Malaysian Students' Perceptions of the Environment Contents in Their English Language Classes

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Abstract

Environmental education, considered to be a "blueprint for the future" (Ryan & Ray, 1991, p.7) emerged in the 1970s in recognition of the rapidly escalating deterioration of the environment. It is now a part of education around the world, as human damage to the environment has become a major international issue (Jacobs & Goatly, 2000). In the Malaysian education system, from the primary to secondary levels, students are introduced to environmental issues through a range of core subjects. The purpose of this study is to investigate students' perception of environment topics in the English language syllabus. It seeks to find out whether students' gender and proficiency levels have any effects on their perceptions of the environmental topics. In addition, the study aims to find out if students feel that these topics help in the improvement of their language skills. The sample for this study comprised 100 Form Five students from a Malaysian secondary school. A two-part questionnaire is designed as instrument. Mean Score Ranking and ANOVA were the two main methods used to analyse the data. A structured interview was used to substantiate the quantitative data. The findings reveal that gender seems to have limited bearing on students' perceptions of the environment. However, the higher the proficiency level the more positive is students' attitude towards the environment. In addition, students seem to be of the opinion that they gain more content knowledge than English language skills from studying the environmental topics.

1 Introduction

Environmental deterioration involves changes in the natural resources and these changes are due to human actions rather than some natural cataclysm. Land-slides, deforestation, declining availability and quality of freshwater, air pollution, loss of biodiversity, degradation of marine and coastal resources and environmental degradation and industrial pollution are the result of development without environmental accounting (UNEP, 1991). These problems will all intensify during the lifetime of students still at school and will affect their lives (Carson, 1978). If students are to participate fully in solving the environmental problems of today and the future, environment education is essential (Stempleski, 2003; Ryan & Ray 1991). It is urgent, significant and appropriate that they form a major element of students' education (Carson, 1978).

In the Malaysian education system, from the primary to secondary levels, students are introduced to environmental issues through a range of core subjects. In the first six years of the national education system, environment-related matters are introduced as part of the science, ecology and local studies curricula. At the secondary level, although environment and ecology are not taught as exam subjects, many environment-related themes are integrated into geography,

biology, chemistry and language. Schools are also furnished with teaching resources pertaining to environmental matters. Environmental activities support language learning as well. Stempleski (2003) argues that the most important reason for bringing environmental issues into the language classroom is the urgency of the environmental situation itself. Thus, in line with current trends in language instruction, the environment is one key theme and instructional methods engage students in meaningful use of language about the environment and how it can be protected.

Content related to the environment was included in the Malaysian English Language Syllabus when the Integrated Secondary School Curriculum (KBSM) was implemented in 1991 for all upper secondary classes. Topics include Recycling, World Environment Day, Environmental Issues such as Waste Disposal, and Protection of Wildlife (Kementerian Pendidikan Malaysia, 1991a, 1991b). These topics, according to the curriculum planners, provide the context in which language skills, language contents and moral values are taught and developed in an integrated manner. According to Malaysian Nature Society education programme officer, Evelyn Lim, though environmental education is infused into the school curriculum, it is unfortunate that its importance is not stressed and so students do not really see the need to practice an environment-friendly lifestyle. It is treated as just one more academic theme or topic for students to study, with no real connection to their lives and the world beyond the classroom. She adds that Malaysian students have a long way to go before they can be on par with other developed countries in environmental awareness (Lim, 2003).

The KBSM syllabus lists skills to be taught through specific topics. For example, the skills for Waste Disposal are "Listen to and understand information contained in articles on environmental issues such as waste disposal" and "Read and understand articles on environmental issues such as waste disposal". According to Pillay and North (1997), teachers are teaching the topic instead of teaching the skills, and there are too many topics to cover. Ratnawati's (1996) study and Pillay and North's observations indicate that integrating skills and grammar using the topic as a medium is problematic. Being in the upper secondary, students know the importance of English for tertiary education and yet they show disinterest in the learning of the language. There may be many reasons for this disinterest but it is probable that the topics in the curriculum specifications do not interest many students.

Thus, the purpose of this study is to investigate students' perception of environmental topics in the English language syllabus. It seeks to see if these topics appeal to and interests upper secondary school students. In addition, the study aims to find if students perceive these topics to be helpful in the learning of language skills.

2 Research questions

The study attempts to answer the following research questions.

(i) Do Malaysian male students have different perceptions of the environment from female students? If yes, in what ways are they different?
(ii) Do Malaysian students of three different proficiency levels have different perceptions of the environment? If yes, in what ways are they different?
(iii) Do Malaysian students have different perceptions of how the learning of environmental topics helps them in the improvement of their language skills? If yes, in what ways are they different?

3 Background to the study

3.1 The KBSM English Language Syllabus

The introduction and the implementation of the Integrated Secondary School Curriculum, commonly known as the `KBSM' for language subjects began in 1988.The syllabus known as the

KBSM English Language Programme for all national secondary schools, is planned in accordance with the National Education Philosophy. The aim of the KBSM English Language Programme is to equip students with communicational ability and competency to perform language functions, using correct language forms and structures. Besides developing the four language skills of listening, speaking, reading and writing as well as the accompanying grammar, sound system and vocabulary, it also seeks to educate students in the larger context of life towards producing citizens who are knowledgeable, who have high moral standards and who are able to contribute to the betterment of society and the nation (Kementerian Pendidikan Malaysia, 1991a, 1991b). The syllabus states that language skills need to be built up cumulatively and treated in a spiral manner so that repetition and constant use will maximise learning (Kementerian Pendidikan Malaysia, 1989). The cumulative and spiral manner in which skills are built reflects the constructivist idea elaborated by Kant who asserts that human beings are not passive recipients Learners actively take knowledge, connect it to previously assimilated knowledge and make it theirs by constructing their own interpretations.

The KBSM syllabus content is arranged according to topics. The topics to be taught for each year of the secondary school are specified. Topics are drawn from the contexts of home, school, community, the ASEAN region and the world. The topics provide the context in which language skills, language contents and moral values are taught and developed in an integrated manner. The Form Five Curriculum Specifications state that, along with language skills, "topics are recycled". In recycling, some of the topics stipulated for each year are repeated but are dealt with from different perspectives and at different levels of difficulty to cater to the intellect and maturity level of students (Kementerian Pendidikan Malaysia, 1991a, 1991b).

Of relevance to this study are the environmental topics in the KBSM Upper Secondary English Language Program as shown in Table 1.

FORM	TOPIC
Form 4	1. Recycling of materials
Form 5	1. World Environment Day
	2. Waste disposal
	3. Protection of wildlife

Table 1: Environmental Topic

4 Literature review

4.1 Content-based instruction

According to Richards and Rodgers (2001), content-based instruction (CBI) is an approach to second language teaching in which teaching is organised around content or information that students will acquire, rather than around a linguistic syllabus. Content refers to the substance or subject matter that is learnt or communicated through language rather than the language used to convey it.

This approach views "the target language largely as the vehicle through which subject matter content is learned rather than as the immediate object of study" (Brinton, Snow & Wesche, 1989, p. 5). CBI is aimed at "the development of use-oriented, second and foreign language skills' and is distinguished by the concurrent learning of a specific content and related language use skills" (Wesche, 1993). Thus, the focus of CBI is on the topic or subject matter. Students learn about the subject using the language they are trying to learn, as a tool for developing knowledge and thereby develop linguistic ability in the target language.

Krashen's (1982) theory of second language acquisition has influenced CBI. According to him, second language is most successfully acquired when the conditions are similar to those present in first language acquisition: that is, when focus is on meaning rather than on form; when language input is at or just above the proficiency of the learner; and when there is sufficient opportunity to

engage in meaningful use of that language. This suggests that the focus of the second language classroom should be on something meaningful, such as academic content and that modification of the target language facilitates language acquisition and makes academic content accessible to second language learners (Crandall & Tucker, 1994).

The challenge of CBI was first explicitly stated by Mohan in 1986. According to him there is a need for an integrative approach, which relates language learning and content learning that considers language as a medium of learning and acknowledges the role of context in communication (Mohan, Leong & Davidson, 2001). Snow (2005) pointed out there has been much discussion over the last 15 years or so over what an "integrative approach" entails. Davidson and Willaims (cited in Mohan et al., 2001) defined integrated language and content teaching as a "heuristic label for a diverse group of curriculum approaches which share a concern for facilitating language learning, broadly defined, through varied but systematic linking of particular subject matter and language in the context of language activities" (p. 57). Wesche and Skehan (2002) singled out content-based instruction and task-based instruction as two trends in curricular design that conforms to the principles of Communicative Language Teaching (CLT) in the sense that there is a focus on real communication and the exchange of information. It also embraces the full range of communicative competence, including a structural component, sociolinguistic and discourse competence, and strategic competence. It is a use-based theory of language that sees language as coming from the settings in which it is used. CBI does not distinguish form and function in teaching language but makes the new language available in the contexts of its functions and meanings (Krahnke, 1987).

Thus, it can be seen as being appropriate for second language learning where the subject matter of language teaching is not grammar or functions but content or subject matter from outside the domain of language. The language that is being taught could be used to present subject matter, and students would learn the language as a by-product of learning about real world content.

4.2 Contemporary models of CBI at the secondary school level

Variations of CBI principles have brought about content-oriented instructional models for use at primary school, secondary school and university levels. These include the theme-based, sheltered, adjunct, team-teach and skill-based models. The theme or topic-based language instruction model is of relevance to Malaysian schools and the KBSM.

Theme or topic-based language instruction is structured around topics or themes, with the topics forming the backbone of the course curriculum. The content material presented by the language teacher provides the basis for language analysis and practice. The topic might initially be presented as a reading selection. The topic and vocabulary would be recycled in guided discussions with related audio or videotaped materials providing the basis for listening activities. Writing tasks synthesize the various source materials and rounds off the topical unit (Brinton et al., 1989).

4.3 Related studies

4.3.1 Studies on content-based instruction

A search for a literature review on the use of environmental content in the Malaysian English language syllabus at the upper secondary level yielded no results. Thus, three studies on CBI carried out in other countries are discussed below to give an idea of the benefits of this type of instruction.

The first is a case study by Papai (2006) which was carried out in 1999 and in which CBI was used to teach English as well as to develop the multi-dimensional nature of literacy at a middle school in northeast Philadelphia over a four-month period. Subjects were students with intermediate English proficiency who needed to be able to read, write and understand academic

texts as well as other varied genres from the major subject areas: novels, plays, poems, science reports, and math word problems.

Thematic units were used to reinforce content area knowledge in the major subject areas while focusing on English language competencies in each of the four language skill areas. A significant component of each of the thematic unit was reading which formed the basis for all of the other activities.

The findings of this study provide a persuasive argument for the benefits of CBI as an effective means of achieving literacy in a second language. The students were found to have developed literacy abilities that extend beyond reading and writing in English to include a wider array of academic competencies. Their grades in all of their content areas consistently increased over the course of the school year from mostly C's and D's to B's, C's and even A's in certain subjects. There is an indication that the use of CBI expands students' conceptual knowledge base while learning language through meaningful activities.

Another relevant study was carried out by Crawford at Hokkaido University of Education (Crawford, 2001). Crawford taught a course for a semester on general English to low-level first year students using a graded reader and a movie as the source of content.

Rather than a classic work of literature or a title written for second language learners, the science fiction thriller 'Jurassic Park' by Michael Crichton was selected along with the movie based on this book. Class time was spent on activities related to the reader. From the teacher's perspective, the students in this course who displayed interest in the content of the reader were attentive and showed good class attendance. They were receptive to the dictation and reading aloud activities. However, it was difficult to generate discussion about the book at class level as students were reluctant to answer in front of all their classmates and small group discussions seemed more appropriate. Overall, the students made positive comments about the course and said they welcomed the use of novels to study English over regular textbooks. The results of this study suggest that structuring English courses on a CBI-type curriculum that employs graded readers may be a good way to teach relatively low-level proficiency students.

Pally (1997) suggests that adult ESL learners' development of critical thinking skills, as defined by English for academic purposes, cognitive psychology and transformative pedagogy, benefits from sustained content study (or studying one area over time). To illustrate how sustained content courses might work, she examined student discussion and writing in three courses, namely one on selected economic/political issues, one on language acquisition itself, and one on film and society. Her findings revealed that sustained content study helped ESL students identify central points and methodology of a range of materials, question and evaluate them, and organise persuasive responses in English.

4.3.2 Studies on the KBSM English Language Syllabus

In Ratnawati's (1996) study to assess the attitudes of ESL secondary school teachers towards the different aspects of the KBSM English Language Syllabus, teachers said that the organization of the syllabus into themes and topics made it difficult to teach language items systematically. One teacher felt that the syllabus should not be organized into themes as English teachers were not teaching history or geography and that the teaching of grammar and its rules should be emphasized.

Pillay and North (1997) also shared a similar view. The study revealed that there was confusion regarding the role of the topics in the KBSM syllabus. Teachers had problems teaching a syllabus which attempted to integrate skills and grammar using the topics as a medium. While the syllabus and textbooks were organised around topics or themes, the examination focused on language skills and grammatical ability. Thus there appears to be a conflict between the official syllabus, the textbook syllabus and the examination syllabus. The finding of this study reiterated that of Pillay's study (1995,cited in Pillay & North, 1997).

4.3.3 Studies on environmental education

The first study by Ponniah (1981) investigated secondary school students' knowledge of and attitude towards environmental pollution. Results showed that students were knowledgeable and interested in the issue. The students were aware of the causes, sources and effects of as well as methods of control for environmental pollution, but were ignorant of the agencies involved in pollution control. The study revealed that students received this knowledge from the mass media, schools, and parents and they had positive attitudes toward environmental pollution and that they were aware of an environmental crisis and agreed that environmental education was crucial to curtail this problem.

Jayatilaka (1982) investigated the teaching of ecology and environmental awareness among secondary school students in Malaysia. This study demonstrated that pedagogy and teacher education are important components for developing student awareness about the environment. Teachers should acquire appropriate positive environmental ethics and teaching skills to effectively impart environmental education. Jayatilaka also revealed that the interdisciplinary approach was ideal for teaching environmental education. Both researchers acknowledged that students felt their role in minimising environmental problems was neglected in their studies at school.

More recently, Azizi Muda et al. (2003) studied environmental awareness and attitude among secondary school students in Langkawi. The findings of this study showed that though students' level of environmental knowledge was high, with good participation in positive environmental activities, they only had a moderate attitude towards environmental education. The students in this study list pollution as the easiest topic to understand, followed by forest and wildlife deterioration.

5 Research methodology

5.1 Instrumentation

Two instruments, a questionnaire and a structured interview were used in the study. The questionnaire was the main instrument and interviews were used to verify the quantitative data.

Questionnaire

Section A of the questionnaire gathered respondents' specific background. Section B measured perceptions of the environment in general, environmental topics taught and to what extent these topics helped improve respondents' language skills. Section B comprised 37 items. There were 8 items on general perceptions of the environment, 18 items on the environmental topics taught and 11 items on language skills. The statements were written in positive and negative forms and then edited to meet the objectives of the study.

The items were designed in a selected-response format where respondents had to circle one response from a four point Likert scale:

4 – Strongly Agree
3 - Agree
2 – Disagree
1 – Strongly Disagree

Selected-response or forced-choice item was used because it enhances consistency of response across respondents while making data tabulation straightforward and less time consuming (Wiersma, 2000). The Malay translation of each item was written after the English version. The translations were written first by the researcher and then checked by a Malay teacher proficient in English. This was to ensure that the translations were as close to the original meaning as possible (see Appendix A for questionnaire).

A pilot run of items was undertaken on a group of twenty students in a neighbouring school who were not selected for the present study. The students involved in the pre-test resembled the sample subjects of the study since they were from the same vicinity and under the same educational system. The purpose of this pilot test was to identify any ambiguous items and to find any inconsistency in students' responses. The items were amended according to students' responses.

Interview

A standardized open-ended interview was utilised to supplement and verify the questionnaire data. It focused on items that were found to be significant from the analysis of questionnaire data. Six subjects were chosen for the interview according to sex and proficiency levels (see Table 2).

Subject	Sex	Proficiency Level
A	Male	High
B	Female	Average
C	Male	Low
D	Female	Average
E	Female	High
F	Male	High

Table 2: Interview subjects

5.2 The research procedure

The classes for the study were identified and the researcher fixed a one-period English lesson for the questionnaire survey to be conducted by her. A 100% return of questionnaire distributed was obtained. The questionnaire survey was then analyzed. Structured interview questions that would verify the findings were formulated, translated and pilot tested on 3 students. 6 subjects were identified for the interview. The subjects were interviewed individually by the researcher over a span of 2 weeks. Each interview lasted between 10 to 15 minutes. All interviews were audio-taped.

5.3 Method for analysis of data

The raw scores of the respondents were analysed using SPSS for Windows Version 11.0. Two statistical measures were used in the analysis of data, namely mean scores and analysis of variance (ANOVA). To check the normality of data, homogeneity of variance was undertaken.

ANOVA was used to compare the mean differences between groups. In the analysis of data, only mean scores that were significant were discussed. The significance level was set at $p < 0.05$. For differences in proficiency levels, Post Hoc Tests were used to determine significance between groups since more than two groups of subjects were involved in each case. Finally the findings of the interviews were used to verify the quantitative findings where relevant.

6 Analysis of data

6.1 Demographic information of respondents

100 respondents from Form five in a National Secondary School in Port Dickson, a semi-urban school in Malaysia, responded to the questionnaire survey. They were between seventeen to eighteen years old. 38 respondents (38%) were males and 62 (62%) were females. The subjects were a good representation of the ethnic composition of Malaysia (62 were Malays, 31 were Chinese, 5 were Indians, and 2 others). The students came from 3 randomly selected classes in Form Five. The students had been learning English as a subject since Primary one and had been

exposed to environment-related matters since Primary one. The respondents' PMR (Lower Secondary Assessment Examination) grades of A, B, C, D, and E were reduced to three levels. Grade A: High Proficiency (HP), Grade B: Average Proficiency (AP) and Grade C, D and E: Low Proficiency (LP) (as shown in Table 3).

Proficiency level	No. of respondents	Percentage
High (GradeA)	54	54%
Average (Grade B)	32	32%
Low (Grade C, D, & E)	14	14%
	100	100

Table 3: Distribution of respondents according to proficiency

6.2 General trends and attitudes

To study the general trends and attitudes towards the environment and learning of language skills, the mean scores of all groups were ranked. All items with a mean score of 2.50 and above were taken as indication of agreement with the item statements.

The findings reveal that the learning of environmental topics has benefited both genders. Besides gaining content knowledge, they have more importantly developed a positive attitude towards the environment. Both males and females also welcome environment content in their English lesson but would like a variety of topics and the opportunity to choose the topics they like. They also indicate development in language skills and improvement in vocabulary through the learning of these topics. Both the males and females report improvement in skill areas of listening, speaking, reading and vocabulary whereas only males report improvement in writing.

The emerging trend regarding proficiency levels indicates that respondents of high, average and low proficiency have benefited in terms of content knowledge and developed a positive attitude towards the environment by the inclusion of environment content in English language. However, AP and LP respondents do not practice recycling though they know about it. All respondents believe that they have improved their language skills with the exception of AP respondents who have indicated little improvement in their listening and writing skills. The learning of these topics has motivated respondents to read extensively outside the English class and their textbooks. All respondents, regardless of proficiency level, feel that more time should be devoted to the teaching of environmental topics. They also feel that they would be more interested in learning English if they could choose the environmental topics to learn.

6.3 Comparison of means

6.3.1 Homogeneity of variances

Before undertaking comparison of mean scores, tests of homogeneity of variances were undertaken to check whether the mean scores in each group has homogenous variances. The Levene's test for homogeneity of variances was used for this purpose. If the test is not significant at the level of $p < 0.05$, then one can confidently assume that the population variances for each group are approximately equal.

The Levene's test for homogeneity of variances for gender is not significant ($p > 0.05$) which means that homogeneity assumption has not been violated. Thus, it can be assumed that the population variances for gender are approximately equal.

An examination of the Levene's test for homogeneity of variances for proficiency levels also suggests that the test is not significant ($p > 0.05$). Thus, it can also be assumed that the population variances for proficiency levels are approximately equal.

6.3.2 Comparison of means between male and female students

A comparison of mean scores of male and female students reveals significant results for items 1, 7 and 28d, as shown in Table 4.

Item/Question	Male		Female	
	m	SD	m	SD
1. I can play a part in protecting the environment	2.95	.70	3.27	.58
7. Learning about the environment is a part of education that prepares me for the future	3.37	.63	2.81	.90
28d. My skill in listening in English has improved through learning about the environment.	3.05	.80	2.73	.79

Key: The higher mean scores are underlined; m- mean; SD - Standard Deviation

Table 4: Comparison of means of male and female students

For item 1, the male (m= 2.95) and female (m=3.27) students show a considerable measure of agreement with the statement: "I can play a part in protecting the environment". However, the mean score of the female students is significantly higher than the male students [$p < 0.05$; F (df) = 6.45(1/99)]. This suggests that female students are more concerned about protecting the environment than the male students. There is also a possibility that they see more practical ways in which they could make a difference.

For item 7, while both genders agree that learning about the environment is a part of education that prepares them for the future, the male students (m=3.37) have a significantly higher mean score than the female students (m=2.81) [$p < 0.05$; F (df) = 11.301(1/99)]. This finding suggests that male students regard the environmental topics in the English curriculum as more necessary in preparing them for the future compared to female students.

As for item 28d, both groups' mean scores register on the "agree" side of the scale with the mean scores of males (m=3.05) being significantly higher than the females (m= 2.73) [$p<0.05$; F (df) = 3.963(1/99)]. This suggests that the male students perceive that learning English through environmental topics helps improve their listening skill to a greater extent than the female students.

6.3.3 Comparison of means of students of different proficiency levels

A comparison of mean scores of high (HP), average (AP) and low (LP) proficiency students indicate significant results for items 3,10,11,15, 27, 28a, 28d, 29c, 29e and 29f as shown in Table 5.

Item/Question	HP		AP		LP	
	Mm	SD	m	SD	Mm	SSD
3. I know about recycling but I don't practice it.	2.22	.96	2.72	.73	<u>2.93</u>	.90
10. The learning of environmental topics gives me the opportunity to contribute ideas and opinions.	<u>3.19</u>	.61	2.78	.61	3.00	.78
11. I can discuss environmental issues with confidence after class lessons.	2.83	.67	<u>3.09</u>	.64	2.50	.86
15. I am not concerned about what happens to the plants and animals.	1.54	.72	<u>2.00</u>	.92	1.36	.50
27. The English lessons teach me skills necessary for taking action against environmental abuse.	<u>3.00</u>	.85	**2.59**	.98	2.21	.80
28a. My skill in reading has improved through learning about the environment.	2.98	.66	2.72	.58	<u>3.36</u>	.63
28c. My skill in speaking has improved through learning about the environment.	3.07	.69	2.31	.82	<u>3.21</u>	.70
29c. After learning environmental topics in English I have no difficulty in listening to spoken English.	<u>2.93</u>	.80	2.44	.88	<u>2.93</u>	.62
29e. After learning environmental topics in English I have more ideas to share with others.	<u>3.43</u>	.72	2.94	.88	2.71	.61
29f. After learning environmental topics in English I can write better compositions.	<u>2.78</u>	.81	2.03	1.20	2.21	0.80

Key: The higher mean scores are underlined; m- mean; SD - Standard Deviation; HP - High Proficiency; AP - Average Proficiency; LP - Low Proficiency

Table 5: Comparison of means between high, average and low proficiency students

For item 3, there is a significant difference between the mean scores of HP and AP students and also between HP and LP students [$p<0.05$; F (df) = 4.524(2/99)]. The scores of the AP and LP students incline towards agreement whereas the mean score of HP students inclines towards disagreement. The findings suggest that HP students practice more recycling than AP and LP students.

As for item 10, HP, AP and LP mean scores register on the "agree" side of the scale. However the mean score of the HP students (m=3.19) is significantly higher than that of AP students (m=2.78) [$p>0.05$; F (df) = 4.031(2/99)]. Thus, it appears that all three groups feel that the learning of environmental topics give them more opportunities to express their ideas and opinions. However, HP learners feel that they benefit the most from these topics.

For item 11, all 3 groups agree with the statement. There is a significant difference between the mean scores of AP (m=3.09) and LP (m=2.50) students in their perceptions of their own ability to discuss environmental issues with confidence [$p>0.05$; F (df) = 3.810(2/99)]. The score of HP (m=2.83) is close to AP and this suggests that both groups feel more confident in discussing environmental issues than LP students.

As for item 15, HP, AP and LP students all disagree with the statement. There is a significant difference between the mean scores of HP (m=1.54) and AP (m=2.00) students [p<0.05; F (df) =4.966(2/99)] and also between AP and LP (m=1.36) students. The findings seem to indicate that AP students are more concerned about the plants and animals than HP and LP students.

The data for item 27 show a significant difference between the mean scores of HP and LP students [p<0.05; F (df) = 5.205(2/99)]. More HP (m=3.00) students seem to agree with the statement while more LP (m=2.21) students disagree. This is an indication that generally HP students feel that they learn more skills in the English class to act against environmental abuse than LP students with the AP students sitting on the fence.

For item 28a, majority of HP, AP and LP students agree with the statement with a significant difference between the mean scores of AP and LP students [p<0.05; F (df) = 5.125(2/99)]. The mean score of LP (m=3.36) students is notably higher than that of AP (m=2.72) students. This finding suggests that the majority of students believe that their reading skills have improved, with LP students being the most positive in their responses.

For item 28d, there is a significant difference between the mean scores of AP and HP students and also between AP and LP students [p<0.05; F (df) = 13.154(2/99)]. The mean scores of the HP (m=3.07) and LP (m=3.21) students incline towards agreement whereas the mean score of AP (m=2.31) students inclines towards disagreement. The finding suggests that LP and HP students feel that the environmental topics are more helpful in improving their speaking skill than the AP students.

The data for item 29c indicates a significant difference between the mean scores of HP and AP students [p<0.05; F (df) = 4.037(2/99)]. HP (m=2.93) and LP (m=2.93) students agree with the statement while AP (m= 2.44) students disagree. This means that, of the three groups, AP students find the environmental topics the least helpful in improving their spoken English and HP and LP students think otherwise.

For item 29e, all 3 groups' means register on the "agree" side of the scale. There is a significant difference between the mean scores of HP and AP students and also between HP and LP [p<0.05; F (df) = 7.088(2/99)] students. HP students (m=3.43) show the strongest measure of agreement with the statement followed by AP (m=2.94) and LP (m=2.71) students respectively. This finding suggests that HP students have more ideas on the environment to share with others than AP and LP students.

The data for item 29f indicates a significant difference in mean scores between HP and AP students' responses [p<0.05; F (df) = 5.694(2/99)]. HP (m=2.78) students agree with the statement while AP (m=2.03) and LP (m=2.21) students disagree. This means that HP students find the environmental topics most beneficial in improving their writing skills compared to the other two groups.

7. Discussion of Findings

7.1 Perceptions of the male and female students towards the environment

The questionnaire data reveal that both male and female students seem to share similar perceptions of the environment. They indicate a positive attitude towards the environment. Regardless of gender, all students are concerned about the environment and say they take steps not to damage it and want to conserve it for future generations. They also indicate a desire for the opportunity to choose the topics they like.

The data also suggest that female students are more concerned about protecting the environment than the males. This could perhaps be due to the nurturing instinct in females which makes them want to care and protect more than males. The interviews provide evidence to verify this interpretation. All three females interviewees answered in the affirmative while one male commented:

"It's just a waste of time."

The male students on the other hand, consider learning environmental topics more important in preparing them for the future and responsible adult life. The interview data supports this finding. Two male interviewees commented:

"… When we grow up we can tell our family members how to protect the environment."
"When we are adults we will get married and have children. We can have this practice to teach our children."

These findings reflect Ryan and Ray's (1991) evidence from social, psychological and educational research that many of the world's children are genuinely fearful about the changing world and are preparing to face future challenges. Similarly, Ponniah's (1981) study shows that students are aware of the environmental crisis and feel that environmental education is imperative to curtail this problem.

7.2 Perceptions of students of different proficiency levels about the environment

The questionnaire data reveal that proficiency levels do seem to have a bearing on students' perceptions of the environment though all three groups have a positive attitude towards the environment and share concern for other living things like animals and plants. The interviews reveal that more concern is felt for animals than plants with the following statements:

"… I can't bear to see them suffer from hunger." (HP)
"Animals I care more. If we don't care they will become extinct." (AP)
"They are also living things on earth and they deserve to live too in a healthy and clean earth." (HP)

The data further demonstrate that all students regardless of proficiency levels have also gained content knowledge of the environment. This is supported by the interview data. The interviewees were able to relate the importance of plants in the natural environment and how important they are not only to humans but also to animals:

"… plants give oxygen. People are more. If plants become extinct it cannot be. "(AP)
"Trees have uses for us. Mango trees give us fruit. Trees look good." (LP)
"Plants and animals help us live. Plants help us to breathe. We get oxygen from plants." (AP)
"I love animals. The plants also because it is where the animals live. If you cut them (the plants) you are destroying the animals' habitat." (HP)

Thus, it appears that although the students come from an urban setting, they are aware of the importance of nature. They are also knowledgeable about the environment and know about the interrelationship between humans, animals and plants. Azizi et al.'s study (2003) found similar findings among secondary school students in Langkawi.

The data further show that all respondents feel that learning about the topics gives them more ideas and opinions to share as well as the opportunity to contribute ideas. Interviews verify this finding as all six interviewees mention that they share ideas with friends, with three of them adding that they also share them with family members and siblings.

One of the advantages of learning through content is that it allows for the integration of higher order thinking skills and enables communication to take place (Met, 1991; Jacobs, Pramaranee, Payomrat & Amy, 1998). The environmental content is what students want to communicate, thus they communicate thoughts, not just mere words. Krashen (1982) stresses that language learning takes place through using language to communicate, rather than through practicing language skills. In this case the environmental topics provide opportunities to communicate in the target language as well as content for communication.

An interesting finding that surfaces from the data is that despite all students' positive attitude towards the environment, only HP students are actively involved in recycling. Besides this, HP students have learned more skills to act against environmental abuse. When asked what action they can take to stop environmental abuse, three HP interviewees say:

"I can write. Writing letters."
"Report to the authorities. We can tell personally. Yes, write letters and telephone conversation."
"Make complaints. Telephone conversation and writing letters."

This may be due to their better proficiency which in turn gives them the confidence to complain in writing or speak up against environmental abuse.

The quantitative data further show that the LP students are the least confident in discussing issues and have learned the least to act against environmental abuse. Therefore it seems that the higher the proficiency, the more positive the attitude towards the environment and the more skills the students improve on. This leads to the conclusion that proficiency levels do affect students' perception of the environmental topics.

7.3 Perceptions of the students on how the learning of the environmental topics have improved their language skills

Generally, the students feel that the use of environmental topics to teach English has helped to develop and improve their language skills. But this improvement is only secondary, as they seem to have learned more content knowledge and ideas about the environment through these topics than language skills. This is in line with the findings of Ratnawati's (1996) and Pillay's (1995, cited in Pillay & North, 1997) studies. They found that teachers were teaching the topics instead of the language skills.

Vocabulary is important in a language learning programme and findings show that respondents believe they have improved in this area too. This is mainly due to the opportunities present in the English lessons for the introduction of useful vocabulary by the teacher. But more importantly, it could be due to the opportunities students had to practise the meaningful use of new vocabulary.

In terms of gender, both males and females report improvement in all four skills through the teaching of environmental topics. However, it seems that the male students feel they have benefited to a greater extent in acquiring listening skills than the female students.

HP students report improvement in all four skills of reading, writing, listening and speaking with writing skills showing the least improvement. AP students only report improvement in reading and speaking while LP students indicate improvement in reading, listening and speaking skills with the learning of environmental topics. This leads to the conclusion that students feel that the teaching of the environmental topics is least helpful in improving their writing skill. Possible reasons for this may not be directly related to the teaching and learning of environmental topics. Large class size which hinders teachers from giving individual remedial work and immediate feedback may be a likely cause for this. Insufficient time to focus on grammar could be another reason and this has been pointed out in the earlier KBSM studies done by Ratnawati (1996), Pillay (1995), and Pillay and North (1997).

HP students seem to be better in discussing environmental issues and have more ideas to share about the environment compared to the other two groups of students. They report picking up skills that help them deal with environment concerns such as listening for ideas and writing. AP students have greater confidence in discussing environmental issues too. Hence both these groups appear to have picked up content for discussion rather than skills. A reason for this could be that being more proficient in the language they read more widely from various sources, especially from the mass media as revealed through Ponniah's (1981) study. It is also possible that they are better able to understand and relate to the environmental programmes and documentaries on television that are mostly telecast in English. This is similar to the findings of the 2003 Langkawi study on

environmental awareness among secondary school students. In both these studies, the researchers also reported a high level of environmental knowledge among the subjects.

8. Pedagogic Recommendations

Many students want to be able to choose the environmental topics to study in their English classes. This could imply that the currently assigned topics are uninteresting. A number of classroom practices and suggestions may also be considered to bring variety and interest to learning English. Teachers should consider giving students the freedom of choice as advocated by the learner-centered approach in CLT. One way of doing this is to use materials brought by students in place of the uninteresting textbook or materials from the school's resource centre. This has several advantages as pointed out by Deller (1990). A better bond forms between the class materials and activities, on one hand, and the students' backgrounds and interests on the other. Learning feels less threatening for students as they take part in creating their learning environment. Students learn more, as through sharing responsibility for creating their classroom environment they become more skilful learners. Teachers also get a chance to better understand their students as well as adapt their teaching to specific groups of students.

The United Nations' Belgrade Charter lists awareness, knowledge, attitude, skills, evaluative ability and participation as the six objectives for environmental education. Findings of the study show that through the use of environment content in the English class, students have a positive attitude towards the environment and have gained content knowledge about the environment. Participation, the sixth objective, seems lacking. Participation is vital as all the other objectives cannot be achieved if students do not translate their awareness, knowledge, attitude, skills and evaluative ability into action (Jacobs et al., 1998). Teachers should thus include activities such as project work in their lessons that give opportunities for students to take action, individually or collectively, to help improve the environment.

When students practice speaking, listening, reading and writing about the environment they would then be using English creatively, purposefully, and functionally as advocated in CLT, as well as enhancing their participation in environmental education.

By working collectively on projects and short assignments, students work together with classmates, usually in groups of two, three or four. Advocates of communicative language pedagogy often recommend cooperative learning (Mayo, del Pilar & Pica, 2000) as it has multiple advantages and involves students in active language use.

Earlier studies done by Pillay (1995 cited in Pillay and North, 1997), Ratnawati (1996) and Pillay and North (1997) have pointed out the problems related to the use of themes and topics to integrate skills and grammar. Topics seemed to be emphasised. Hence, skills and grammar could only be covered superficially. Thus, it is recommended that the four skills (of speaking, listening, reading and writing), grammar and vocabulary should be taught through topics specifically designed for this purpose so that equal emphasis can be placed on them.

Note:

In 2002, the KBSM English Language Curriculum for the upper secondary was revised. However, the environment is still retained as one of the five themes and related environmental topics serve as the subject matter through which English is to be taught and meaningful tasks and activities set. The focus of the new KBSM English Language Curriculum is still on the teaching of both the oracy and literacy skills of listening, speaking, reading and writing. Hence, the findings of this study are of equal relevance to the revised curriculum.

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Appendices

Appendix A

SECTION A – BACKGROUND INFORMATION
For each question in this section, circle your answer.

1. Form 5 A: 1 / 2 / 3 / 4 / 5
2. Gender: Male / Female
3. Grade scored in English for the PMR examination: A / B / C / D / E
4. What is the language you speak most frequently?
A. Bahasa Melayu
B. English
C. Mandarin
D. Tamil
5. My current exposure to English includes the following:
You may select more than one.
A. Newspapers
B. Magazines
C. Comics
D. Radio
E. Television
F. Internet
G. Interaction with friends
H. Daily use at home
I. Others   …………………………..

SECTION B

    Below are a series of statements about the environment topics taught in English language. There are no right or wrong answers to the statements. Please indicate the degree to which each statement applies to you by circling whether you:

    Berikut adalah beberapa kenyataan mengenai topic alam sekitar yang diajar dalam B. Inggeris. Tidak ada jawapan betul atau salah pada kenyataan-kenyataan tersebut. Nyatakan reaksi anda pada setiap kenyataan dengan bulatkan samada anda:

4 - strongly agree/ sangat setuju
3 - agree/ setuju
2 - disagree/ tidak setuju
1 - strongly disagree/ sangat tidak setuju

Please take your time and try to be as honest as possible.

Berikan pendapat anda yang sebenar.

1. I can play a part in protecting the environment. *Saya boleh memainkan peranan dalam melindungi alam sekitar.*	1 2 3 4
2. I am concerned about the environment and reusing/recycling is one way I can make a difference. *Saya perihatin terhadap alam sekitar dan guna semula/kitar semula adalah satu cara saya boleh membuat satu perubahan.*	1 2 3 4
3. I know about recycling but don't practice it. *Saya tahu tentang kitar semula tetapi tidak mengamalkannya.*	1 2 3 4
4. I consciously try to recycle and tell my friends about it. Saya cuba mengamalkan kitar semula dan memberitahu rakan *saya mengenainya.*	1 2 3 4
5. I know the earth is in trouble but I really don't care. *Saya tahu bumi ini dalam bahaya tetapi saya tidak peduli.*	1 2 3 4
6. I take steps not to damage the environment. *Saya mengambil langkah agar tidak merosakkan alam sekitar.*	1 2 3 4
7. Learning about the environment is a part of education that prepares me for the future. *Pembelajaran tentang alam sekitar merupakan satu aspek sistem pendidikan yang dapat menyediakan saya untuk masa hadapan.*	1 2 3 4
8. Lessons about wildlife and conservation are boring because it has nothing to do with me. *Pelajaran tentang hidupan liar serta pemuliharaan membosankan kerana tiada kena mengena dengan saya.*	1 2 3 4
9. I find learning about the environment a waste of time because it is not practical. *Saya mendapati bahawa belajar tentang alam sekitar membuang masa kerana ia tidak praktikal.*	1 2 3 4
10. The learning of environment topics gives me the opportunity to contribute ideas and opinions. *Melalui pembelajaran topik-topik alam sekitar saya berpeluang menyumbang idea serta pendapat.*	1 2 3 4
11. I can discuss environmental issues with confidence after class lessons. *Saya dapat membincangkan isu-isu alam sekitar dengan yakin selepas mempelajarinya di kelas.*	1 2 3 4
12. Lessons on the environment do not connect to the real world. Pelajaran tentang alam sekitar tidak berkait dengan kehidupan sebenar.	1 2 3 4
13. The information in the environment topics is not relevant to my needs. *Maklumat yang terkandung dalam topik-topik alam sekitar tidak relevan dengan keperluan saya.*	1 2 3 4
14. Nowadays when I watch ill-treatment of wildlife on television, I get angry. *Saya naik marah apabila menonton rancangan tentang penganiyaan hidupan liar di televisyen.*	1 2 3 4
15. I am not concerned about what happens to the plants and animals *Saya tidak mengambil berat tentang apa sahaja yang terjadi ke atas tumbuhan dan haiwan.*	1 2 3 4
16. Lessons on the environmental topics make me appreciate nature and want to help conserve it for future generations. *Pembelajaran tentang topik alam sekitar membuat saya menghargai alam semulajadi dan ingin membantu memelihara dan memuliharanya demi generasi masa hadapan.*	1 2 3 4
17. The environment topics in my English lessons interest me and are important to me. *Topik-topik tentang alam sekitar menarik perhatian saya dan amat penting* kepada saya.	1 2 3 4
18. I would be more interested in English language if I could choose the environmental topics that I want to learn. *Saya akan lebih berminat dalam Bahasa Inggeris jika saya diberi peluang* memilih	1 2 3 4

topic-topik alam sekitar yang saya ingin pelajari.	
19. I don't need to learn environment topics in the English class to help me understand environmental documentaries on television. *Saya tidak perlu mempelajari topik-topik alam sekitar dalam kelas B. Inggeris untuk membantu saya memahami dokumentari alam sekitar di televisyen.*	1 2 3 4
20. The environment topics taught in class make me want to read more on my own about the environment from newspapers, magazines and books. *Topik-topik alam sekitar yang diajar di kelas membuatkan saya ingin membaca dengan lebih mendalam lagi tentang alam sekitar daripada surat khabar, majalah dan buku.*	1 2 3 4
21. I am not interested in learning about the environment in English because it is taught in other subjects like Science. *Saya tidak berminat belajar tentang alam sekitar dalam B. Inggeris kerana ia diajar dalam subjek lain seperti sains.*	1 2 3 4
22. My teacher should spend more lessons on teaching environment topics. *Guru saya seharusnya meluangkan lebih banyak masa untuk mengajar topik- topik tentang alam sekitar.*	1 2 3 4
23. I wish my teacher had included more interesting environmental topics besides recycling and conservation of wildlife *Saya berharap guru saya dapat menyertakan lebih banyak topik-topik alam sekitar yang lebih menarik selain kitar semula dan pemuliharaan hidupan liar.*	1 2 3 4
24. Learning about the environment is easy because I can relate it to my personal experience. *Pembelajaran tentang alam sekitar lebih mudah kerana saya dapat mengaitkannya dengan pengalaman sendiri.*	1 2 3 4
25. After learning environment topics in the English class, I use knowledge about the environment in everyday life. *Selepas mempelajari topik-topik tentang alam sekitar dalam kelas B. Inggeris, saya menggunakan pengetahuan yang diperolehi dalam kehidupan seharian.*	1 2 3 4
27. The English lessons teach me skills necessary for taking action against environmental abuse. *Saya belajar kemahiran yang diperlukan untuk bertindak atas kerosakan alam.*	1 2 3 4
28. My skill in each of the following area has improved through learning about the environment: *Kemahiran saya dalam bidang berikut telah bertambah baik melalui pembelajaran tentang alam sekitar:*	
a. Reading in English *Bacaan dalam B. Inggeris*	1 2 3 4
b. Writing in English *Menulis dalam B. Inggeris*	1 2 3 4
c. Speaking in English *Bertutur dalam B. Inggeris*	1 2 3 4
d. Listening in English *Mendengar dalam B. Inggeris*	1 2 3 4
29. After learning environment topics in English: Selepas mempelajari topik-topik tentang alam sekitar dalam B. Inggeris:	
a. my English vocabulary has increased. *kemahiran tatabahasa saya meningkat.*	1 2 3 4
b. I speak more confidently in English. *Saya boleh bercakap dengan lebih yakin lagi dalam B. Inggeris.*	1 2 3 4

c. I have no difficulty in listening to spoken English. *Saya tidak mengalami sebarang masalah dalam mendengar percakapan dalam B. Inggeris.*	1 2 3 4
d. I can guess better from context when reading. *Saya boleh mengagak dengan lebih baik sewaktu membaca.*	1 2 3 4
e. I have more ideas to share with others. *Saya mempunyai lebih banyak idea untuk dikongsi dengan orang lain.*	1 2 3 4
f. I can write better compositions. *Saya boleh menulis karangan dengan lebih baik.*	1 2 3 4