

Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

Mathematics achievement in the transition from
intermediate school to high school.

A thesis presented in partial fulfilment of the
requirements for

Master of Educational Studies (Mathematics)

at Massey University

Derek Glover

1997

Acknowledgements

In presenting this thesis I would like to acknowledge the following people:

My wife, Christina, for allowing me the time to work alone and her encouragement as I worked; and my children for their support to complete this thesis;

Dr Gordon Knight for his advice and guidance over the last 5 years as we worked through the course, particularly in relation to this thesis for his thoughtful suggestions and wise advice;

The principal and staff of Central Hawke's Bay College for their support and encouragement;

The inaugural members of this degree who have been of great support.

Abstract

This study investigates the nature and level of communication between the primary and intermediate schools and the high schools in relation to student achievement. It also investigates how information relating to mathematics achievement is passed between the schools and makes some suggestions to improve the current situation.

Four high schools, three intermediate schools and three full primary schools were identified for the study and a survey was conducted of two teachers in each of these schools identify what happens in these schools in relation to the transition of students from Form 2 to Form 3.

It was found that there were significant differences in the ways that schools on either side of the transition viewed and implemented the National Curriculum in Mathematics. The primary and intermediate schools were much more enthusiastic about the National Curriculum than the high schools. As a consequence it was found that the primary and intermediate schools have made considerable progress toward reporting student progress against the objectives of the curriculum and were able to determine levels of achievement in each strand.

It was found that primary and intermediate schools are moving away from the “Primary Progress Record, Senior School” (known as the blue record card) as the main means of handing information about student achievement on to the high schools. Many schools are developing their own “profile” or progress sheets as a way of better tracking student progress and therefore are more able to accurately indicate where the student is when they enter high school.

The high schools have generally not been using this information as a basis for their third form programmes. They report that there is a large variation in the quality and quantity of the information which comes from their provider schools and in many cases would

prefer a single document which gave a general idea of student ability. The high schools were therefore placing students in classes on general ability, gained by enrolling staff, or on entrance tests which they developed.

The high schools were much less enthusiastic about measuring against the objectives of the curriculum and were able to present a number of reasons for their reluctance. There is therefore a need to develop a model for communicating student achievement across the transition into high school.

It was found that many of the high school teachers did not value the information provided by the primary and intermediate schools because they had no part in determining what information should be collected and how it could be used. Revising the data collection process, involving the teachers who could potentially use the information, would be one way of overcoming this.

Results of this study show that there is a need for teachers to be more aware of the practises of schools on the other side of the transition.

Contents

Title	i
Acknowledgements	ii
Abstract	iii
Contents	v
List of Tables	ix
List of Appendices	x
 Chapter 1 - Introduction	
1.1 Background.....	1
1.2 Structures in New Zealand schools.....	1
1.3 The New Zealand curriculum framework.....	2
1.4 Transition to high school	5
1.5 The aims of the research	7
 Chapter 2 - Literature Review	
2.1 Communication between schools	8
2.2 Student placements	11
2.3 PAT and TOSCA Tests.....	11
2.4 Profiles and Portfolios	13
2.4.1 Introduction.....	13
2.4.2 Overseas experiences.....	14
2.4.3 A New Zealand School experience.....	16
2.5 Transition point assessment.....	19

2.6 The Student in transition.....	21
2.7 Curriculum Matters.....	22
2.7.1 Continuity	22
2.7.2 Levels of achievement	24
2.8 Discussion.....	25

Chapter 3 - Research Methods

3.1 Introduction.....	27
3.2 Data Collection Techniques.....	27
3.3 The Sample	29
3.4 The Questionnaire.....	31
3.5 The Nature of the Interviews	32

Chapter 4 - Results

4.1 Contact between the schools.....	33
4.1.1 The approximate size of the groups in transition.....	33
4.1.2 Meetings with staff in the other schools	34
4.1.2 (a) The intermediate school view of the contact.....	35
4.1.2 (b) The primary school view of the contact.....	37
4.1.2 (c) The high school view of the contact.....	38
4.1.3 High School visits after the transition	39
4.1.4 The importance of a smooth transition	41
4.2 The written communications	42
4.2.1 What was required of the intermediate and primary schools.....	42
4.2.2 What the high schools required	45
4.2.3 How this information is used.....	47

4.3 Assessment and reporting	51
4.3.1 The school report and mathematics	51
4.3.2 Determining the levels in each strand.....	54
4.3.3 The seamless curriculum	62
4.4 The levels at the point of transition	65
4.5 Levels spanning more than one year group	67
4.6 The ideal mathematics learning environment.....	69

Chapter 5 - Discussion

5.1 Contact between schools.....	72
5.2 Passing information	75
5.3 Student Placement.....	79
5.4 School reports	84
5.5 Levels of achievement	87
5.6 A profile of mathematics achievement	89
5.7 Assessing against the achievement objectives.....	90
5.8 Attempts to determine levels in each strand	100
5.9 The Education Review Office and the national curriculum.....	104
5.10 The Seamless Curriculum.....	105
5.11 The differences between the schools on each side of the transition point	107
5.12 The ideal environment for learning mathematics	108

Chapter 6 - Conclusions

6.1 Communication between schools	110
6.2 The Documents in the transition.....	112
6.3 Suggested ways to improve the transition	115

6.4 The nature of the schools.....	118
6.5 Levels of achievement	120
Chapter 7 - Implications and suggestions for further research.....	124
References	126
Appendix 1 – The blue record card	131
Appendix 2 – A Secondary Assessment Profile	134
Appendix 3 – The Questionnaire.....	137

List of Tables

Table 1 – New Zealand School Structures.....	2
Table 2 – Features of the high schools	29
Table 3 – Features of the intermediate schools.....	30
Table 4 – Features of the full primary schools	31
Table 5 – Approximate Form 2 rolls of primary/intermediate schools surveyed	33
Table 6 – Approximate Form 3 rolls of high schools surveyed.....	34
Table 7 – Ratings for a smooth transition.....	41
Table 8 – Suggestions to improve the transition.....	42
Table 9 – Primary/Intermediate school perceptions of levels at the transition point.....	65
Table 10 - High school perceptions of the level at the transition point	66
Table 11 - Features of an ideal environment identified by high school respondents	70
Table 12 - Features of an ideal environment identified by primary/intermediate respondents	71

List of Appendices

Appendix 1 – The blue record card.....	131
Appendix 2 – A Secondary Assessment Profile	134
Appendix 3 – The Questionnaire	137