Copyright Statement

The digital copy of this thesis is protected by the Copyright Act 1994 (New Zealand).

This thesis may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- Any use you make of these documents or images must be for research or private study purposes only, and you may not make them available to any other person.
- Authors control the copyright of their thesis. You will recognise the author’s right to be identified as the author of this thesis, and due acknowledgement will be made to the author where appropriate.
- You will obtain the author’s permission before publishing any material from their thesis.

To request permissions please use the Feedback form on our webpage. [http://researchspace.auckland.ac.nz/feedback](http://researchspace.auckland.ac.nz/feedback)

General copyright and disclaimer

In addition to the above conditions, authors give their consent for the digital copy of their work to be used subject to the conditions specified on the [Library Thesis Consent Form](http://researchspace.auckland.ac.nz) and [Deposit Licence](http://researchspace.auckland.ac.nz).

Masters Theses

The digital copy submitted for examination contains no corrections. The print copy may contain alterations requested by the supervisor.
SPIRITUAL INTELLIGENCE AND IMAGINATION
IN NEW ZEALAND STUDENTS

Kevin Vijay Christopher Kannan

A thesis submitted in fulfilment of the requirements
for the degree of Doctor of Education,
The University of Auckland, 2010.
Abstract

Teachers in New Zealand schools are called on by documents such as The Zealand Curriculum Framework (2007) and Gifted and Talented Education in New Zealand Schools (2004) to address the moral and spiritual development of both gifted and mainstream students. This study explores a key issue: the role and importance of imagination in the developmental stages of spiritual intelligence in students within each of these groups. By comparing students in a Catholic integrated school with those in a State intermediate school, it identifies both similarities and differences that teachers need to take into account in carrying out their professional responsibilities.

The study begins by analysing and explaining concepts of spiritual intelligence that are often a source of ambiguity and confusion for teachers. It draws on a well-established hierarchal stage developmental theory of spiritual intelligence, but supplements this with a corresponding account of the role of imagination in the formation of spiritual intelligence at each of these stages. Spiritual intelligence is based on a theistic definition and its development on the imagination side of cognition rather than emotions. This results in the development of a nine stage taxonomy which is tested by analysis of variance (ANOVA). The research design examines seven important social factors, or variables, affecting the development of spiritual intelligence: school age group (intermediate, middle and senior), gender (male and female), school sample type (gifted and talented and average mainstream), areas of giftedness and talent (bodily-kinaesthetic, logical-mathematical, linguistic, musical, spatial, interpersonal and environmental), type of school (state and integrated), ethnicity (New Zealand European and others) and religion (Catholic, non-Catholic Christians, other religions and no religion). Using Fisher’s Exact Test of variance, current trends in the spiritual intelligence characteristics of students are identified. The study provides teachers with four statistically verified tasks, their respective criterion referenced task assessment schedules (CRS) and exemplars for assessing stages of development of spiritual intelligence in students.

The findings of this research project will help teachers of Values Education and Religious Education, Directors of Religious Studies (DRS) and Boards of Trustees in Catholic integrated schools to understand the theoretical and pedagogical principles of spiritual development, enabling them to design research-based programmes for advancing spiritual intelligence in their students.

Key words: gifted and talented children, imagination, religious education, spiritual intelligence, stages of development, values education, health education.
Acknowledgements

It gives me great pleasure to express my sincere gratitude to the following people who have made my doctoral journey enjoyable, exciting, memorable and spiritually fulfilling.

It all started in November 2004 with an interview with Dr. Robin Small, in an impressive book lined office in the City Campus of the College of Education in Auckland. Thank you, Robin, for the wonderful and gentle way in which you so willingly agreed to supervise me in that very first meeting. I was ecstatic after that meeting to discover that there was someone else interested in the development of Moral and Spiritual Intelligence in children. You have been a real Guru for me over these years, in the true Sanskrit meaning of the word: a “religious philosopher, spiritual teacher, educator, mentor, guide and friend”. You allowed me to imagine that I had something to give the academic world. ‘Thank you’ seems inadequate, so I add that it has been indeed an honour and a blessing to have had you, Robin, as my principal supervisor for all these years.

I was confirmed as a member of the ‘Ed.D Cohort of 2005’ by the ever efficient Dr. Constance Chai. Thank you, Constance, for the way you organised all the paperwork to launch me on my doctoral study programme.

My sincere thanks go to Dr. Vicki Carpenter who conjointly, with Dr. Robin Small, supervised my work as my ‘cohort teacher’ through the first two years, which culminated in the Confirmation Seminar in October 2006. Thank you both for the meticulous guidance you provided during these exciting two years of the Literature Review, Methodology Project, Article for Publication and the writing of the Research Proposal.

Again I express my gratitude to Robin for ‘finding and organising’ a second supervisor for me, Dr. Elizabeth Rata, in 2007. Thank you, Elizabeth, for accepting to guide and supervise me through the next stages of Ethical Approval, Data Gathering and writing up the thesis - even before you had actually met me in person! I have enjoyed every moment of the many supervision sessions we had over the last two years. You have a wonderful way of guiding, always so understanding, gentle and clear and precise in your constructive critique. Thank you very much, Elizabeth, you are indeed a true guide and mentor.
I wish to thank three of my colleagues from the Ed.D Cohort of 2005, Constanza Tolosa, Anne Schofield and Mo’ale Otunuku for their friendship, advice and sharing over the many lunches we had at the Student Cafè on the Epsom Campus of the University of Auckland.

I would also like thank Mr. Patrick Walsh, Principal, John Paul College, Rotorua and Mr. Garry de Thierry, Principal, Rotorua Intermediate School for persuading their respective Boards of Trustees to permit me to carry out this research with their gifted and talented and average main stream students. I also extend a very special thanks to the students of these two schools who consented to participate in the research. The promise of confidentiality prevents me from mentioning your names but thank you for giving me the opportunity to study your spiritual intelligence and imagination and spiritual intelligence characteristics, so as to gain knowledge and understanding that may benefit us all.

I also have Mark Kimberley, Scientist at SCION, to sincerely thank for all his guidance and help with the statistical analyses of the enormous quantity of parametric and nonparametric data I gathered. With your clear understanding of my research, your statistical knowledge and skills, and your patient teaching, Mark, my conclusions finally made statistical sense to me! Thank you.

Thank you too, to Hilary Tolley, for the professional way you proofread my final work and put it all together as a thesis.

Finally, I wish to dedicate this doctoral thesis to my lovely wife Elaine. She has been my soul mate and spiritual sounding board through all of our twenty five years of marriage and particularly through these years of doctoral study. She generously gave me her complete support, her time, her constant encouragement to persevere, her companionship and the freedom to complete this wonderful doctoral journey.
Table of Contents

Abstract........................................................................................................................................... i
Acknowledgements ....................................................................................................................... ii
Table of Contents ........................................................................................................................... iii
List of Tables ................................................................................................................................... x
List of Appendices .......................................................................................................................... xiii

CHAPTER 1 INTRODUCTION........................................................................................................... 1
  Background information related to spiritual intelligence .......................................................... 3
  Background information related to imagination and creativity .............................................. 6
  Aims of the research study ......................................................................................................... 8
  Importance of the research study ............................................................................................. 8
  Selection of gifted and talented students for the research study ............................................ 9
  The research question and the research hypotheses .............................................................. 11
  The research design ............................................................................................................... 12
  The methods or tasks ............................................................................................................. 13
  Statistical theory for analysis of parametric and non-parametric data ............................. 13
  Chapter preview ...................................................................................................................... 14
  Findings of the research study ............................................................................................... 15

CHAPTER 2 THE CONTEXT............................................................................................................. 19
  Introduction ............................................................................................................................... 19
  Moral and spiritual intelligence requirements in curriculum documents ........................ 19
  Moral and spiritual intelligence requirements of the ‘Code of Ethics for Registered Teachers’ (2005) .................................................................................................................. 25
  Values, values clarification and role modelling methodologies for teaching values in curriculum and legal documents .................................................................................. 26
  Imagination and creativity in the curriculum documents ..................................................... 29
  Concept of moral intelligence ................................................................................................. 32
  Concept of spiritual intelligence .............................................................................................. 33
  Gifted and talented students and their educational needs .................................................... 34
  Conclusion ............................................................................................................................... 37
## CHAPTER 3 SPIRITUAL INTELLIGENCE AND IMAGINATION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>39</td>
</tr>
<tr>
<td>Spiritual intelligence and spirituality</td>
<td>40</td>
</tr>
<tr>
<td>Imagination</td>
<td>46</td>
</tr>
<tr>
<td>Kinds of imagination and spiritual imagination</td>
<td>49</td>
</tr>
<tr>
<td>Imagination and spiritual intelligence</td>
<td>52</td>
</tr>
<tr>
<td>Types of imagination hypothesised for this research study</td>
<td>55</td>
</tr>
<tr>
<td>The theoretical background to the stages of development of spiritual intelligence</td>
<td>61</td>
</tr>
<tr>
<td>Spiritual values, virtues, character, identity, prayer and worship</td>
<td>68</td>
</tr>
<tr>
<td>Spirituality personality and the major developmental theories</td>
<td>71</td>
</tr>
<tr>
<td>The theoretical proposal for stages of development of spiritual intelligence and associated imagination</td>
<td>74</td>
</tr>
<tr>
<td>Conclusion</td>
<td>83</td>
</tr>
</tbody>
</table>

## CHAPTER 4 THE RESEARCH DESIGN

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>85</td>
</tr>
<tr>
<td>The research design</td>
<td>85</td>
</tr>
<tr>
<td>The vertical sample population study</td>
<td>86</td>
</tr>
<tr>
<td>The horizontal sample population study</td>
<td>86</td>
</tr>
<tr>
<td>The variables or factors</td>
<td>87</td>
</tr>
<tr>
<td>The assumptions and constraints of the research design</td>
<td>89</td>
</tr>
<tr>
<td>The vertical sample population study for the Catholic integrated school</td>
<td>89</td>
</tr>
<tr>
<td>The horizontal sample population study comparing the Catholic integrated and secular State intermediate schools</td>
<td>89</td>
</tr>
<tr>
<td>The design and observational factors</td>
<td>90</td>
</tr>
<tr>
<td>The research process</td>
<td>91</td>
</tr>
<tr>
<td>The sample</td>
<td>91</td>
</tr>
<tr>
<td>The representativeness and parameters of the sample</td>
<td>93</td>
</tr>
<tr>
<td>Assess to the sample</td>
<td>95</td>
</tr>
<tr>
<td>The sample strategy</td>
<td>95</td>
</tr>
<tr>
<td>Ethical issues</td>
<td>96</td>
</tr>
<tr>
<td>Informed consent</td>
<td>96</td>
</tr>
<tr>
<td>Privacy and dignity</td>
<td>97</td>
</tr>
<tr>
<td>Anonymity and confidentiality</td>
<td>97</td>
</tr>
<tr>
<td>Ethics in research methods for school age participants</td>
<td>98</td>
</tr>
</tbody>
</table>
Ethics and researcher evaluation of data................................................................. 98
The methods............................................................................................................. 99
Criterion-referenced assessment schedules (CRS) for the association and
apperception tasks .................................................................................................. 103
The five methods or tasks .................................................................................... 108
The Word Association Task 1 (WAT)................................................................. 108
The Art Association Task 2 (AAT)......................................................................... 113
Prayer Association Task 3 (PAT) ........................................................................... 117
Thematic Apperception Task 4 (TAT).................................................................... 123
The Personal Reflection Questionnaire Task 5 (PRT).............................................. 128
Summarizing, assessment of tasks and tabulation of data gathered from tasks..... 130
Statistical analysis of data...................................................................................... 131
Analysis of student statements on perspectives of spiritual intelligence concepts .131
Conclusion.............................................................................................................. 132

CHAPTER 5 THE STATISTICAL THEORY, ANALYSIS OF DATA AND
CONCLUSIONS ...................................................................................................... 134
Introduction ........................................................................................................... 134
The statistical hypotheses, null and alternative hypotheses ................................... 134
Parametric data analysis......................................................................................... 139
Summary of the final stage scores generated from the criterion referenced task
schedules for tasks 1, 2, 3 and 4.............................................................................. 144
Means (µ) and standard deviations (σ).................................................................... 144
Pearson’s correlation coefficient (r)....................................................................... 146
Principal Components Analysis (PCA) of data...................................................... 147
Analysis of variance (ANOVA) for comparing the effect of independent factors on
task scores .............................................................................................................. 149
ANOVA Tables for comparing treatment for the Vertical Population Study of 91
John Paul College students .................................................................................. 152
ANOVA Tables for comparing treatment for the Horizontal Population study of 44
students from John Paul College Intermediate and Rotorua Intermediate School
students .................................................................................................................... 158
Nonparametric data analysis.................................................................................. 162
Class or Cell Frequency (f) ................................................................................ 163
Analysis of the modes, percentage frequency (%f) and the stability of the percentage
(σ %) and its significance...................................................................................... 168
The Fisher’s Exact test, the null hypothesis and analysis of Fisher’s Exact Test ..........176
Overall summary of the Fisher’s Exact test, the null hypothesis and analysis of
Fisher’s Exact Test ..........................................................................................................179
Statistical conclusions ............................................................................................. 184
General conclusions from parametric data using the statistical methods of the mean,
standard deviation, correlation, PCA, and ANOVA .................................................184
General conclusions from nonparametric data using the statistical methods of class or
cell frequency, mode, frequency percentage and the stability of the percentage, and
the Fisher’s Exact Test and its significance ..............................................................189

CHAPTER 6 DISCUSSION OF THE FINDINGS ................................................. 195

Introduction ............................................................................................................. 195
Educational implications for the Catholic integrated school system .............. 195
School sample type .................................................................................................195
Specific areas of giftedness and talent .................................................................196
School age groups ................................................................................................. 196
Gender ......................................................................................................................197
Religion ......................................................................................................................198
Ethnicity ....................................................................................................................199
Educational implications in the Catholic integrated intermediate and the secular
State intermediate school system for gifted and talented students .............. 200
School types .............................................................................................................200
Religion ......................................................................................................................201
Educational implications related to the spiritual intelligence characteristics of
gifted and talented and average mainstream students ....................................... 202
Concept of God .........................................................................................................202
Worship a God .........................................................................................................203
Frequency of Worship ...........................................................................................205
Image of God ...........................................................................................................206
Claim to Pray ...........................................................................................................207
Frequency of prayer ..............................................................................................209
Type of prayer .........................................................................................................210
Belief in the existence of God ...............................................................................211
Most important cardinal spiritual value - Love ................................................. 213
Most important personal spiritual value - Peace ............................................... 215
View themselves as a spiritual person ................................................................. 217

vii
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual experience in life</td>
<td>218</td>
</tr>
<tr>
<td>Spiritual journey - seeker stage</td>
<td>220</td>
</tr>
<tr>
<td>Evil in the world</td>
<td>222</td>
</tr>
<tr>
<td>Life after death</td>
<td>223</td>
</tr>
<tr>
<td>A place where good people on earth go to after their death</td>
<td>224</td>
</tr>
<tr>
<td>A place where people who have not lead a good life on Earth go after death</td>
<td>226</td>
</tr>
<tr>
<td>Educational implications for teachers of Religious, Gifted and Talented or Health and Physical Education in the Catholic integrated school</td>
<td>227</td>
</tr>
<tr>
<td>Identification of stage of spiritual intelligence development and imagination of students</td>
<td>228</td>
</tr>
<tr>
<td>Students’ views on ‘what gives their life meaning’</td>
<td>228</td>
</tr>
<tr>
<td>Students’ views on ‘spiritual value’ and what is ‘spiritually important’ to them</td>
<td>230</td>
</tr>
<tr>
<td>Students’ views on ‘death’</td>
<td>232</td>
</tr>
<tr>
<td>Students’ views on ‘spiritual characteristics or qualities’</td>
<td>234</td>
</tr>
<tr>
<td>Tasks 1, 2, 3 and 4 for use by teachers to assess stage of development of spiritual intelligence and spiritual imagination in students</td>
<td>235</td>
</tr>
<tr>
<td>Choice of values clarification and role modelling pedagogy</td>
<td>246</td>
</tr>
<tr>
<td>Conclusion</td>
<td>247</td>
</tr>
</tbody>
</table>

CHAPTER 7 CONCLUSION ................................................................................... 249

Introduction ................................................................................................. 249

A theory for the stage of development of spiritual intelligence .............. 249

Investigation of the effect of social factors in a Catholic integrated school | 251 |
| School age groups                                                       | 251  |
| Gender                                                                | 252  |
| School sample type                                                     | 252  |
| Areas of giftedness and talent                                         | 253  |
| Religion                                                              | 253  |
| Ethnicity                                                             | 254  |

Investigation of the effect of social factors in the Catholic integrated and the secular State intermediate school | 254 |
| Type of School                                                        | 255  |
| Gender                                                                | 255  |
| Religion                                                              | 256  |
| Ethnicity                                                             | 256  |

Identification of current spiritual intelligence characteristics .......... 257
List of Tables

Table 1: Statistical theory used for analysis of parametric and non-parametric data.. 13

Table 2. Summary of major stage developmental theories of psychosocial, 
cognition, morality, faith and values related to eras and ages of maturation. . 66

Table 3. Summary of major developmental theories of personality, motivation, 
and spiritual personality related to eras and ages of maturation. .................... 74

Table 4. The Summary of the Theory of the Stages of Development of Spiritual 
Intelligence and associated type of Imagination.............................................. 82

Table 5. Theoretical concepts and guidelines for the development of criterion-
referenced assessment schedules (CRS) for tasks 1, 2, 3 & 4....................... 104

Table 6. Theoretical basis for the word association task 1 (WAT) criterion 
referenced assessment schedule (CRS). ........................................................ 110

Table 7. Theoretical basis for the art association task 2 (AAT), criterion 
referenced assessment schedule (CRS). ...................................................... 115

Table 8. Summary of possible types of prayer with the description, image of God 
and hypothesised stage of development of spiritual intelligence. .............. 120

Table 9. Theoretical basis for the prayer association task 3 (PAT), criterion 
referenced assessment schedule (CRS) ......................................................... 122

Table 10. Theoretical basis for the thematic apperception task 4 (TAT), criterion 
referenced assessment schedule (CRS). ........................................................ 127

Table 11. Summary of calculated probability (P) values and the null or alternative 
hypothesis ...................................................................................................... 137

Table 12. Statistical Theory for analysis of parametric and nonparametric data ...... 139

Table 13: Summary of statistics for the analysis of parametric data......................... 143

Table 14. Simple Statistical means (µ) and standard deviations (σ) .................. 145

Table 15. Pearson’s Correlation Coefficient (r) Matrix ........................................ 147

Table 16. Eigenvalues (λ) of the Correlation Matrix................................................. 148

Table 17. Eigenvectors of the Correlation Matrix.................................................... 148
Table 18. Task means for each School Age Group for combined students from John Paul College ................................................................. 152

Table 19. Task means for each Gender for combined students from John Paul College ........................................................................................................... 153

Table 20. Task means for combined School Sample Types, Gifted and Talented and Average Mainstream students from John Paul College .................. 154

Table 21. Task means for each Area of Giftedness and Talent and Control for combined students from John Paul College ................................................................. 155

Table 22. Task means for Religion for combined students from John Paul College 156

Table 23. Task means for Ethnicity for combined students from John Paul College 157

Table 24. Task means for each Type of School ................................................................................................................................. 158

Table 25. Task means for Gender for combined students from John Paul College
Intermediate and Rotorua Intermediate School ............................................. 160

Table 26. Task means for Religion for combined students from John Paul College
Intermediate and Rotorua Intermediate School ............................................. 160

Table 27. Task means for Ethnicity for combined students from John Paul College
Intermediate and Rotorua Intermediate School ............................................. 162

Table 28. Statistics used for the analyses of nonparametric data ....................... 164

Table 29. Frequencies of both the gifted and talented test sample and average mainstream control sample ................................................................. 165

Table 30. Mode (Mo), frequency (f), frequency percentage (%f) and the stability of the percentage or standard error (σ %) for Gifted and Talented test sample ................................................................................................................................. 170

Table 31. Mode (Mo), frequency (f), frequency percentage (%f) and the stability of the percentage or standard error (σ %) for Average Mainstream control sample ................................................................................................................................. 172

Table 32. Summary comparing the stability of the percentage or standard error (σ %) of gifted and talented test sample and the average mainstream control sample ................................................................................................................................. 175
Table 33. The Fisher’s Exact Test comparing gifted and talented test sample with average mainstream control sample of students ............................................... 177

Table 34. Simple Statistics means ($\mu$) ........................................................................ 228

Table 35. Exemplar of the word association task 1 (WAT) ........................................ 237

Table 36. Exemplars and illustration of the art association task 2 (AAT) ............... 238

Table 37. Exemplars of the prayer association task 3 (PAT) ..................................... 242

Table 38. Exemplars of the thematic apperception task 4 (TAT) .............................. 244

Table 39. The summary of the taxonomy of the nine stages of development of spiritual intelligence and associated types of imagination. .............................. 250
List of Appendices

List of Appendices .......................................................................................................................... 272

Appendix 1. The Exemplars for the Five Methods or Tasks ....................................................... 273

Appendix 2. Test and Control Samples for Vertical Population Sample Study for
John Paul College .......................................................................................................................... 293

Appendix 3. Test and Control Samples for the Horizontal Population Study for
John Paul College Intermediate andRotorua Intermediate School............................... 298

Appendix 4. Summary of Data gathered from the Five Methods or Tasks .................. 301

Appendix 5. Summary of Parametric Data Gathered From Tasks 1, 2, 3, and 4 for
Analysis Of Variance (ANOVA) .......................................................................................... 314

Appendix 6. Summary of Nonparametric Data Gathered From Tasks 1, 2, 3 and 5
................................................................................................................................................. 319

Appendix 7: Detailed Statistical Analysis of Parametric Data Gathered from Tasks
1, 2, 3 and 4 .................................................................................................................................. 328

Appendix 8: Vertical Population Study Analysis of Variance (ANOVA) for John
Paul College ............................................................................................................................... 354

Appendix 9: Analysis of Variance For The Horizontal Population Study Of John
Paul College Intermediate and Rotorua Intermediate School ................................. 379

Appendix 10: Fisher’s Exact Test of Variance for Nonparametric Data from John
Paul College and Rotorua Intermediate .............................................................................. 410

Appendix 11. Summary of Students’ Statements Gathered from Task 5 ..................... 424