# CONTENTS


| | Page |
|---|---|
| Legalization Paper | i |
| Biography | ii |
| Abstract | iii |
| Acknowledgement | iv |
| Contents | vii |
| List of Figures | x |
| List of Tables | xi |
| List of Appendix | xii |
| **CHAPTER I INTRODUCTION** | |
| 1.1 Background | 1 |
| 1.2 Problem Identification | 5 |
| 1.3 Problem Limitation | 5 |
| 1.4 Research Formulation | 6 |
| 1.5 Research Objective | 6 |
| 1.6 Research Benefit | 7 |
| 1.7 Operational Definition | 7 |
| **CHAPTER II LITERATURE STUDY** | |
| 2.1.1 Nature of Learning Achievement in Chemistry | 8 |
| 2.1.2 Nature of Student Interest | 9 |
| 2.1.3 Nature of Learning Model | 10 |
| 2.1.4 Inquiry Learning Model | 11 |
| 2.1.5 Guided Inquiry Learning Model | 14 |
| 2.1.6 Process Oriented Guided Inquiry Learning (POGIL) | 15 |
| 2.1.7 Direct Instruction Learning Model | 17 |
| 2.1.8 Lesson Study | 18 |
| 2.1.9 Nature of Learning Media | 20 |
| 2.1.10 Interactive Media Learning | 21 |

2.1.11 Macromedia Flash 22
2.1.12 Mole concept 23
2.2 Conceptual Framework 32
2.3 Hyphotesis 33

**CHAPTER III RESEARCH METHODOLOGY**
3.1 Research Location and Objects 34
3.2 Research Population and Sample 34
3.3 Research Variable 34
3.3.1 Independent Variable 34
3.3.2 Dependent Variable 34
3.3.3 Control Variable 35
3.4 Research Design 35
3.5 Research Procedure 37
3.5.1 Preparation of POGIL Strategy for the Stoichiometry 37
3.5.2 Implementation of Pogil Strategy With Interactive Media Based on Lesson Study for teaching of Stoichiometry 37
3.6 Research Instrument 40
3.6.1 Test Instrument 40
3.6.2 Questionnaire of Student's Interest 40
3.6.3 Observation Sheet of Student's Interest 42
3.7 Technique of Data Collection 42
3.7.1 Questionnaire and Observation Sheet of Student's Interest 42
3.7.2 Test of Students Result 43
3.7.2.1 Validity Test 43
3.7.2.2 Reliability Test 43
3.7.2.3 Difficulty Level Test 43
3.7.2.4 Discrimination Index Test 44
3.8 Technique of Data Analysis 45
3.8.1 Normality Test 45
3.8.2 Homogenity Test 45

3.8.3 Normalized Gain 46
3.8.4 Hypothesis Testing 46

**CHAPTER IV RESULT AND DISCUSSION**
4.1 The Description of School Sample 47
4.2 Description of POGIL Strategy based on Lesson Study on teaching of Stoichiometry Topic 47
4.3 The Instrument's Analysis 49
4.3.1 The Observation Sheet of Student's Interest 49
4.3.2 The Questionnaire of Student's Interest 50
4.3.3 Instrument Validity 50
4.3.4 Instrument Reliability 50
4.3.5 Difficulty Index of Evaluation Test 51
4.3.6 Discriminating Power Index of Evaluation Test 51
4.4 The Data of Research's Result 52
4.4.1 The Result of Pretest and Posttest 52
4.4.2 The Result of Student's Interest by Observation Sheet 53
4.4.3 The Result of Student's Interest by Questionnaire 53
4.5 The Analysis Test of Data 53
4.5.1 Normality Test 54
4.5.1.1 Normality Test of Student's Achievement 54
4.5.2 Homogeneity Test 55
4.5.2.1 Homogeneity Test of Student's Achievement 55
4.6 Student's Achievement 56
4.6.1 Student's Achievement before Teaching Treatment 56
4.6.2 Student's Achievement after Teaching Treatment 57
4.6.3 Gain (Increasing of Student's Achievement) 57
4.7 Student's Interest 58
4.8 Lesson Study 60
4.8.1 Lesson Study at SMAN 2 Medan 61
4.8.2 Lesson Study at SMAN 3 Medan 62

4.8.3 Lesson Study at SMAN 15 Medan 64
4.9 Hypothesis Test 65
4.9.1 Hypothesis Test of Hypothesis 1 66
4.9.2 Hypothesis Test of Hypothesis 2 67
4.9.3 Hypothesis Test of Hypothesis 3 67
4.10 Discussion 68

**CHAPTER V CONCLUSION AND SUGGESTION**
5.1 Conclusion 72
5.2 Suggestion 73

**REFFERENCE** 74