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The relationship between and the characteristics of computing competence and confidence in undergraduate students of nursing

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Abstract

The aim of this research was to understand the relationship between and the characteristics of computing competence and confidence in student nurses. The evolvement of ICT, computers and computing has influenced human interaction with each other and with these resources. Computing as one aspect of ICT reflects the technical interface that student nurses will encounter during their studies and elsewhere. The absence of a dominant paradigm in the literature on ICT, computers and computing influenced the choice of two sequential exploratory quantitative and explanatory qualitative studies. Data for the first study were collected through survey using a postal questionnaire, from a volunteer sample of first and second year student nurses between July 2008 and April 2009. \( N = 375 \), representing 18.75% of first and second year undergraduates in a School of Nursing. A Principal Components Analysis gave five underpinning components. These influenced the second study. This was a recording of simultaneous concurrent think-aloud commentary and behaviours of 19 volunteer first, second and third year student nurses working in small groups on a computing activity, between October and December 2010. Protocol Analysis was used to examine a computing task outcomes and concurrent think-aloud comments. The results and findings showed a complex relationship between competence and confidence in this context. The evidence revealed that these students wanted a combination of teaching and social learning approaches. In both studies
confidence had a high representation. In the second study this became evident where collaboration and social learning in small groups clearly influenced confidence and competence. Research originality and its contribution to nursing lie first in the use of an innovative combination of methods. Secondly, the grouping and exploration of a range of subtle and seemingly unremarkable phenomena gave unique insight into how student nurses develop computing competence and confidence, not examined elsewhere. Significantly the two studies revealed differing levels of ability within and across the academic year groups. The findings show that attention to the social and psychological aspects of learning is crucial for skill and confidence development. Students would benefit from a bespoke range of approaches to suit their individual needs. This requires a balanced response between ongoing assessment of individual needs and proactive teaching and learning provision. Transferable to a wider setting, this research adds to the current understanding of ICT and computer related teaching and learning in nurse education.
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Contents

Chapter One Background

1.1 The research context 1
1.2 The origins of the research idea 2
1.3 Definitions of ICT, computers and computing 5
1.3.1 ICT 5
1.3.2 The computer 9
1.3.3 Computing 10
1.4 Learning about ICT and learning using ICT 11
1.4.1 Learning about ICT 12
1.4.2 Learning using ICT 13
1.5 How do these experiences support the development of computing competence and confidence? 18
1.6 ICT in health care and nursing 19
1.7 Why not look at qualified nurses as computer users? 24
1.8 ICT in nurse education 26
1.9 What is different about the computing competence and confidence of student nurses compared to registered nurses? 31
1.10 Is this the picture for other computer user groups? 34
1.11 Why am I interested in student nurses as computer users? 38
1.12 What is unique about this group of learners? 39
1.13 Why does this research matter? 40
1.14 Organisation of the thesis 42
1.15 Conclusion 43

Chapter Two The Literature Review

2.1 Introduction 44
2.2 Search strategy and the inclusion criteria 45
2.3 Competence 48
2.4 Confidence 55
2.4.1 Self confidence 56
2.4.2 Item specific confidence 57
2.5 Computing competence and confidence in student nurses 61
2.6 Instruments and measures used to assess computing competence and confidence in student nurses 66
2.7 Computing competence and confidence in other groups 72
2.7.1 Gender and computing competence and confidence 74
2.8 Instruments and measures used to explore computing competence and confidence in other groups 77
2.9 Gaps in the literature 83
## Chapter Three Methodology

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Introduction</td>
<td>90</td>
</tr>
<tr>
<td>3.2</td>
<td>Why mixed methods for this research?</td>
<td>90</td>
</tr>
<tr>
<td>3.3</td>
<td>Ethical approval</td>
<td>96</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Coercion</td>
<td>96</td>
</tr>
<tr>
<td>3.3.2</td>
<td>Consent</td>
<td>97</td>
</tr>
<tr>
<td>3.3.3</td>
<td>Anonymity</td>
<td>97</td>
</tr>
<tr>
<td>3.3.4</td>
<td>Confidentiality</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td><strong>Study One</strong></td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Aims</td>
<td>98</td>
</tr>
<tr>
<td>3.5</td>
<td>Method</td>
<td>98</td>
</tr>
<tr>
<td>3.5.1</td>
<td>Participants</td>
<td>98</td>
</tr>
<tr>
<td>3.5.2</td>
<td>Design decisions</td>
<td>99</td>
</tr>
<tr>
<td>3.5.3</td>
<td>Instrument decisions</td>
<td>101</td>
</tr>
<tr>
<td>3.5.4</td>
<td>The structure and content of the questionnaire</td>
<td>102</td>
</tr>
<tr>
<td>3.5.5</td>
<td>Demographic information as categorical variables</td>
<td>102</td>
</tr>
<tr>
<td>3.5.6</td>
<td>Items for measuring competence</td>
<td>103</td>
</tr>
<tr>
<td>3.5.7</td>
<td>Items for measuring confidence</td>
<td>108</td>
</tr>
<tr>
<td>3.5.8</td>
<td>Scale and level of measurement</td>
<td>112</td>
</tr>
<tr>
<td>3.6</td>
<td>Validity and reliability</td>
<td>113</td>
</tr>
<tr>
<td>3.6.1</td>
<td>Face validity</td>
<td>113</td>
</tr>
<tr>
<td>3.6.2</td>
<td>Construct validity</td>
<td>114</td>
</tr>
<tr>
<td>3.6.3</td>
<td>Cronbach's alpha coefficient as a measure of reliability</td>
<td>115</td>
</tr>
<tr>
<td>3.7</td>
<td>Procedure</td>
<td>118</td>
</tr>
<tr>
<td>3.7.1</td>
<td>Recruitment of subjects</td>
<td>118</td>
</tr>
<tr>
<td>3.7.2</td>
<td>Research administration and management</td>
<td>120</td>
</tr>
<tr>
<td>3.7.3</td>
<td>The choice of statistical software and the creation of codes and data files</td>
<td>121</td>
</tr>
<tr>
<td>3.8</td>
<td>Analysis</td>
<td>123</td>
</tr>
<tr>
<td>3.8.1</td>
<td>Exploration of ordinal data using histograms</td>
<td>126</td>
</tr>
<tr>
<td>3.8.2</td>
<td>Methodological reasons for choosing Principal Component Analysis</td>
<td>126</td>
</tr>
<tr>
<td>3.8.3</td>
<td>Generic application of Principal Components Analysis</td>
<td>129</td>
</tr>
<tr>
<td>3.8.4</td>
<td>Sample size</td>
<td>130</td>
</tr>
<tr>
<td>3.8.5</td>
<td>Reliability of Principal Components Analysis</td>
<td>132</td>
</tr>
<tr>
<td>3.8.6</td>
<td>Multicollinearity and singularity</td>
<td>132</td>
</tr>
<tr>
<td>3.8.7</td>
<td>Communality values</td>
<td>133</td>
</tr>
<tr>
<td>3.8.8</td>
<td>Factorability</td>
<td>134</td>
</tr>
<tr>
<td>3.8.9</td>
<td>Factor regression scores</td>
<td>135</td>
</tr>
<tr>
<td>3.8.10</td>
<td>Kaiser Meyer Olkin measure of sampling adequacy and Bartlett’s test of sphericity</td>
<td>138</td>
</tr>
<tr>
<td>3.8.11</td>
<td>Reducing the variables down to components</td>
<td>138</td>
</tr>
<tr>
<td>3.8.12</td>
<td>Decisions about how many components to retain using the Scree Test and Parallel Analysis</td>
<td>141</td>
</tr>
<tr>
<td>3.8.13</td>
<td>Rotation</td>
<td>143</td>
</tr>
<tr>
<td>3.8.14</td>
<td>Interpretation of the rotated components</td>
<td>145</td>
</tr>
<tr>
<td>3.8.15</td>
<td>Simple structure</td>
<td>146</td>
</tr>
</tbody>
</table>
Chapter Four Results

4.1 Introduction 207

**Study One** 207

4.2 Demographics 207

4.2.1 The use of a computer for previous activity 209

4.2.2 Previous use of a computer categorized by age 210

4.2.3 Formal study undertaken in computing knowledge and skills 211

4.2.4 Previous formal study categorized by age groupings 212

4.2.5 Histograms 214

4.2.6 Overview of the histograms 240

4.3 Principal Components Analysis 240

4.3.1 Distribution of the data - R-matrix correlations 240

4.3.2 Reliability of PCA 242

4.3.3 Factor extraction 242

4.3.4 The Scree Test and Parallel Analysis 244

4.3.5 Rotation 246

4.3.6 Pattern matrix 246

4.3.7 Structure matrix 247

4.3.8 Application of Cronbach’s Alpha to the resulting components 248

4.4 Component characteristics 249

4.4.1 Component One: Opinions about computing confidence 249

4.4.2 Component Two: Opinions about peer support and preferred learning styles 252

4.4.3 Component Three: Opinions about using computer ‘Help’ functions 254

4.4.4 Component Four: Opinions about taught provision 256

4.4.5 Component Five: Opinions about using hard copy Help manuals 258

4.4.6 Geometric interpretation of the components 260

4.5 Summary of the results 262

4.6 Limitations of the first study 264

**Study Two** 267

4.7 The characteristics of the participants 267

4.8 The emergence of the second level protocols and themes 269

4.9 Output for description of behaviours and concurrent commentary 271

4.9.1 Group one verbal protocols 271

4.9.2 Group two verbal protocols 275

4.9.3 Group three verbal protocols 279

4.9.4 Group four verbal protocols 282

4.9.5 Group five verbal protocols 284

4.9.6 Group six verbal protocols 288

4.9.7 Group seven verbal protocols 291

4.10 Group timings 293

4.11 Number of total and extracted verbal protocols 296

4.12 The emergence of the initial themes from the second level of protocols 298

4.13 Limitations of the second study 299

4.14 Conclusion 300
## Chapter Five Discussion and recommendations

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Introduction</td>
<td>302</td>
</tr>
<tr>
<td><strong>Study One</strong></td>
<td></td>
<td>305</td>
</tr>
<tr>
<td>5.2</td>
<td>Themes emerging from the Principal Components Analysis and the histograms</td>
<td>305</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Theme 1 Student nurses’ working independently as computer users</td>
<td>306</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Theme 2 Peer support and interconnected personal learning experiences</td>
<td>308</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Theme 3 The usefulness of online and paper Help manuals</td>
<td>310</td>
</tr>
<tr>
<td>5.2.4</td>
<td>Theme 4 The influence of taught provision on computing competence and confidence</td>
<td>312</td>
</tr>
<tr>
<td><strong>Study Two</strong></td>
<td></td>
<td>315</td>
</tr>
<tr>
<td>5.3</td>
<td>The emerging issues from and the dimensions of the Protocol Analysis</td>
<td>315</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Visual analyses and protocols</td>
<td>315</td>
</tr>
<tr>
<td>5.3.2</td>
<td>Confidence</td>
<td>317</td>
</tr>
<tr>
<td>5.3.3</td>
<td>Under-confidence</td>
<td>319</td>
</tr>
<tr>
<td>5.4</td>
<td>Timings and completion of the task</td>
<td>320</td>
</tr>
<tr>
<td>5.5</td>
<td>Discussion of the overall findings from the Protocol Analysis</td>
<td>321</td>
</tr>
<tr>
<td>5.5.1</td>
<td>Social dimension</td>
<td>323</td>
</tr>
<tr>
<td>5.5.2</td>
<td>Collaborative dimension</td>
<td>325</td>
</tr>
<tr>
<td>5.5.3</td>
<td>Emotional dimension</td>
<td>329</td>
</tr>
<tr>
<td>5.6</td>
<td><strong>Synthesis of the combined findings</strong></td>
<td>332</td>
</tr>
<tr>
<td>5.7</td>
<td>Examination of observable, unobservable and latent phenomena</td>
<td>333</td>
</tr>
<tr>
<td>5.7.1</td>
<td>Observable phenomena</td>
<td>334</td>
</tr>
<tr>
<td>5.7.2</td>
<td>Unobservable phenomena</td>
<td>339</td>
</tr>
<tr>
<td>5.7.3</td>
<td>Latent phenomena</td>
<td>342</td>
</tr>
<tr>
<td>5.8</td>
<td>The circumstances that trigger computing competence and confidence</td>
<td>345</td>
</tr>
<tr>
<td>5.8.1</td>
<td>Confident behaviour and the value of peer support</td>
<td>345</td>
</tr>
<tr>
<td>5.8.2</td>
<td>Dwelling on emotions</td>
<td>346</td>
</tr>
<tr>
<td>5.8.3</td>
<td>The difference between being relieved and being pleased because of being correct</td>
<td>347</td>
</tr>
<tr>
<td>5.8.4</td>
<td>The use of language related to problem solving skills</td>
<td>348</td>
</tr>
<tr>
<td>5.8.5</td>
<td>The use of transferable skills and experiences</td>
<td>348</td>
</tr>
<tr>
<td>5.8.6</td>
<td>Reactions to making mistakes</td>
<td>349</td>
</tr>
<tr>
<td>5.8.7</td>
<td>Assumptions about year group and computing competence and confidence</td>
<td>350</td>
</tr>
<tr>
<td>5.8.8</td>
<td>The right mix within student groups</td>
<td>350</td>
</tr>
<tr>
<td>5.8.9</td>
<td>Using knowledge and skills from previous ICT study</td>
<td>351</td>
</tr>
<tr>
<td>5.9</td>
<td>How would we recognize a student nurse who works using an optimum level of computing competence and confidence?</td>
<td>352</td>
</tr>
<tr>
<td>5.10</td>
<td>Would it be possible to develop a self-assessment tool to allow students to gauge whether they were likely to be over or under confident or competent?</td>
<td>353</td>
</tr>
<tr>
<td>5.11</td>
<td>Would it be possible to develop guidelines for working with students who fall into the different categories outlined?</td>
<td>357</td>
</tr>
<tr>
<td>5.11.1</td>
<td>Guidelines for working with under-confident and under-competent students</td>
<td>357</td>
</tr>
<tr>
<td>5.11.2</td>
<td>Guidelines for working with confident and competent students</td>
<td>359</td>
</tr>
<tr>
<td>5.12</td>
<td>Would it be possible to develop guidelines for online Help characteristics that would support learning?</td>
<td>360</td>
</tr>
</tbody>
</table>
5.13 Could better guidelines be developed for practice environments?

5.13.1 The NMC proficiency “Interpret and utilize data and technology, taking account of legal, ethical and safety considerations in the delivery and enhancement of care.” (NMC, 2007, p.8).

5.13.2 A clear understanding of the influence of ICT on practice and the important role of the practitioner

5.13.3 Information about accessibility to University resources that would support ICT and computer use in practice areas

5.13.4 Open ICT access to University resources for all practice partners

5.13.5 Support and assistance for mentor learning

5.13.6 Practitioners’ competences in the use of ICT and computer-related tools for teaching and learning

5.13.7 Access to computing and ICT resources and knowledge that reflect contemporary nursing practice

5.13.8 Language and visual aids that reflect the level of teaching and learning

5.13.9 Assessments that reflect the knowledge and skills of the student nurse as a computer user and not the registered practitioner

5.13.10 Opportunities to access a range of computer based activities that directly and indirectly support practice

5.14 What are the implications of these findings for practice?

5.15 What overall recommendations should be made?

5.16 Dissemination of these findings

5.17 Links to future research

5.18 Conclusion

References

Figures

1. Seven Stages of Learning (Dreyfus and Dreyfus, 1986; Dreyfus, 2001)

2. Demographic questions

3. Items for measuring competence

4. Items for measuring confidence

5. Reverse coded items for Cronbach’s Alpha

6. Normal distribution curve illustrating frequency of scores from the paired statements

7. Organisation of the overall study population

8. Computing task information

9. Preliminary codes for observations

10. Outline of the environment for a pilot of the concurrent think-aloud method

11. Revised first level coding scheme for protocol segments

12. Reconfigured coding scheme showing revised first level protocol segments in The Observer XT

13. Example of predefined values in the Observer XT

14. Section from an event log

15. Age groupings within the cohort

16. The use of a computer for previous activity

17. Previous use of a computer categorized by age

18. Formal study undertaken in computing knowledge and skills

19. Previous formal study categorized by age groupings

20. Learning computing skills through experimenting

21. Learning skills by watching other people

22. Learning computing skills by listening to others

23. Learning computing skills through talking to and by asking others
24. The usefulness of the computer Help function 217
25. The usefulness of computer manuals 217
26. The University’s taught computing sessions 218
27. Some aspects of the computer will always be the same irrespective of the activity 219
28. Using a computer to search for academic literature 219
29. Using a computer to complete assignments 220
30. Using a computer has assisted in the management and organisation of studies 221
31. Improvement in computer skills since commencement of nursing studies 221
32. Being asked for help by others if they have a computing problem 222
33. Being a complete beginner when it comes to using a computer 223
34. Being able to work quickly through computing activities that are familiar 223
35. Guessing or using intuition when working through a computing activity 224
36. Being able to complete certain computing activities without having to think about them 225
37. Being able to work through most computing activities in the School 225
38. Having an excellent grasp of computing activities related to nursing studies 226
39. Not thinking about level of confidence during the initial computing experiences 227
40. Having some existing computing knowledge and skills and feeling confident about learning new computing information and activities 227
41. Deterioration in confidence after initial contact with a computer 228
42. Feeling confident enough to have a go at working through an unfamiliar computing activity 229
43. Dreading the thought of having to learn any new computing activity 229
44. Feeling confident to work as long as there is plenty of time 230
45. Feeling confident enough to work through a new computing activity using a hard copy Help manual 231
46. Feeling confident enough to use the online Help function 231
47. Feeling confident enough to work through a computing activity as long as there is someone available to help 232
48. Confidence using a computer increasing with practice 233
49. Feeling confident enough to work alone without any help 233
50. Confidence not being an issue and just getting on with the task 234
51. Taught computing sessions in the University increasing confidence 235
52. Being confident when asked to carry out a computing exercise in the University 235
53. Having the confidence to search for literature online 236
54. Feeling confident enough to work on a computer-based proficiency in the clinical area without any help 237
55. Felt confident as a computer user before current studies 237
56. Feeling confident enough to help other students with their computing problems 238
57. Not minding when watched whilst using a computer 239
58. Being confident when using a computer away from the School 239
59. The Scree Plot 244
60. Geometric interpretation of first five components with oblique rotation 261
61. Group one output (Homogeneous Strongly Disagree) 271
62. Group two output (Heterogeneous) 275
| 63. | Group three output (Heterogeneous) | 278 |
| 64. | Group four output (Heterogeneous) | 281 |
| 65. | Group five output (Heterogeneous) | 284 |
| 66. | Group six output (Heterogeneous across 2 windows) | 287 |
| 67. | Group seven output (Homogeneous – Strongly Agree) | 290 |
| 68. | Self-Assessment Tool For Competence and Confidence | 356 |

**Tables**

1. Summary of the studies reviewed related to student nurses  
2. Summary of the studies reviewed related to other computer user groups  
3. Component loadings based on sample size  
4. Interpretation of Eta squared  
5. Guide for interpretation of loading values and overlapping variance  
6. Output for paired questions related to the new heterogeneous group  
7. Monte Carlo Parallel Analysis  
8. Component 1: Opinions about computing confidence  
9. Component 2: Opinions about peer support and preferred learning styles  
10. Component 3: Opinions about using computer ‘Help’ functions  
11. Component 4: Opinions about taught provision  
12. Component 5: Opinions about using hardcopy Help manuals  
13. Group timings  
14. Total and extracted number of protocols for each group  
15. Initial themes emerging within the seven groups

**Appendices**

1. Letter to Faculty of Health Sciences Medical School Ethics Committee seeking approval for activity  
2. Letter from School of Nursing granting approval for activity  
3. Research advertisement sent out to student nurses  
4. Information sheet for healthy volunteers  
5. Explanatory letter and study one consent form  
6. Questionnaire information sheet  
7. Questionnaire  
8. SPSS codes  
9. Letter to Faculty of Health Sciences Medical School Ethics Committee seeking application for approval of revised activity  
10. Revised information sheet for Faculty of Health Sciences Medical School Ethics Committee  
11. Letter from School of Nursing, Midwifery and Physiotherapy giving approval for revised activity  
12. Letter sent to the students in first study cohort inviting participation in the second study  
13. Letter to new students requesting volunteers to participate in the second study  
14. Information sheet for normal healthy volunteers – new cohort for second study  
15. Letter and consent form to new group of students inviting completion of the questionnaire  
16. Total variance explained  
17. Component matrix before rotation  
18. Pattern matrix  
19. Structure matrix