TABLE OF CONTENTS

Legalization Page i
Biography ii
Abstract iii
Preface iv
Table of Contents vi
List of Figures ix
List of Table x
List of Appendices xi

CHAPTER I INTRODUCTION
1.1. Background 1
1.2. Problem Identification 5
1.3. Problem Limitation 5
1.4. Problem Statement 5
1.5. Research Objective 6
1.6. Research Advantage 6
1.7. Operational Definition 6

CHAPTER II LITERATURE REVIEW
2.1. Learning 8
2.2. Learning Model 9
   2.2.1. Discovery based Learning Model 9
   2.2.2. Problem based Learning Model 12
2.3. Learning Media 14
   2.3.1. Using Media in Problem based Learning 15
2.4. Learning Achievement 16
   2.4.1. Assessing The Achievements of Learning 16
2.5. Student Motivation 17
2.6. Chemistry Topic on Electrolyte and Non Electrolyte Solution 18
2.7. Relevant Research 19
2.8. Conceptual Framework 20
2.9. Hypothesis 21

CHAPTER III RESEARCH METHODS
3.1. Place and Time of Research 22
3.2. Population and Sample of Research 22
3.3. Research Variable 22
3.4. Data Collecting Techniques 23
3.5. Research Instrument 23
   3.5.1. Content Validity Test 24
   3.5.2. Validity of Item Test 25
   3.5.3. Reliability of Test 25
   3.5.4. Difficulty Index 26
   3.5.5. Discrimination Index 26
   3.5.6. Destructor 27
3.6. Research Design 27
3.7. Research Procedure 28
3.8. Data Analysis Technique 30
   3.8.1. Normality Test 30
   3.8.2. Homogeneity Test 30
   3.8.3. Normalized Gain 31
   3.8.4. Hypothesis Test 31
   3.8.5. Linearity Test 32
   3.8.6. Correlation Test 32

CHAPTER IV RESULT AND DISCUSSION
4.1. Analysis of Research Instrument 34
   4.1.1. Analysis of Instrument Test 35
      4.1.1.1. Content Validity Test 35
      4.1.1.2. Validity Test 36
4.1.1.3. Reliability Test 36
4.1.1.4. Difficulty Index 36
4.1.1.5. Discriminating Index 36
4.1.1.6. Destructor 37

4.1.2. Analysis of Instrument Non Test 37

4.2. Research Result of Pretest 37
4.2.1. Normality and Homogeneity Test of Pretest 39

4.3. Research Result and Discussion of Student’s Achievement 40
4.3.1. Research Result of Student’s Achievement 40
4.3.1.1. Normality and Homogeneity Test of Posttest 41
4.3.1.2. Normality and Homogeneity Test of Gain 42
4.3.1.3. Hypothesis Test 43
4.3.2. Research Discussion of Student’s Achievement 44

4.4. Research Result of Student Motivation 45

4.5. Correlation between Student’s Achievement and Motivation 46
4.5.1. Linearity Test 46

CHAPTER V CONCLUSION AND SUGGESTION 48
5.1 Conclusion 48
5.2 Suggestion 49

REFERENCES 50