

## TABLE OF CONTENT

<b>APPROVAL SHEET .....</b>	<b>i</b>
<b>PAGE OF ORIGINALITY STATEMENT .....</b>	<b>ii</b>
<b>APPROVAL PAGE FOR PUBLICATION OF FINAL PROJECT FOR ACADEMIC PURPOSES .....</b>	<b>iii</b>
<b>BIOGRAPHY .....</b>	<b>iv</b>
<b>ABSTRACT .....</b>	<b>v</b>
<b>PREFACE .....</b>	<b>vi</b>
<b>TABLE OF CONTENT .....</b>	<b>ix</b>
<b>LIST OF FIGURES .....</b>	<b>xii</b>
<b>LIST OF TABLES .....</b>	<b>xiii</b>
<b>LIST OF ATTACHMENT .....</b>	<b>xiv</b>
<b>CHAPTER I PRELIMINARY .....</b>	<b>1</b>
1.1 Problem Background .....	1
1.2 Problem Identification .....	7
1.3 Problem Limitation .....	8
1.4 Problem Formulation .....	8
1.5 Research Objective .....	8
1.6 Research Benefits .....	9
1.7 Operational Definition .....	9
<b>CHAPTER II LITERATURE REVIEW .....</b>	<b>11</b>
2.1 Theoretical Framework .....	11
2.1.1 Understanding of Learning .....	11
2.1.2 Learning Activity .....	13
2.1.3 Understanding of Teaching .....	14
2.1.4 Understanding of Learning .....	14
2.1.5 Learning Model .....	15
2.1.6 Scientific Inquiry Learning .....	16
2.1.6.1 Syntax of Scientific Inquiry Learning .....	17

2.1.6.2	Instructional and Nurturant Effects of Scientific Inquiry .....	18
2.1.6.3	The Advantage dan Disadvantages of Inquiry Learning .....	19
2.1.7	Algodoo Simulation .....	20
2.1.8	Conventional Learning .....	21
2.1.9	Science Process Skills .....	22
2.1.10	Learning Outcomes .....	25
2.2	Conceptual Framework .....	26
2.3	Research Hypothesis .....	28
<b>CHAPTER III RESEARCH METHODS .....</b>		<b>30</b>
3.1	Research Location and Time .....	30
3.2	Research Population and Sample .....	30
3.2.1	Research Population .....	30
3.2.2	Research Sample .....	30
3.3	Research Variable .....	30
3.3.1	Independent Variable .....	30
3.3.2	Dependent Variable .....	31
3.4	Research Type and Design .....	31
3.4.1	Research Type .....	31
3.4.2	Research Design .....	31
3.5	Research Prosedure .....	32
3.6	Research Instrument .....	35
3.6.1	Science Process Skills Test .....	35
3.6.2	Learning Outcomes Test .....	35
3.7	Instrument Validity Techniques .....	37
3.7.1	Content Validity .....	37
3.8	Data Processing Techniques .....	37
3.8.1	Calculate The Average Value and Standard Deviation .....	37
3.8.2	Normality Test .....	38
3.8.3	Homogeneity Test .....	39
3.8.4	Hypothesis Testing .....	39

3.8.4.1	Pretest Hypothesis Testing .....	39
3.8.4.2	Posttest Hypothesis Testing .....	41
<b>CHAPTER IV RESEARCH RESULT AND DISCUSSION .....</b>		<b>44</b>
4.1	Research Result .....	44
4.1.1	Description of Pre-test Data of Experimental Class and Control Class for Learning Outcomes .....	44
4.1.2	Description of Post-test Data of Experimental Class and Control Class for Learning Outcomes .....	45
4.1.3	Data Description of The First Meeting of Science Process Skills of Experiment Class and Control Class .....	46
4.1.4	Data Description of The Second Meeting of Science Process Skills of Experiment Class and Control Class .....	49
4.1.5	Description of Data Percentage of The First and Second Meeting of Students Science Process Skills of Experiment Class and Control Class .....	51
4.2	Test Data Analysis Requirements .....	54
4.2.1	Normality Test for Student Learning Outcomes Data .....	54
4.2.2	Normality Test for Students Science Process Skills Data .....	54
4.2.3	Homogeneity Test of Student Learning Outcomes .....	55
4.2.4	Homogeneity Test of Student Science Process Skills .....	55
4.3	Hypothesis Testing .....	56
4.3.1	Student Learning Outcomes .....	56
4.3.2	Student Science Process Skills .....	57
4.4	Discussion .....	59
<b>CHAPTER V CONCLUSION AND SUGGESTION .....</b>		<b>65</b>
5.1	Conclusion .....	65
5.2	Suggestion .....	65
<b>REFERENCES .....</b>		<b>67</b>
<b>ATTACHMENT .....</b>		<b>69</b>