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.

Using Parent Newsletters to Enhance Junior Primary School Mathematics

A thesis presented in partial fulfilment of the requirements for the degree of Master of Educational Studies (Mathematics) at Massey University

> Janice Robyn Savell February 1998



ABSTRACT

Parent Newsletters were investigated as a means of increasing home-school contact in the Junior Primary School mathematics classroom. An action research model using three cycles, was used to develop and trial the newsletter. The first newsletter was based on BSM activities and used by five teachers at a school sited in a military housing area. The second and third formats of the newsletters were written in consultation with one teacher to integrate with her topic based mathematics programme in a Palmerston North primary school.

A questionnaire was used to gather background information and invite parents to be interviewed for further comments. Teachers and responding parents were interviewed in a semi-structured format. Participants commented on a range of other home-school contact issues. A follow-up interview was conducted with the parents from the Palmerston North school three months after the newsletters had ceased.

Teachers and parents were positive about the benefits of the newsletters. Newsletters did increase parental awareness of the junior school mathematics programme. For one child with special needs an obvious improvement in classroom performance was directly attributable to the effect of the newsletters.

Interviews revealed a number of inconsistencies between parents and teacher views of their roles and responsibilities. Problems of parent-school communication were highlighted. Teachers supported the newsletters, but felt that heavy workloads did not allow time for teacher production.

The research tentatively confirms the value of mathematics newsletters as a means of helping children and as a means of keeping parents informed. additionally, the research gives rise to questions on the duality of information flow and equality of benefits accrued.

ACKNOWLEDGMENTS

The successful completion of this thesis is due to the assistance of many people.

First, the guidance of my supervisor, Dr Glenda Anthony, is acknowledged. As a supervisor her expertise was evident throughout the planning, data gathering and reporting of the study. As a friend she constantly encouraged and reassured me when the task seemed too big. As a mentor she cheerfully gave her time, no matter when it was requested, and showed intense interest in my progress. I am very grateful to her.

Secondly, thanks are extended to the teachers and parents who made this study possible. Their cooperation and frankness enabled me to explore wider issues of home-school communication.

Appreciation is also extended to those who have been involved in different stages of my study, most especially to Dr Gordon Knight for his guidance in the planning; to Anne Burch and Susan Peacock for their help during the write up phase.

Lastly, but most importantly, I wish to express thanks to Alan, my husband, for his constant and loving support. I also wish to acknowledge the contribution of my children; Keri, Cazna, Lane and Erika, all of whom have given me the free time I needed to complete this thesis.

CONTENTS

ABSTRACT

ACKNOWLEDGMENTS

CHAPTER 1 INTRODUCTION

1.1	Parental Involvement: Background	8
1.2	The Situation in Junior School Mathematics	9
1.3	Research Objectives	11
1.4	Definition of Terms	12
1.5	Overview	14

CHAPTE	CR 2 LITERATURE REVIEW	15
2.1	Parental Involvement in Learning	15
2.2	Theories of Learning	17
2.3	Differences in Learning Environments	23
2.4	Targeted Intervention Programmes	28
2.5	Barriers to Parental Involvement	33
2.6	Junior School Mathematics	39
2.7	What Do Parents Want?	43
2.8	Summary	45

CHAPTER 3 METHODOLOGY

3.1	Introduction	46
3.2	The Action Research Plan	48
3.3	The Setting	52
3.4	Ethical Considerations	53
3.5	The Newsletters	53
3.6	Data Collection Strategies	59
3.7	Reliability, Validity and Associated Limitations	63
3.8	Summary	66

CHAPTE	R 4 TEACHER RESPONSES	67
4.1	Introduction	67
4.2	Newsletters Affected Reporting to Parents	70
4.3	Newsletters or Homework: Is Compulsion Beneficial?	71
4.4	Teacher's View of Parental Role	73
4.5	Summary	76

.

iv

8

46

CHAPTE	CR 5 PARENT RESPONSES	77
5.1	The Questionnaires	77
5.2	Interviews	80
5.3	Raising Awareness of Classroom Mathematics	87
5.4	Age Coverage of Newsletters	88
5.5	Individualising Activities and Providing	
	Mathematics in Context	90
5.6	Home Environment	93
5.7	Alternative Format for Newsletter	96
5.8	Summary	97

CHAPTE	CR 6	ISSUES OF PARENTAL INVOLVEMENT	98
6.1	Infor	mation	98
6.2	Parer	and Teacher Role and Responsibilities	102
6.3	Shari	ng Information on Classroom Mathematics	105
6.4	Powe	er Structures Inherent in School Communications	107
6.5	Sum	nary	110

CHAPTE	CR 7 DISCUSSION and CONCLUSION	112
7.1	Discrepancies in Perceived Roles and Responsibilities	112
7.2	The Mathematics Newsletter: Sharing the Information	116
7.3	Implications of the Study	120
7.4	Limitations of the Study	122
7.5	Implications for Further Research	122
7.6	Summary of Outcomes	124

BIBLIOGRAPHY

125

APPEN	DICES 136	
1	Questionnaire Sent to Parents	Ň
2	Sample Newsletters Developed for Milland School	
	(To match BSM cycles) 139	ŝ
3	Sample Newsletters Developed for Pallace School	
	First Format	
4	Second Format 145	ġ.

List of Tables

Table 1:	Newsletter Coverage of Module One (BSM programme)	55
Table 2:	Questionnaire Responses from Milland School	78
Table 3:	Questionnaire Responses from Pallace School	79
Table 4:	Interview Responses from Milland School	83
Table 5:	Interview Responses from Pallace School	84
Table 6:	Differing Perceptions of Junior Mathematics (which are unhelpful to children's progress)	114
Table 7:	Differing Perspectives That Could be Utilised	115

Tables of Figures

Figure 1:	Diagram of the Action Research Spiral (Kemmis and McTaggart)	48
Figure 2:	Diagram of the Action Research Cycle for this Study - Cycle 1	49
Figure 3:	Diagram of the Action Research Cycle for this Study - Cycle 2	50
Figure 4:	Diagram of the Action Research Cycle for this Study - Cycle 3	51
Figure 5:	Cycle One Basic Newsletter Format	54
Figure 6:	Sample Objective Test from Cycle Three Newsletter	58