## LIST OF CONTENTS

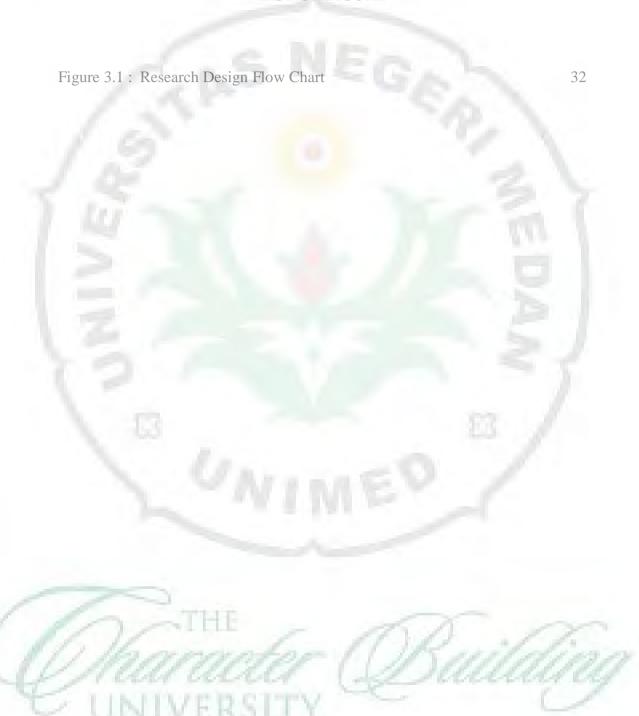
Legalization Sheet	i
Biography	ii
Abstract	iii
Acknowledgement	iv
List of Content	vi
List of Figure	Х
List of Table	xi
List of Appendix	xi
CHAPTER I INTRODUCTION	1
1.1. Background	1
1.2. Identification of Problems	1
1.3. Limitation of Problems	3
1.4. Problems Formulation	4
1.5. Research Objective	4
1.6. Research Benefits	5
1.7. Operational Definition	6
CHAPTER II LITERATURE REVIEW	7
2.1 Definition of Problem Solving Learning Models	7
2.2 Forms of Problem Solving	8
2.2.1 The Factors Affecting Problem Solving	9
2.2.2 The Advantages and Disadvantages of problem solving	10
2.2.3 Steps of Problem Solving model	11
2.2.4 The Demonstration Method	14
2.2.5 Advantages and Disadvantages of Demonstration Methods	14
2.2.6 The Objectives and Functions of Demonstration Methods	16
2.2.7 Learning Outcomes	16
2.3 Buffer Solution	19

2.3.1 Definition of Buffer Solution from Several Sources	19
2.3.2 The Concept of Buffer Solution	20
2.3.3 The Components of Buffer Solution	21
2.3.4 The Calculating of pH in Buffer Solution	21
2.3.5 Working Principle of Buffer Solution	22
2.3.6 The Benefits of Buffer Solutions	23
2.4. Relevant Research	24
2.5 Placement of the Problem Solving model on the subject	24
2.6 Thinking Framework	27
2.7 Hypothesis	28
CHAPTER III RESEARCH METHODS	29
3.1 Time and Location of Research	29
3.2 The Population and Samples of Research	29
3.3 Research Variable	29
3.4 Research Design	30
3.5 Research Procedure	30
3.6 Research Instruments	32
3.7 Data collection technique	34
3.7.1 Validity Test	34
3.7.2 Reliability Test	35
3.7.3 Index Difficult Test	36
3.7.4 Index Distinguish Test	36
3.8 Data Analysis Techniques	37
3.8.1 Gain Test	37
3.8.2 Normality Test	37
3.8.3 Homogeneity	38
3.8.4 Hypothesis Testing	38

CHAPTER IV RESULTS AND DISCUSSION	40
4.1. Analysis Research Instrument	40
4.1.1. Instrument Test	40
4.1.2. Validity Test	40
4.1.3. Difficulty Index	42
4.1.4. Distinguish Test	43
4.1.5. Reliability Test	43
4.2. Test Instrument Data Analysis	43
4.2.1. Test the Normality of Pretest and Posttest Data	43
4.2.2. Homogeinity test of pretest and posttest	44
4.2.3. Learning Outcomes of Hypothesis Test	45
4.2.4. Improvement in Learning Outcomes	45
4.3. Observation of Student Activities	46
4.4. Test the Correlation of Student Activity on Student	49
4.5. Discussion	51
BAB V CONCLUSIONS AND RECOMMENDATIONS	56
5.1. Conclusion	56
5.2.Recommendations	56
REFERENCE	56



## LIST OF FIGURE



## LIST OF TABLE



## LIST OF APPENDIX

Appendix 1 Syllabus	59
Appendix 2 Lesson Plan (Experiment)	61
Appendix 3 Learning Activities	67
Appendix 4 Lattice of Instrument	75
Appendix 5 Instrument test (Before Validation)	91
Appendix 6 Instrument test (After Validation)	102
Appendix 7 Pretest	112
Appendix 8 Student Activity Sheet in Experiment Class	118
Appendix 9 Assesment guidelines of student activities	120
Appendix 10 Post Test	122
Appendix 11 Student Worksheet	127
Appendix 12 Instrument Validation Test	136
Appendix 13 Calculation Of Test Reliability	137
Appendix 14 Calculation Of Test Validity	138
Appendix 15 Tabel of reliability	141
Appendix 16 Calculation of distinguish	142
Appendix 17 Table Of Distinguish	144
Appendix 18 Calculation Of Test Difficulty Level	145
Appendix 19 Test Difficulty Level	147
Appendix 20 Tabulation Of The Value Of The Experimental Class	148
Appendix 21 Calculation Of Data Normality Test 1	150
Appendix 22 Calculation Of Data Normality Test 2	152
Appendix 23 Calculation Of Homogeneity Test	154
Appendix 24 Homogeneity Test Pretest Data	156
Appendix 25 Homogeneity Test Posttest Data	157
Appendix 26 Hypothesis Testing	158
Appendix 27 Student Activity Sheet	160
Appendix 28 Learning Outcomes Hypothesis Test Table	169

Appendix 29 Table Of Correlation	170
Appendix 30 Test Correlation Of Learning Outcomes Against Activity 1	172
Appendix 31 Test Correlation Of Learning Outcomes Against Activity 2	174
Appendix 32 Table Of Critical Value From R Product Moment	176
Appendix 33 Table Of Chi-Square Value	177
Appendix 34 Table Of T Value Distribution	178
Appendix 35 Table Of F Distribution Value	179
Appendix 36 Research Documentation	182
I LU	
THE	
1/2/1/2010 100 1	7
Dinaracres (Dinara	0.00