









AN EVALUATION OF ENVIRONMENTAL **EDUCATION IN SELECTED PRIMARY** SCHOOLS IN PAHANG, MALAYSIA

TEOH ENG SEAH











THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

FACULTY OF EDUCATION & HUMAN DEVELOPMENT UNIVERSITI PENDIDIKAN SULTAN IDRIS 2015









ABSTRACT

The purpose of this study is to evaluate the current status of Environmental Education (EE) in four selected primary schools in Pahang, Malaysia based on international standards by UNESCO. It also aims to propose some best practices in EE for the primary school and to make recommendations for curriculum development in EE for the primary school. The study employed the case study design involving four selected national government primary schools. This study used qualitative research methods comprising in-depth interviews, observations and document analysis to collect data for analysis. Findings revealed uneven emphasis given to the implementation of EE at the four schools. It was found that projects involving environmental awareness were more prominent in one school whereas the other three schools did not emphasize In curriculum instruction of subjects, there was minimum integration of EE in the lessons. The findings also revealed that EE across the curriculum was not fully implemented due to the lack of understanding in integrating EE in the classroom. Findings provide useful feedback to educational policy makers and curriculum developers. Among the best practices of EE proposed were that schools should embark on a holistic approach in EE where everyone has to be well informed and trained to maintain a sustainable environment. This implies that greater attention need to be paid to EE in schools and more importantly the practical (implementation of EE in curriculum instruction that fulfils UNESCO standards. Finally, the study provided recommendations for effective teaching and learning approaches, activities and resources in EE.



















PENILAIAN PENDIDIKAN ALAM SEKITAR DI BEBERAPA SEKOLAH RENDAH DI PAHANG, MALAYSIA

ABSTRAK

Tujuan kajian ini ialah untuk menilai status semasa pelaksanaan Pendidikan Alam Sekitar (PAS) di empat buah sekolah rendah terpilih di Pahang, Malaysia berdasarkan piawaian antarabangsa oleh *UNESCO*. Ia juga bertujuan untuk mencadangkan amalan terbaik tentang PAS di sekolah rendah. Kajian ini juga mengemukakan beberapa cadangan dalam pembangunan kurikulum PAS di sekolah rendah. Rekabentuk kajian ini merupakan kajian kes yang melibatkan empat buah sekolah kebangsaan kerajaan. Kajian ini merupakan kajian kualitatif yang melibatkan temu bual, pemerhatian dan analisis dokumen sebagai kaedah pengumpulan data untuk Dapatan kajian menunjukkan terdapat ketidakseragaman dalam dianalisis. pelaksanaan PAS di empat buah sekolah tersebut. Didapati projek-projek yang memupuk kesedaran terhadap alam sekitar lebih menonjol di salah sebuah sekolah manakala di tiga buah sekolah yang lain kurang penekanan diberi terhadap projekprojek tersebut. Dalam proses pengajaran dan pembelajaran mata pelajaran, terdapat pengintegrasian yang minima terhadap PAS. Dapatan kajian juga menunjukkan PAS merentas kurikulum tidak dilaksanakan sepenuhnya berpunca daripada kurangnya pemahaman dalam mengintegrasi PAS di bilik darjah. Dapatan kajian ini memberi maklum balas yang berfaedah kepada penggubal dasar pendidikan dan pihak yang terlibat dalam pembangunan kurikulum. Antara amalan terbaik PAS yang dicadangkan ialah sekolah harus mengambil pendekatan menyeluruh dalam PAS di mana semua orang mengambil maklum dan dilatih dalam penjagaan alam sekitar yang mapan. Ini memberi implikasi bahawa PAS di sekolah perlu diberi lebih perhatian dalam pengajaran dan pembelajaran dan lebih penting lagi pelaksanaannya hendaklah memenuhi piawaian UNESCO. Kajian ini telah mencadangkan pendekatan dalam pengajaran dan pembelajaran yang berkesan, aktiviti-aktiviti serta sumber PAS.



















TABLE OF CONTENTS

		Page
DECLARATION		ii
ACKNOWLEDGEM	ENTS	iii
ABSTRACT		iv
ABSTRAK		V
CONTENTS		vi
LIST OF TABLES 05-4506832 pustaka.up:	si.edu.my Perpustakaan Tuanku Bainun Kampus Sultan Abdul Jalil Shah	XXIV ptbupsi
LIST OF FIGURES	Kampus suitan Assun Shan	xxvi
LIST OF ABBREVIA	TIONS	xxix
CHAPTER 1 IN	TRODUCTION	
1.1	Introduction	1
1.2	Background of the Study	3
1.3	Environmental Education and its Theoretical and Philosophical Underpinnings	5
1.4	Statement of the Problem	11
1.5	Purpose of the Study	16
1.6	Significance of the Study	17
1.7	Research Questions	18



























	2.4	Sustainable Development	39
	2.5	Achieving Sustainable Development through Education (Education for Sustainable Development, ESD)	41
	2.6	Malaysia's Response to the Calls for Education for Sustainable Development: The Malaysian Experience	43
	2.7	Environmental Education in Malaysia	45
		2.7.1 Formal Environmental Education	45
		2.7.2 Environmental Education at the Teacher Training Colleges / Institutes	47
		2.7.3 Non-formal Environmental Education	50
		Environmental Education in the Malaysian Schools – Developments in the Curriculum	53
05-4506832 pustak	2.9	Environmental Education Implementation Strategies ptbup	₅₅ 55
	2.10	Research Related to Environmental Education	57
	2.11	Literature on Projects in Environmental Education: Best Practices	88
	2.12	An Analytical Summary	96
CHAPTER 3	RES	EARCH METHODOLOGY	
	3.1	Introduction	100
	3.2	Conceptual Framework of the Study	101
	3.3	Research Design	103
		3.3.1 Using Stake's Countenance Model to Evaluate the Implementation of EE in Four Selected Malaysian Primary Schools	103

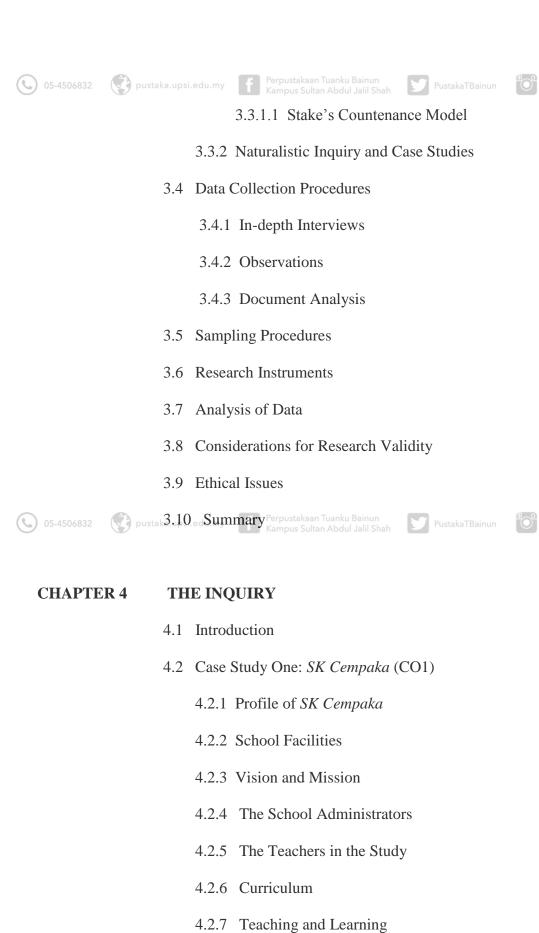








ptbup133













05-4506832 pustaka.upsi.edu.my

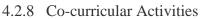












159

160

4.2.9 Programs / Activities Related to EE

4.2.10 Interviews with School Administrators 161

> 4.2.10.1 Goals and Priorities of the School 161

> 162 4.2.10.2 Subjects that Get the Most Attention

> 162 4.2.10.3 Importance of EE

> 4.2.10.4 Desired Status of EE in Schools: EE 163 as a Separate Subject?

> 4.2.10.5 School EE Programs 165

> 4.2.10.6 Perception of EE / Understanding 166 of EE

> 4.2.10.7 Evaluation of School Performance 167

Perpustaka in Terms of EE

4.2.10.8 Measures Taken / To Take for EE 170

4.2.10.9 Issues on the Implementation of EE 172 in the School

4.2.11 Interviews with the Three Subjects Teachers 173

> 4.2.11.1 Goals and Priorities of the School 173

4.2.11.2 Subjects that Get the Most 174 Attention

175 4.2.11.3 Importance of EE

4.2.11.4 Desired Status of EE in Schools: 177 EE as a Separate Subject?

4.2.11.5 School EE Programs 179

4.2.11.6 Curriculum and Instruction 180

4.2.11.7 Evaluation of School Performance 185 in Terms of EE





















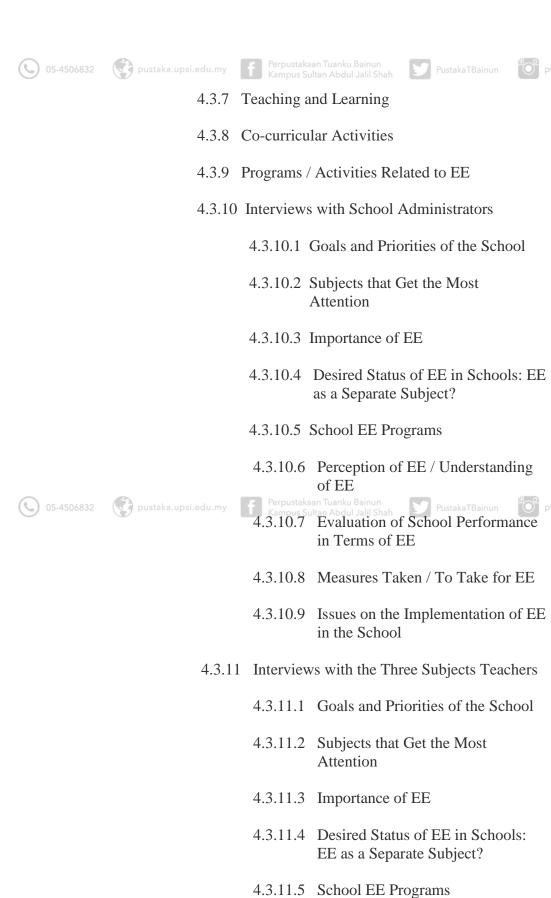
	4.2.11.8	Issues and Challenges	186
4.2.12	2 Observat	cions of Classroom Teaching	187
	4.2.12.1	Bahasa Melayu (BM) Lessons	188
	4.2.12.2	Science Lessons	189
	4.2.12.3	Kajian Tempatan (KT) Lessons	192
4.2.13		cions of the School mental Scanning / Green Audit)	194
	4.2.13.1	Policies that Support <i>EE across the Curriculum</i>	194
	4.2.13.2	Displays of EE Related Materials	195
	4.2.13.3	Landscape Management	195
05-4506832 pustaka.upsi.edu.my	4.2.13.4 Perpustak Kampus S	Total Brians	195 Jupsi
	4.2.13.5	Management of Waste Disposal / Garbage	196
	4.2.13.6	Special Features	196
4.2.14	Summary	,	196
4.3 Case \$	Study Two:	SK Wan Idris (CO2)	197
4.3.1	Profile of S	SK Wan Idris	197
4.3.2	School Fac	cilities	201
4.3.3	Vision and	Mission	204
4.3.4	The School	ol Administrators	205
4.3.5	The Teach	ners in the Study	207
4.3.6	Curricului	n	210





























ka.upsi.edu.my		nan Tuanku Bainun ultan Abdul Jalil Shah PustakaTBainun ptb	upsi
	4.3.11.6	Curriculum and Instruction	232
	4.3.11.7	Evaluation of School Performance in Terms of EE	238
	4.3.11.8	Issues and Challenges	240
4.3.12	Observat	ions of Classroom Teaching	240
	4.3.12.1	Bahasa Melayu (BM) Lessons	240
	4.3.12.2	Science Lessons	242
	4.3.12.3	Kajian Tempatan (KT) Lessons	243
4.3.13		ons of the School mental Scanning / Green Audit)	245
	4.3.13.1	Policies that Support EE across the	245
	4.3.13.2	Curriculum Displays of EE Related Materials	245
ka.upsi.edu.my	4.3.13.3 ka	Landscape Management TBainun ptb	up246
	4.3.13.4	Energy Saving Measures and Economical Usage Practices	246
	4.3.13.5	Management of Waste Disposal / Garbage	246
	4.3.13.6	Special Features	247
4.3.14	Summary		247
4.4 Case St	udy Three:	SK Relau (CO3)	248
4.4.1 F	Profile of S	K Relau	248
4.4.2 \$	School Fac	ilities	252
4.4.3 V	Vision and	Mission	254
4.4.4	The Schoo	l Administrators	255





4.4.5 The Teachers in the Study











PustakaTBainun



260

4.4.6	Curricul	um

4.4.7 Teaching and Learning

261

4.4.8 Co-curricular Activities

261

4.4.9 Programs / Activities Related to EE

262

4.4.10 Interviews with School Administrators

263

4.4.10.1 Goals and Priorities of the School

264

4.4.10.2 Subjects that Get the Most Attention

264

4.4.10.3 Importance of EE

264

4.4.10.4 Desired Status of EE in Schools: EE as a Separate Subject?

266



267





4.4.10.6 Perception of EE / Understanding of EE

ptbup269

4.4.10.7 Evaluation of school Performance in Terms of EE

269

4.4.10.8 Measures Taken / To Take for EE

270

4.4.10.9 Issues on the Implementation of EE in the School

271

4.4.11 Interviews with the Three Subjects Teachers 272

> 4.4.11.1 Goals and Priorities of the School 272

> 4.4.11.2 Subjects that Get the Most 272 Attention

> 4.4.11.3 Importance of EE 273

> 4.4.11.4 Desired Status of EE in Schools: 273 EE as a Separate Subject?

> 4.4.11.5 School EE Programs 274











282

283

284

284

284

285

285

285

286

286

287

287

287

288

288

292

294

295

297

ptbup286







4.5.5 The Teachers in the Study





4.5.8 Co-curricular Activities

4.5.6	Curriculum	301
4.5.7	Teaching and Learning	303

4.5.9 Programs / Activities Related to EE 304

4.5.10 Interviews with School Administrators 305

> 4.5.10.1 Goals and Priorities of the School 306

> 4.5.10.2 Subjects that Get the Most 306 Attention

> 4.5.10.3 Importance of EE 307

> Desired Status of EE in Schools: EE 4.5.10.4 309 as a Separate Subject?

> 4.5.10.5 310 School EE Programs



Evaluation of School Performance 4.5.10.7 312 in Terms of EE

4.5.10.8 Measures Taken / To Take for EE 313

4.5.10.9 Issues on the Implementation of EE 315 in the School

4.5.11 Interviews with the Three Subjects Teachers 316

> 4.5.11.1 Goals and Priorities of the School 316

> 4.5.11.2 Subjects that Get the Most 316 Attention

> 4.5.11.3 Importance of EE 317

> 4.5.11.4 Desired Status of EE in Schools: 317 EE as a Separate Subject?











319

321

321

322

322

323

323

324

324

324

325

325

325

326

326

327

327

331







Separate Subject?

4.6.2 Desired Status of EE in Schools: EE as a













- 4.6.3 What is the Current State of EE in Malaysian Schools?
- 4.6.4 How should EE be Taught? 334
- The Role of the Environmental Educator 337
- 4.6.6 What Do You Perceive as the Major Problems 340 Concerning the Development and Teaching and Learning of EE in Schools?
- 4.6.7 Indicators or Standards to Determine the 345 Effectiveness of EE at the Institutions of Learning. Best Practices of EE in Schools
- 4.7 An Analytical Summary 350

CHAPTER 5 DATA ANALYSIS AND INTERPRETATION





05-4506832 pustak 5.1 si. Introduction rpustakaan Tuanku Bainun Kampus Sultan Abdul Jalil Shah



PustakaTBainun



ptbup357

- 5.2 Analysis and Interpretation of Data According to the 358 **Research Questions**
 - 5.2.1 RQ 1: What are the Characteristics of Environmental Education (EE) as have been Determined by the International Standards? RQ 1 Sub-question (a): How has the Implementation of EE in Four Selected Malaysian Primary Schools Fared in the Context of International Standards?
 - 5.2.1.1 Characteristics of EE 362
 - Implementation of EE in Four 5.2.1.2 365 Selected Schools
 - 5.2.1.2.1 Goals and Priorities of the 366 Schools.
 - 5.2.1.2.2 Subjects that Get the Most 367 Attention and Resources















5.2.1.2.3	Importance of
	Environmental Education
	(EE)

5.2.1.2.4 Curriculum and Instruction 371

5.2.1.2.5 EE Programs and Evaluation 374 of How Successful is the School at Implementing EE

5.2.1.3 Summary 376

382

5.2.2 RQ 2: What are the Issues and Challenges in Implementing EE in Some Selected Malaysian Primary Schools?

RQ 2 Sub-question (a): What is the Perception of the School Authority towards Inculcating Environmental Awareness through the School Curriculum?

RQ 2 Sub-question (b): What Measures have been / are being taken to Promote Environmental Awareness through the School

Curriculum Itan Abdul Jalil Shah





5.2.2.1 Issues and Challenges in Implementing EE in the Schools

383

383

5.2.2.1.1 Lack of Focus in EE

5.2.2.1.2 Teachers Lack Training / 388 Qualifications / Exposure to EE Integration

390 5.2.2.1.3 Lack of Understanding of EE and its Demands

5.2.2.1.4 The Problem with *Across* 393 the Curriculum, Infusion and Integration

5.2.2.1.5 Lack of Resources Related to 395 EE at the Schools: No Teachers' Resource Book on EE, and Facilities like EE





5.2.2.4 Summary

Learning Stations.

- 5.2.2.2 The Perceptions of the School Authority 399 towards Inculcating Environmental Awareness through the School Curriculum 5.2.2.3 Measures that Have Been Taken / 400 Are Being Taken to Promote Environmental Awareness through the School Curriculum
- 402 RQ 3: What are the Experiences and Challenges of Teachers Incorporating EE in Classrooms? RQ 3 Sub-question (a): How Prepared are the Teachers at Incorporating EE in their Lessons? RQ 3 Sub-question (b): How do Teachers Teach about (and for) the Environment? RQ 3 Sub-question (c): How do their EE Practices Compare to Methods Prescribed 05-4506832 pustaka.upsi.edu.my ptbupsi

by Professionals in the Field? Pustaka TBainun RQ 3 Sub-question (d): How do Teachers Assess the Pupils' Knowledge, Skills and Attitude towards the Environment?

- 403 5.2.3.1 Experiences and Challenges at Incorporating EE in Their Lessons
- 5.2.3.2 404 How Prepared are the Teachers at Incorporating EE in Their Lessons?
- 5.2.3.3 How do Teachers Teach about 408 (and for) the Environment?
- 5.2.3.4 How do their EE Practices 414 Compare to Methods Prescribed by Professionals in the Field?
- 5.2.3.5 How do Teachers Assess the 415 Students' Knowledge, Skills and Attitude towards the Environment?







5.2.3.6	Summary
0.2.0.0	Samming

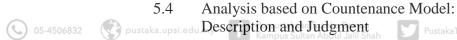
417

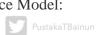
5.2.4	RQ 4: What are the Best Practices of EE
	Implementation in Schools?
	RQ 4 Sub-question (a): What are the
	Recommendations for Best Practices of EE
	Implementation in Malaysian Primary Schools?

- 5.2.4.1 Best Practices of EE Implementation 417 in Schools
- 5.2.4.2 Recommendations for Best Practices 420 of EE Implementation in Malaysian **Primary Schools**
- 5.2.4.3 Summary 421

5.3 An Analytical Summary

422







5.4.1 Evaluation Results

438

438

5.4.1.1	Congruence

5.4.1.2 Contingencies

446

5.4.2 Recommendations

450

5.4.3 Summary

452

5.5 Current State of EE in the Selected Schools





CHAPTER 6 SUMMARY, RECOMMENDATIONS AND **CONCLUSION**

	6.1	Introd	uction	455
	6.2	Summ	nary of Findings	457
		6.2.1	Research Question 1	457
		6.2.2	Research Question 2	461
		6.2.3	Research Question 3	464
		6.2.4	Research Question 4	466
	6.3	Implic	eations and Recommendations	468
		6.3.1	Implications for EE in Malaysian Primary Schools	468
		6.3.2	Recommendations	471
05-4506832	pustaka.ups	i.edu.my	6.3.2. ÞustPolicynku Bainun Kampus Sultan Abdul Jalil Shah	_p 471
			6.3.2.2 Practice	474
			6.3.2.3 Future Research	478
	6.4		nmendations for EE Curriculum Development in laysian Primary School	480
		6.4.1	Themes and Topics	481
		6.4.2	Teaching-Learning Approaches	483
		6.4.3	Teaching-Learning Activities	485
		6.4.4	Teaching and Learning Resources	486
		6.4.5	Assessment and Evaluation	486
	6.5	Concl	usion	488











O

P



KT, YEAR FIVE

SCHOOL (*KBSR*)

AUDIT TRAIL



THE CONTENTS OF ENVIRONMENTAL

EDUCATION ACROSS THE CURRICULUM

ACROSS THE CURRICULUM KBSR IN BM, SC AND

INTEGRATED CURRICULUM FOR THE PRIMARY





550

LIST OF TABLES

Table No.		Page
3.1	Data Collection Matrix	110
3.2	Curriculum Planners and Professional Environmental Educators Involved in the Interview	122
3.3	Schools and Personnel Involved in the Interviews	122
4.1	Enrolment of Pupils and Staff, SK Cempaka	139
4.2 05-4506832 4.3 pusta	Co-curricular Activities Offered in SK Cempaka Respectively SK Cempaka's Vision and Mission Statements Co-curricular Activities Offered in SK Cempaka Perpustakaan Tuanku Bainun Rampus Sultan Abdul Jalil Shah SK Cempaka's Vision and Mission Statements	140 upsi 142
4.4	Summary of Teachers' Background Information, SK Cempaka	150
4.5	Programs and Activities Related to EE Planned and Carried Out at <i>SK Cempaka</i>	160
4.6	Enrolment of Pupils and Staff, SK Wan Idris	200
4.7	Co-curricular Activities Offered in SK Wan Idris	201
4.8	SK Wan Idris's Vision and Mission Statements	205
4.9	Summary of Teachers' Background Information, SK Wan Idris	209
4.10	Programs and Activities Related to EE Planned and Carried Out at <i>SK Wan Idris</i>	214
4.11	Enrolment of Pupils and Staff, SK Relau	250









05-4506832	pustaka.upsi.edu.my	bupsi
4.12	Co-curricular Activities Offered in SK Relau	25]
4.13	SK Relau's Vision and Mission Statements	255
4.14	Summary of Teachers' Background Information, SK Relau	260
4.15	Programs and Activities Related to EE Planned and Carried Out at <i>SK Relau</i>	263
4.16	Enrolment of Pupils and Staff, SK Kuala Besar	291
4.17	Co-curricular Activities Offered in SK Kuala Besar	292
4.18	SK Kuala Besar's Vision and Mission Statements	295
4.19	Summary of Teachers' Background Information, SK Kuala Besar	301
4.20	Programs and Activities Related to EE Planned and Carried Out at <i>SK Relau</i>	305
5.1	Views on Desired Status of EE in Schools Perpustaka unsigned unity Perpustakaan Tuanku Bainun Perpustaka unsigned unity Perpustakaan Tuanku Bainun	369
5.2	Programs and Activities Related to EE Planned and Carried Out Within the Year, 2012	bupsi 375
5.3	Evaluation of School Performance in EE from Interviews	376
5.4	Countenance Matrix: Program Antecedents	428
5.5	Countenance Matrix: Program Transactions	431
5.6	Countenance Matrix: Program Outcomes	433
6.1	Themes and Topics for Two-year Program	483









LIST OF FIGURES

Figure No.		Page
3.1	Conceptual Framework of the Study: Environmental Education in Malaysian Primary Schools	101
3.2	A Framework of data to be collected in the evaluation of an educational program (Source: Stake 1967)	106
4.1	Plan of SK Cempaka (CO1)	138
4.2	A view of the school field from the main block	139
05-45068 5 4.3 pustal	Rest areas Perpustakaan Tuanku Bainun Kampus Sultan Abdul Jalil Shah	₁₉ 141
4.4	Structure of the Integrated Primary School Curriculum, IPSC (KBSR) for Years 4, 5 and 6 (before 1994 and 1994 onwards)	153
4.5	Time Allocations Standard Curriculum for Primary Schools Phase II / Peruntukan Masa Kurikulum Standard Sekolah Rendah Tahap II	154
4.6	Environmental topics in the three subjects curriculum, Year 5	157
4.7	Plan of SK Wan Idris (CO2)	198
4.8	The old block of the school	199
4.9	The new block of the school	199
4.10	Information board at the Kitchen Garden	202
4.11	Rest area at the Kitchen Garden	202







