

**PRESERVICE TEACHERS' PERCEPTIONS OF HOW TO  
INCREASE THEIR STUDENTS' LONG-TERM INTEREST IN  
SCIENCE**

by

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## **Dedication**

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## Table of Contents

Topic	Page
Acknowledgements.....	ii
Dedication.....	iii
Table of Contents .....	iv
List of Tables.....	vii
List of Figures.....	viii
Abstract.....	ix
<b>Chapter 1: Introduction</b> .....	<b>1</b>
1.1 Background .....	1
1.2 Australian Studies About Interest in Science.....	2
1.3 International Studies of decreasing Student Interest in Science.....	3
1.4 Age Related Patterns.....	4
1.5 Interest as a Requirement of School Science Curriculum.....	5
1.5.1. The New South Wales Science Syllabus .....	5
1.6 Summary .....	6
<b>Chapter 2: Literature Review</b> .....	<b>7</b>
2.1 Interest.....	7
2.2 Situational Interest .....	8
2.2.1. Causes of Situational Interest.....	8
2.3 Individual Interest.....	10
2.4 Developing Long-Term Interest (How Individual Interest Develops) .....	11
2.5 Preservice Teachers' Interest in Science.....	13
2.6 Self Efficacy.....	14
2.6.1 Teacher Self-Efficacy.....	15
2.6.2 Science Teacher Self-Efficacy.....	16
2.6.3 Specificity of Science Teaching Self-Efficacy Beliefs.....	18
2.7 Summary and Aims of the Research.....	18
<b>Chapter 3: Research Methodology</b> .....	<b>20</b>
3.1 Research Design.....	20
3.2 Overview of the University of Newcastle Teacher Education.....	21
3.3 Participants.....	22
3.3.1 Recruitment Methods.....	24
3.3.2 Ethical Considerations.....	24
3.4 Data Collection and Analysis.....	25
3.4.1 Survey.....	26
3.4.2 Open-Ended Questionnaire.....	26

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3.4.3 Interviews.....	30
3.4.3 Classroom Observations.....	32
<b>Chapter 4: Quantitative Data Analysis.....</b>	<b>35</b>
4.1 Participants .....	35
4.2 The Survey.....	36
4.3 Scale Development .....	38
4.4 Independent Samples T-Tests.....	38
4.4.1 Breakdown by educational group and year.....	39
4.5 Summary.....	41
<b>Chapter 5: Qualitative Data Analysis.....</b>	<b>42</b>
5.1 Open Ended Questions from the Survey.....	42
5.1.1 Question One.....	42
5.1.2 Question Two.....	45
5.1.3 Question Three.....	46
5.2 Interviews.....	48
5.2.1 Question One .....	49
5.2.2 Question Two.....	50
5.2.3 Question Three.....	51
5.3 Classroom Observations .....	52
<b>Chapter 6: Discussion.....</b>	<b>55</b>
6.1 Introduction.....	55
6.2 How do Primary and Secondary (Science) Preservice Teachers Believe they can Enhance Students’ Long-Term Interest in Science	55
6.2.1 Primary.....	56
6.2.2 Secondary.....	57
6.2.3 Comparison Between Primary and Secondary Results.....	57
6.3 What are Primary and Secondary (Science) Preservice Teachers’ Ideas for How to Enhance Students’ Long-Term Interest in Science.....	59
6.4. From Where Did Primary and Secondary (Science) Preservice Teachers Obtain their Ideas for How to Enhance Students’ Long-Term Interest in Science?...	60
6.5 Limitations.....	63
<b>Chapter 7: Conclusion and Implications.....</b>	<b>65</b>
7.1 Conclusions.....	65
7.2 Implications .....	66
7.2.1 Implications for Teaching.....	67
7.2.2 Implications for Further research.....	67

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<b>List of References</b> .....	69
<b>Appendices</b> .....	78
Appendix A Information Statement .....	79
Appendix B Consent Form.....	82
Appendix C Questionnaire Survey.....	84
Appendix D Interview Protocol.....	86
Appendix E Classroom Observational Checklist.....	87
Appendix F Principal Components Factor Analysis.....	88

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## List of Tables

<b>Table</b>	<b>Description</b>	<b>Page</b>
3.1	Total Numbers of Participants .....	23
3.2	Research Aims and Data Collection Methods.....	26
3.3	Survey Items for the Likert Scale.....	27
3.4	Response Rate by the Four Student Groups.....	28
3.5	Participants of the Interview by Educational Grouping.....	32
4.1	Response Rate by the Four Student Groups.....	36
4.2	Means and SD for the Survey Items.....	37
4.3	Items Included in the Factor Analysis.....	38
4.4	Further Comparison Among Preservice Teacher Groups.....	40
5.1	Main Themes Coded for Question 1 by the Number of Responses.....	44
5.2	Frequency of Use of Classroom Techniques.....	45
5.3	Main Themes Coded for Question 3 by the Number of Responses.....	48
5.4	Level of Confidence and Educational Category.....	49



## List of Figures

<b>Figure</b>		<b>Page</b>
Figure 1	<i>Sources of Situational Interest Observed During Lesson Observations....</i>	54

## Abstract

There is a global decline in the number of students choosing science courses and pursuing science related careers. This problem is due in part to students' declining interest in science. This research study focused on preservice teachers' perceptions of how to enhance students' interest in science. The aims of this study were as follows:

1. How do primary and secondary (science) preservice teachers believe they can enhance students' long-term interest in science?
2. What are primary and secondary (science) preservice teachers' ideas for how to enhance students' long-term interest in science?
3. From where did primary and secondary (science) preservice teachers obtain their ideas for how to enhance students' long-term interest in science?

The researcher used a mixed methods research (MMR) design. This design was desirable because triangulation of the qualitative and quantitative aspects of the study helped to establish the validity and reliability of the study. The participants were 276 preservice primary and preservice secondary (science) teachers. There were 123 2<sup>nd</sup> year preservice primary and 112 3<sup>rd</sup> year preservice primary teachers who were enrolled in the Bachelor of Teaching (Honours) Primary program. In addition, there were 23 3<sup>rd</sup> year preservice secondary (science) teachers who were enrolled in the Bachelor of Teaching (Honours) Science Secondary program and nine 2<sup>nd</sup> year preservice secondary (science) teachers who were enrolled in the Secondary Science Masters of Teaching program.

Data were gathered using a quantitative survey, a qualitative questionnaire, interviews, and classroom observations. The quantitative data were analysed using the Statistical Package for

the Social Sciences (SPSS) software. The qualitative results were analysed using standard qualitative research techniques.

For Aim 1 (How do primary and secondary science preservice teachers believe they can enhance students' long-term interest in science?), it emerged that both primary and secondary (science) preservice teachers believed that they could enhance students' long-term interest in science. The 2<sup>nd</sup> year primary preservice teachers were the most confident in their ability to enhance interest in science.

For Aim 2 (What are primary and secondary science preservice teachers' ideas for how to enhance students' long-term interest in science?), both primary and secondary groups referred to the use of hands-on activities, making science relevant, using information communication technology (ICT), making science fun, making science student-centred, relating science to students' interests, and keeping students engaged.

For Aim 3 (From where primary and secondary science preservice teachers obtained their ideas for how to enhance students' long-term interest in science?), it emerged that both primary and secondary groups obtained their ideas from several sources including their university studies, practicum teaching, personal experiences, ICT/media, and their prior schooling.

In summary, the study revealed that preservice primary and preservice secondary (science) teachers were confident about their ability to enhance students' long-term interest in science. Even though many of their ideas would be supported by researchers studying the development of interest, there was no evidence that their ideas were based on a theoretical framework. Their ideas appeared to be intuitive ideas gained from their personal experiences.