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

Co-majors: Statistics; Computer Science

Program of Study Committee:
ABC, Co-major Professor
DEF, Co-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

2019

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. I would also like to thank my friends and family for their loving guidance and financial assistance during the writing of this work.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

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. 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.

1.1 Overview

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

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), de la Vallée Poussin (1900) abcd.

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, New York.

de la Vallée Poussin, C. L. X. J. (1900). A strong form of the prime number theorem, 19th century.

CHAPTER 2. PAPER 1 TITLE GOES HERE

A paper accepted by *Name of the Journal*

First Author and Second Author

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) Ancey et al. (1996), Radjavi and Rosenthal (1973) Aupetit (1991), Douglas (1972)

2.6 Appendix: supplemental procedure description

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

2.6.1 Procedure details

Details of the paper specific appendix procedures

2.7 References

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

Ancey, C., Coussot, P., and Evesque, P. (1996). Examination of the possibility of a fluid-mechanics treatment of dense granular flows. *Mechanics of Cohesive-frictional Materials*, 1(4):385–403.

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

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

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

Douglas, R. G. (1972). *Banach Algebra Techniques in Operator Theory.* Academic Press, New York.

Radjavi, H. and Rosenthal, P. (1973). *Invariant Subspaces.* Springer-Verlag, New York.

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

CHAPTER 3. PAPER 2 TITLE GOES HERE

A paper accepted by *Name of the Journal*

First Author and Second Author

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.

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 Appendix: supplemental procedure description

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

3.6.1 Procedure details

Details of the paper specific appendix procedures

3.7 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, New York.

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

Conway, J. B. (1990). *A Course in Functional Analysis*. Springer-Verlag, New York, second edition.

Cox, S. R. (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*. Springer-Verlag, New York, second edition.

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

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

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

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

CHAPTER 4. PAPER 3 TITLE GOES HERE

A paper accepted by *Name of the Journal*

First Author and Second Author

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.

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.

Table 4.1 This table shows a standard empty table

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.

4.4 Criteria Review

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

4.5 Results

Include any results

4.6 Conclusion

The conclusion of the paper goes here.

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

4.7 Appendix: supplemental procedure description

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

4.7.1 Procedure details

Details of the paper specific appendix procedures

4.8 References

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. *Acta. Math.*, 158:213–313. Seminare Maurey-Schwartz (1975-1976).

Kim, H. W., Pearcy, C., and 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.

CHAPTER 5. PAPER 4 TITLE GOES HERE

A paper accepted by *Name of the Journal*

First Author and Second Author

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 Appendix: supplemental procedure description

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

5.6.1 Procedure details

Details of the paper specific appendix procedures

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

5.7 References

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., and 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.

CHAPTER 6. FUTURE WORK SUMMARY AND DISCUSSION

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)

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, New York.

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

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

APPENDIX A. ADDITIONAL MATERIAL

This is now the same as any other chapter except that all sectioning levels below the chapter level must begin with the *-form of a sectioning command.

More stuff

Supplemental material.

APPENDIX B. STATISTICAL RESULTS

This is now the same as any other chapter except that all sectioning levels below the chapter level must begin with the *-form of a sectioning command.

Supplemental Statistics

More stuff.