

LIST OF CONTENTS

	<i>Page</i>
MOTTO AND DEDICATION SHEET.....	i
APPROVAL SHEET.....	ii
ORIGINALITY STATEMENT SHEET.....	iii
PUBLICATION APPROVAL SHEET.....	iv
BIOGRAPHY.....	v
ABSTRACT.....	vi
PREFACE.....	viii
LIST OF CONTENTS	ix
LIST OF FIGURES	xi
LIST OF TABLES	xii
APPENDIX LIST.....	xiv
CHAPTER I INTRODUCTION.....	1
1.1 Background of The Problem	1
1.2 Identification of Problems.....	5
1.3 Scope of Problem.....	5
1.4 Formulation of The Problem.....	6
1.5 Research Purposes	6
1.6 Benefits of Research	6
1.7 Operational Definition	7
CHAPTER II THEORETICAL REVIEW.....	9
2. 1. Teaching materials	9
2.1.1. Understanding Teaching Materials	9
2.1.2. Types of Teaching Materials.....	9
2.1.3. Characteristics of Teaching Materials	10
2. 2. Electronic Book (E-book)	10
2. 3. SETS Approach	12
2. 4. E-book SETS-Based	13
2. 5. Scientific Literacy	14
2. 6. Material Developed in E-book	18
2. 7. Relevant Research.....	35
2. 8. Framework and Hypothesis	38
CHAPTER III RESEARCH METHODS.....	41
3.1 Place and time of research	41
3.2 Types of Research.....	41
3.3 Population and Subject.....	42

3.4	Research Variable	42
3.5	Development Procedure	43
3.6	Data collection technique.....	48
3.7	Instrumen Penelitian	49
3.8	Product Trial	57
3.9	Data analysis	60
	CHAPTER IV RESULTS AND DISCUSSION	63
4.1	Description of Development Results	63
4.2	Analysis Results.....	63
4.3	E-Book Design Results	65
4.4	Development Results	74
4.5	Implementation Results.....	98
4.6	Evaluation result	101
4.7	Advantages and Disadvantages of SETS-based E-Books.....	102
4.8	Discussion of Research Results	103
	CHAPTER V CONCLUSIONS AND RECOMMENDATIONS	112
5.1	Conclusions.....	112
5.2	Recommendations.....	113
	REFERENCE	114
	APPENDIX	117

LIST OF FIGURES

	<i>Page</i>
Figure 2. 1 Dirty Ditch	20
Figure 2. 2 Food Chain	21
Figure 2. 3 Damage to marine ecosystems due to fish bombs	22
Figure 2. 4 Cleaning up oil spills	24
Figure 2. 5 Waste Management Unit	24
Figure 2. 6 Air Pollution in PT KIM Tanjung Morawa Area	25
Figure 2. 7 Smoke management unit.....	27
Figure 2. 8 Framework.....	39
Figure 3. 1 ADDIE Development Model.....	41
Figure 3. 2 Details of the Subjects to be Researched.....	42
Figure 4. 1 Content Design Guidelines Chart for E-Books.....	71
Figure 4. 3 Graphic of Assessment Results for All Aspects in One-to-One Evaluation..	86
Figure 4. 4 Graph of Assessment Results for Each Indicator of Learning Design Aspects in One-to-one Evaluation	87
Figure 4. 5 Graph of Assessment Results for Each Implementation Aspect Indicator in One-to-one Evaluation	88
Figure 4. 6 Graph of Assessment Results for Each Technical Quality Aspect Indicator in One-to-one Evaluation	88
Figure 4. 8 Graph of Assessment Results for Each Material Aspect Indicator in Small Group Evaluation	90
Figure 4. 9 Graph of Assessment Results for Each Indicator of Learning Design Aspects in Small Group Evaluation	91
Figure 4. 10 Graph of Assessment Results for Each Implementation Aspect Indicator in Small Group Evaluation	92
Figure 4. 11 Graph of Assessment Results for Each Efficiency Aspect Indicator in Small Group Evaluation	92
Figure 4. 13 Graph of Assessment Results for Each Indicator on Implementation Aspects in Field Tests	95
Figure 4. 14 Graph of Assessment Results for Each Indicator of Sustainability Aspects in Field Tests	96
Figure 4. 15 Graph of Assessment Results for Each Indicator of Environmental Suitability Aspects in Field Tests	96
Figure 4. 16 Graph of Assessment Results for Each Indicator on Acceptance and Attractiveness Aspects in Field Tests.....	97
Figure 4. 18 Graph of Average SETS-Based E-Book Scores for Student Practicality Indicators in Summative Evaluation	100

LIST OF TABLES

	<i>Page</i>
Table 2. 1 Relevant Research.....	35
Table 3. 1 Summary of ADDIE Model Activities.....	43
Table 3. 2 Interview Questionnaire Grid.....	44
Table 3. 3 Software Used for Design	46
Table 3. 4 Material Expert Test Questionnaire Grid	50
Table 3. 5 Media Expert Questionnaire Grid	51
Table 3. 6 Linguist Test Questionnaire Grid	52
Table 3. 7 Teacher Summative Evaluation Questionnaire Grid.....	52
Table 3. 8 Student Summative Evaluation Questionnaire Grid	53
Table 3. 9 Test Grid (Pretest and Post-test).....	54
Table 3. 10 Product Trial.....	57
Table 3. 11 One-to-one Evaluation Questionnaire Grid.....	58
Tabel 3. 12 Kisi-kisi Angket Evaluasi Small Group	59
Table 3. 13 Field Test Questionnaire Grid (field)	60
Table 4. 1 Results of Designing Learning Materials in E-Books.....	65
Table 4. 2 Use of Software in E-Book Design	68
Table 4. 3 Display of Software Use in E-Book Design.....	68
Table 4. 4 Display Design Results in E-Book.....	71
Table 4. 5 Results of the SETS Based E-Book Making Process.....	74
Table 4. 6 E-Book CVR (Content Validity Ratio) Assessment Results According to Material Experts.....	77
Table 4. 7 Results of E-Book Moment Kappa (k) and CVI (Content Validity Index) Assessment According to Material Experts	78
Table 4. 8 Statements/Suggestions for E-Books According to Subject Matter Experts...	78
Table 4. 9 E-Book CVR (Content Validity Ratio) Assessment Results According to Media Experts	79
Table 4. 10 Results of E-Book Moment Kappa (k) and CVI (Content Validity Index) Assessment According to Media Experts	80
Table 4. 11 Statement/Suggestions for E-Books According to Media Experts.....	80
Table 4. 12 E-Book CVR (Content Validity Ratio) Assessment Results According to Linguistic Experts	81
Table 4. 13 Results of E-Book Moment Kappa (k) and CVI (Content Validity Index) Assessment According to Linguistic Experts	82
Table 4. 14 Statements/Suggestions for E-Books According to Linguists.....	82
Table 4. 15 Overall Statements/Suggestions Regarding E-Books According to Experts	82
Table 4. 16 E-Book Revision Results Based on Expert Suggestions and Input.....	83
Table 4. 17 Feasibility Assessment Results for Each Aspect in One-to-One Evaluation	85
Tabel 4. 18 Hasil Penilaian Kelayakan Setiap Aspek pada Evaluasi Small Group.....	89
Table 4. 19 Measures of Centralization and Data Distribution of Pretest-Post-test Results in Field Tests.....	94
Table 4. 20 N-Gain Test Results in Field Tests	94
Table 4. 21 Feasibility Assessment Results for Each Aspect of E-Books in Field Tests.	94
Table 4. 22 Measures of Centralization and Data Distribution of Pretest-Post-test Results at the Implementation Stage.....	98
Table 4. 23 N-Gain Test Results in Implementation.....	98
Table 4. 24 Results of Evaluation of Teacher Effectiveness Aspects in Summative Evaluation	99

Table 4. 25 Results of Assessment of Students' Practical Aspects in Summative Evaluation	100
Table 4. 26 Results of Practical Aspects Assessment by Teachers in Summative Evaluation	101

APPENDIX LIST

	<i>Page</i>
Appendix 1. Modul Terbuka.....	117
Appendix 2. Teacher Interview Results	124
Appendix 3. Material Expert Validation Questionnaire.....	127
Appendix 4. Media Expert Validation Questionnaire	133
Appendix 5. Linguist Validation Questionnaire	139
Appendix 6. Teacher Summative Evaluation Questionnaire	145
Appendix 7. Student Summative Evaluation Questionnaire	149
Appendix 8. One-to-one Evaluation Questionnaire	150
Appendix 9. Small Group Trial Questionnaire	152
Appendix 10. Field Test Questionnaire	154
Appendix 11. Pretest and Post-test in Field Test	156
Appendix 12. Pretest and Post-test in Implementation	166
Appendix 13. Validasi Instrument Test	176
Appendix 14. Test Instrument.....	177
Appendix 15. SETS Based E-book That Has Been Created.....	200
Appendix 16. Research Permit Letter	200
Appendix 17. Letter Has Done Research.....	202
Appendix 18. Research Documentation.....	203