the paper specific appendix procedures

CHAPTER 5. PAPER 4 TITLE GOES HERE

Authors and Affiliations

Modified from a manuscript to be submitted to/ under review/ published in *Name of the Journal*

5.1 Abstract

This is the text of my abstract that is part of the thesis itself. The abstract describes the work in the first paper general. You can use the same abstract as your paper here.

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

5.2 Introduction

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

Of course, data on this as seen in Table~5.1 is few and far between.

Table 5.1 Moon Data

<!–

Element	Control	Experimental
Moon Rings	1.23	3.38
Moon Tides	2.26	3.12
Moon Walk	3.33	9.29

5.2.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

Or graphically as seen in Figure~5.1 it is certain that my hypothesis is true.

Figure 5.1 Durham Centre

5.2.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

5.2.2 Second Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

5.2.2.1 Parts of the second hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny.

5.3 Criteria Review

Here certain criteria are explained thus eventually leading to a foregone conclusion.

5.4 Results

5.5 Conclusion

The conclusion of the paper goes here.

5.6 References

Aupetit, B. (1991). *A Primer on Spectral Theory*. Springer-Verlag.

de Branges, L. (1959). The Stone-Weierstrass Theorem. *Proc. Amer. Math. Soc.*, *10*, 822–824.

Lomonosov, V. I. (1973). Invariant subspaces for operators commuting with compact operators. *Functional Anal. Appl.*, *7*, 213–214.

Lomonosov, V. I. (1991). An extension of Burnside's theorem to infinite dimensional spaces. *Israel J. Math*, *75*, 329–339.

Lomonosov, V. I. (1992). On Real Invariant Subspaces of Bounded Operators with Compact Imaginary Part. *Proc. Amer. Math. Soc.*, *115*(3), 775–777.

Mathes, B., Omladič, M., & Radjavi, H. (1991). Linear Spaces of Nilpotent Operators. *Linear Algebra Appl.*, *149*, 215–225.

Radjavi, H. (1987). The Engel-Jacobson Theorem Revisited. *J. Alg.*, *111*, 427–430.

5.7 Appendix: Appendix title goes here

If there is an appendix that needs to go with the paper it can be as a section Aupetit, 1991

5.7.1 Procedure details

Details of the paper specific appendix procedures

Radjavi, 1987 Mathes et al., 1991, Lomonosov, 1973 Lomonosov, 1991, Lomonosov, 1992 de Branges, 1959

CHAPTER 6. GENERAL CONCLUSION

This is the opening paragraph to my thesis which explains in general terms the concepts and hypothesis which will be used in my thesis.

With more general information given here than really necessary.

6.1 Summary And Discussion

Here initial concepts and conditions are explained and several hypothesis are mentioned in brief.

6.1.1 Hypothesis

Here one particular hypothesis is explained in depth and is examined in the light of current literature.

As can be seen in Table~6.1 it is truly obvious what I am saying is true.

6.1.1.1 Parts of the hypothesis

Here one particular part of the hypothesis that is currently being explained is examined and particular elements of that part are given careful scrutiny. Allen, 1984, Bruner, 1960, Struss, 1996

Table 6.1 This table shows almost nothing but is a sideways table and takes up a whole page by itself

Element	**Control**	**Experimental**
Moon Rings	1.23	3.38
Moon Tides	2.26	3.12
Moon Walk	3.33	9.29

6.2 References

Allen, B. S. (1984). System-assigned learning strategies and cbi. *Journal of Instructional Computing Research*, *1*(1), 3–18.

Bruner, J. (1960). *The process of education*. Random House.

Struss, J. A. (1996). *An investigation of the sequence of utilizing a simulation in an introductory programming course* (Master's thesis). Iowa State University.