

TABLE OF CONTENTS

ABSTRACT	v
ABSTRAK	vi
FOREWORD	vii
TABLE OF CONTENTS	viii
TABLE OF FIGURE	x
APPENDICES	xi
CHAPTER 1	1
1.1. Biblical perspective on teaching	1
1.2. Background of school and students:.....	2
1.3. Statement of Problem	4
1.4. The purpose of study	4
1.5. The benefit of study	4
1.6. Definition of terms:	5
CHAPTER 2	6
2.1. Piaget’s Theory of Cognitive Development	6
2.1.1. Implications for teaching:	7
2.2. Constructivism as a Cognitive Approach to Learning	8
2.3. Constructivist principles in classroom practice	10
2.4. Factors in selecting instructional activity:	11
2.5. Principles of Mathematics Instruction	14
2.6. NCTM standards of teaching and learning mathematics	17
2.7. Game as a Learning Activity	18
2.7.1. Benefits of Games	18
2.7.2. Features of Effective Games.....	18
2.7.3. Planning A Game	19
2.7.4. Implementing A Game	20
2.8. Classroom Action Research (CAR)	21
CHAPTER 3	23
3.1. Critical Incident:	23
3.2. Planning:	25
3.3. Action:	28
3.4. Reflection:	30
CHAPTER 4	32
4.1. Analysis of a Critical Incident	32
4.2. Planning	35
4.2.1. Identifying the Learning Objectives	35
4.2.2. Preparing the Game Content	35
4.2.3. Preparing Game Accessories	36
4.2.4. Setting up the Game Procedure.	37
4.2.5. Designing the Classroom Layout (see appendix C).....	38
4.3. Action	39
4.3.1. Explanation of Algorithm	39
4.3.2. Implementation of Game	39
4.4. Reflection	42
CHAPTER 5	46
5.1. Conclusion.....	46

5.2. Recommendations: 47
References 49



TABLE OF FIGURE

Figure 2. 1 : Gerald Susman action research cycle 22



APPENDICES

Appendix A. 1: Lesson Plan.....	- 1 -
Appendix A. 2 : Lesson Note.....	- 3 -
Appendix B. 1 : Mentor's Feedback on Lesson	- 4 -
Appendix C. 1 : Description of the game.....	- 5 -
Appendix D. 1 : Student Worksheet	- 9 -
Appendix E. 1 : Mathematics Daily Test.....	- 14 -

