

通識健康教育計劃 Liberal Studies Pilot Programme 2007-2008

ENVIRONMENT & HEALTH

環境與健康



香港防癆心臟及胸病協會

The Hong Kong Tuberculosis, Chest and Heart Diseases Association



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序言

香港學生勤奮好學及機敏是舉世知名。他們在本港或海外就讀時的校內及公開考試成績均達到甚高水平。可惜大部份本港學子、包括學業成績較佳者、對周邊環境問題並無多大興趣。他們在尋求知識方面趨向依靠老師或上網搜尋所需要的資料；在預感與他們息息相關之疑難及解決自己的問題方面，欠缺直覺及創意。

約二十年前，當時的教育署把「通識教育」引進校內課程。目的是鼓勵及促使學生自發地鑽研陌生的事物，老師們只在旁作促進者。

我們希望本計劃能夠重新激活該精神。曾參與2007年11月簡介會的老師及同學們都明白後者才是計劃的主角，前者只是促進者而非主導。同學們亦了解到不應只從互聯網上抄襲。他們要是能夠把自己研究所得的簇新知識放上互聯網供人參考，肯定是興奮及難忘的經驗。為了證明所發表的資料的可信賴及原創性，他們要在香港防癆心臟及胸肺協會評審委員面前匯報研究成果，並接受查詢。該匯報程序希望能增加同學們的信心，並甄別他們研究所得的原創性。在這程序中，我們被迫放棄部份編寫俱佳但在闡述時未能較其他參加者更充份地表達其原創性的方案。

委員會對本年的研究結果及同學們的匯報水準之高深感欣慰。我們極不願意放棄一些研究與匯報俱佳的計劃，最終決定把得獎的隊伍由原定的五隊增加至六隊。

除了祝賀得獎學校的努力及其成就外，我們更衷心地希望這種學生自發地在老師作為促進者的協助下針對解決本港社會各項問題作小型研究的精神能在全港的學校發揚光大，最終成為本港教育文化之重要一環。請勿忘記我們定必要親自處理自己的問題，不應依賴別人。

香港防癆會通識健康教育計劃籌委會主席關定輝



Preface

Hong Kong students are world renowned for their diligence and dexterity. Their achievements in school examinations as well as in public examinations, both local and overseas, have been remarkably high. One weakness though is that the majority, including academic high-fliers, are not showing enough interest in the world around them. They tend to be over-dependent on their teachers in the pursuit of knowledge and lately on the internet as well in seeking information. We are concerned about students' lack of innovation and intuition to become aware of problems, especially those in their own society and to find solutions by themselves.

About two decades ago, when Liberal Studies was introduced into the school curriculum by the then Education Department, the intention was to encourage and facilitate students to explore into the unknown themselves, with the teacher taking the role of a facilitator.

Our current project was initiated with an intention to recapture such spirit. At the briefing session for participants held in November 2007, students and teachers were clearly told the former should play a pivotal role in the research, leaving the latter to be 'facilitators', not 'directors'. Students were also advised that, rather than copying information from the internet, they should, through their own effort, discover information and construct knowledge hitherto unknown and unavailable on the internet. It should be most meaningful and stimulating to put their findings and proposals onto their websites for readers' reference. To ensure authenticity of their research findings, their submissions were cross-examined at their presentation in front of a panel of judges of the Hong Kong Tuberculosis, Chest and Heart Diseases Association. The presentation was meant to boost confidence of students. Awards were based on authenticity, ignoring information copied or borrowed from different sources. In this light, a number of very well-compiled projects were not selected, when the presenters were less persuasive relative to their competitors in verifying the authenticity of their project.

It is gratifying to note that the standard of both the researches and the presentations was so high this year that the panel of judges was unwilling to part with some of the well researched and well presented projects. We had to award prizes to a total of six teams instead of only to the best five teams as originally planned.

We congratulate the prize-winners for their outstanding achievement and efforts. We sincerely hope this kind of mini-researches by students, with teachers as facilitators, focusing on daily problems that the Hong Kong society encounters, will spread far and wide among schools and eventually become a culture in the Hong Kong education arena. Remember, the world would be a happier place to live in if each and every one of us can stand on our own feet, instead of relying on others to solve our problems for us!

T.F. Kwan
Chairman of Steering Committee of Liberal Studies,
Hong Kong Tuberculosis Association

計劃日程及評審團

主辦機構：香港防癆心臟及胸病協會

主題：環境保護

計劃日程：

日期	活動	日期	活動
2007年6月至9月	宣傳計劃及招募參加學校	2007年11月中旬至2008年5月	進行相關研究工作
2007年10月5日	計劃簡介會議	2008年5月10日	演述研究結果及初賽
2007年10月20日	遞交計劃書的限期	2008年5月24日	總決賽及頒獎禮
2007年10月22日至11月12日	評審團檢閱各計劃書 評審團會議及提出相關建議	2008年5月31日	遞交研究報告及財務報告

評審團：

關定輝先生

香港防癆心臟及胸病協會通識健康計劃籌委會主席
前教育署副署長

廖嘉齡醫生

香港防癆心臟及胸病協會董事
前醫院管理局副總監

王偉雄先生

愛普生基金秘書長

鄧柏濃教授

香港理工大學醫療及社會科學院

陳英儀小姐

香港防癆心臟及胸病協會總幹事

姚敏邦先生

愛普生基金理事

Programme Schedule and Judging Panel

Organizer: Hong Kong Tuberculosis, Chest & Heart Diseases Association (HKTBA)

Theme: Environmental Protection

Schedule of the Project:

Date	Activities	Date	Activities
Jun 2007 – Sep 2007	Registration for the Programme	Mid Nov 2007 – May 2008	Conducting the Research
5 Oct 2007	Briefing for Participated Schools	10 May 2008	Project Presentation (Semi-final)
20 Oct 2007	Deadline for Proposal Submission	24 May 2008	Project Presentation (Final) & Award Presentation Ceremony
22 Oct – 12 Nov 2007	Evaluate the Proposal by Judging Panel Judging Panel Meeting	31 May 2008	Submission of Project Report & Financial Statement

Judging Panel :

Mr. T.F. Kwan

Chairman, Steering Committee of the Liberal Studies, Hong Kong Tuberculosis Association and
Former Deputy Director, Education Department

Prof. Tang Pak-lai

Faculty of Health and Social Science, Hong Kong Polytechnic University

Dr. Liu Ka Ling

Director, Hong Kong Tuberculosis, Chest & Heart Diseases Association, and
Former Deputy Director, Hospital Authority

Ms. Babe Chan

Executive Secretary, Hong Kong Tuberculosis, Chest & Heart Diseases Association

Mr. Willie Wong

Secretary General, Epson Foundation

Mr. Yiu Man Pong, Brian

Trustee, Epson Foundation





「總決賽及頒獎典禮」程序表

Programme of 'Final Competition & Award Presentation Ceremony'

24 May 2008 (Saturday) 香港灣仔皇后大道東266號律敦治醫院地庫一樓演講廳
Lecture Theatre, LG1, Ruttonjee Hospital, 266 Queen's Road East, Wanchai, Hong Kong

Final Competition 總決賽

11:00a.m. - 12:10p.m. **Liberal Studies - Pilot Programme 2007-2008 – Final Competition**

通識健康教育計劃2007-2008 – 總決賽

- 皇仁書院 Queen's College
- 嶺南中學 Lingnan Secondary School
- 聖保羅男女中學 St. Paul's Co-Educational College
- 中華基金中學 The Chinese Foundation Secondary School
- 觀塘官立中學(1) Kwun Tong Government Secondary School(1)
- 觀塘官立中學(2) Kwun Tong Government Secondary School(2)

12:10p.m. - 12:40p.m. **Remarks by Guests 嘉賓意見分享**

- 教育局首席助理秘書長(課程發展) 陳嘉琪博士
Dr. Chan Ka Ki, Principal Assistant Secretary (Curriculum Development),
Education Bureau
- 環境保護署助理署長(空氣質素政策) 黃耀錦先生
Mr. Wong Yiu Kam, JP, Assistant Director (Air Policy),
Environmental Protection Department
- 香港理工大學醫療及社會科學院 鄧柏濃教授
Prof. Tang Pak Lai, Faculty of Health and Social Science,
Hong Kong Polytechnic University

12:40p.m. - 12:45p.m. **Break 小休**

Award Presentation Ceremony 頒獎典禮

12:45p.m. - 12:50p.m. **Welcome Speech 歡迎辭**

- 香港防癆心臟及胸病協會主席 梁仲清先生
Mr. Edwin Leung, MBE, Chairman, Hong Kong Tuberculosis Association

12:50p.m. - 12:55p.m. **Agreement Signing (Environment and Health Awareness through Liberal Studies)**
約章簽署 (透過通識教育, 推動環保健康)

12:55p.m. - 1:05p.m. **Video Broadcasting and Speech 錄像播放及致辭**

- 環境局局長 邱騰華太平紳士
Mr. Edward Yau, JP, Secretary for the Environment

1:05p.m. - 1:15p.m. **Award Presentation Ceremony 頒獎典禮**

1:15p.m. - 1:20p.m. **Round-up Speech 總結**

- 香港防癆會通識健康教育計劃籌委會主席 及
前教育署副署長 關定輝先生
Mr. T.F. Kwan, Chairman, Steering Committee of the Liberal Studies, Hong Kong
Tuberculosis Association & Former Deputy Director, Education Department

1:20p.m. - 1:25p.m. **Group Photo 合照**



西九龍沿海屏風建築物對微氣候和空氣質素的影響

The impact on micro-climate and local air quality caused by screen-like buildings at West Kowloon waterfront

嶺南中學 Lingnan Secondary School

導言

有很多意見批評西九龍沿海屏風樓影響區內的微氣候和空氣質素，建議限制屏風建築。本專題研習乃研究屏風建築和微氣候及空氣質素的關係。另外，由於交通流量是影響空氣質素的重要因素，專題研習亦驗證了區內交通流量和空氣質素的關係。屏風樓阻擋向岸風，受影響地區的風速和最高陣風風速皆會下降，亦可能影響溫度和相對濕度。又由於風速下降和湍流減少，妨礙污染物擴散，影響空氣質素。基於以上推論，乃建立以下的無效假設：

無效假設1：
屏風樓對地區的微氣候無影響。

無效假設2：
受屏風樓影響地區的空氣質素較佳。

研究方法

- 研究區域：
於西九龍地區揀選了兩個研究區域¹。地區A為沿海新區，受屏風樓影響較少；地區B為大角嘴舊區，屏風樓阻擋向岸風，影響較大。
- 取樣點和需要數據
在每個地區，基於環境因素各揀選4個取樣點，兩地區共有8個取樣點。在每個取樣點分別收集以下數據：
 - 溫度
 - 相對濕度
 - 平均風速和最高陣風風速
 - 交通流量
 - 空氣溶解實驗及檢定溶液酸度²

3.取樣方法

在兩小時內，每15分鐘記錄溫度和相對濕度一次，量度汽車流量5分鐘
以風速儀量度風速兩次
每半小時做空氣溶解實驗一次，過程10分鐘

數據整理及分析

下表為所得的數據

觀測點	溫度 (攝氏)	相對濕度 (%)	平均風速 (米/秒)	最高陣風 (米/秒)	汽車流量 (輛/小時)	溶液酸度 (pH 值)
A1	30.8	59	1.2	1.6	298	5.02
A2	30	58.6	0.8	1.1	347	5.02
A3	27	58.8	4.3	4.3	1126	5.05
A4	30	55.5	0.5	0.5	684	5.08
B1	29.6	56	0.7	0.8	194	4.84
B2	31.6	57.2	2	3	110	5
B3	29.5	55.3	0.7	1.2	0	4.78
B4	29.8	60	1.1	1.5	170	4.95

以下圖表顯示各量度參數在不同觀測站的分布情況。

圖1：溫度分佈情況

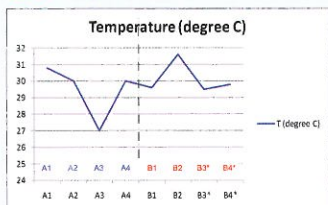


圖4：最高陣風風速分佈情況

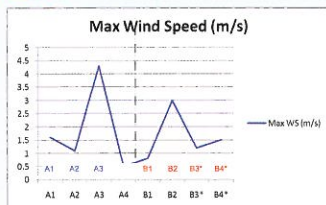


圖5：汽車流量分佈情況³

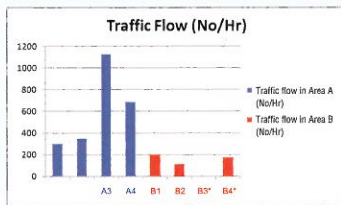
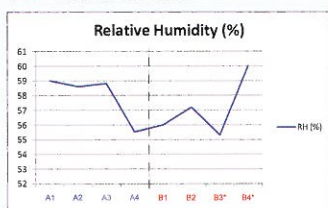


圖2：濕度分佈情況



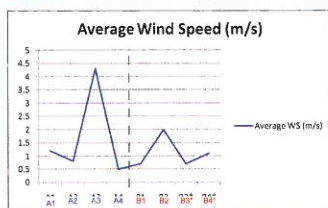
分析資料，可得以下結果：
1. 地區A和地區B的微氣候(溫度、相對濕度和風速)並無明顯差異。

結論

根據分析結果可知：

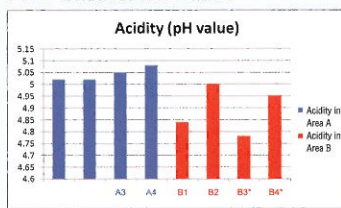
- 無效假設1成立。即不能證明地區A和地區B的微氣候有明顯差異。表示不能證明屏風建築對西九龍地區的微氣候有明顯影響。

圖3：平均風速分佈情況



地區A為沿海新區，受屏風影響較少，而地區B為大角嘴舊區，屏風樓阻擋向岸風，影響較大。數據顯示地區A的汽車流量比地區B多，但地區A的空氣溶液酸度較地區B低，顯示空氣質素較佳，由此證明地區A的空氣質素與汽車流量沒有關係，其他環境因素對空氣質素更為重要，而屏風建築可能是影響地區空氣質素的重要原因。

圖6：溶液酸度分佈情況⁴



分析資料，可得以下結果：

- 地區A的汽車流量比地區B多。
- 地區A的空氣質數比地區B好。
- 空氣溶液酸度和交通流量有明顯負相關，和其他參數(微氣候參數)則無明顯關係。顯示汽車流量愈多，空氣溶液酸度愈低。這得出一個很矛盾的關係，表明汽車流量愈高，空氣質數愈好。⁵

結論

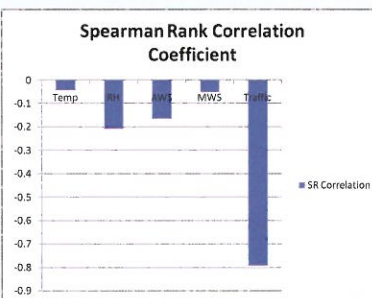
根據分析結果可知：

- 基於地區A的空氣質素較地區B佳，但兩地區的空氣質數和汽車流量無關，無效假設2不成立。證明環境因素對空氣質數的影響更為重要，屏風建築可能是影響地區空氣質素的重要原因。⁶

此外，亦以皮爾曼等級相關(Spearman's Rank Correlation)分析空氣溶液酸度和其他參數的關係，所得結果如下：

皮爾曼等級相關係數	溫度	相對濕度	平均風速	最高陣風	汽車流量
	-0.0446	-0.2083	-0.1667	-0.0536	-0.7946

圖7：空氣溶液酸度和其他參數的皮爾曼等級相關係數



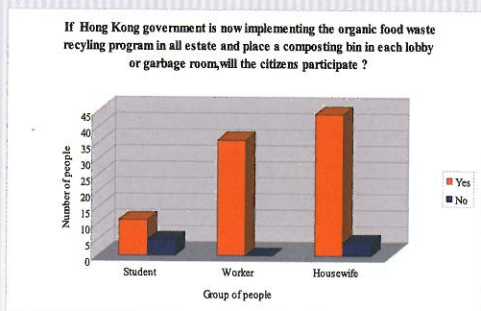
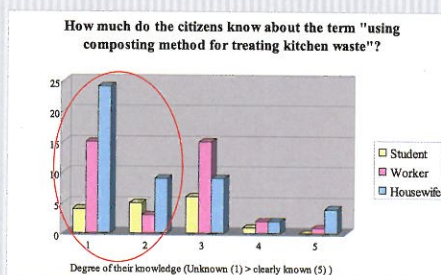
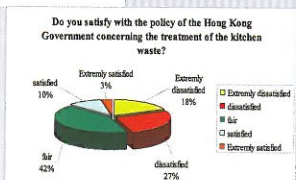
參考

- 選取區域及取樣點皆取決於實地考察所得的環境資料。詳細資料將見於最後報告。
- 因資源及技術限制，同學不能有效量度空氣中的污染物，例如懸浮粒子、二氧化硫、氮氧化物等的濃度。基於二氧化硫和氮氧化物溶於水能令水變酸，乃用氣泵將空氣吸進250ml的蒸餾水瓶，為時10分鐘，然後量度溶液酸度，間接顯示觀測點的空氣污染情況。
- 同學並無記錄觀測站B3的汽車流量。
- 數字愈小，酸度愈高。圖6顯示地區A的溶液酸度皆低於地區B。
- 汽車排放的廢氣是市區空氣污染的最重要污染源。理論上汽車的流量多少是影響空氣質數的最重要因素，汽車流量愈高，路邊空氣質素愈差。皮爾曼等級相關系數驗證得相反結果，顯示汽車流量在本區並非影響空氣質數的原因。
- 研究結果因資源及同學經驗所限而可能出現差異，將於最後報告再行分析。

探究利用堆肥方法處理家居廚餘的可行性

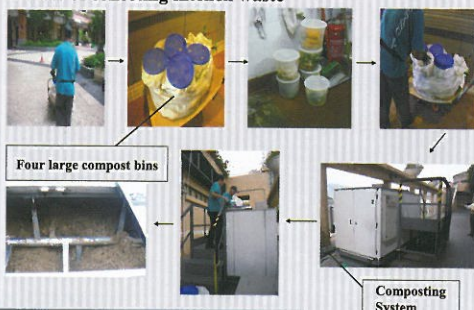
Examine the Feasibility of using Composting Method to Reduce Domestic Kitchen Waste in Hong Kong

觀塘官立中學 Kwun Tong Government Secondary School



Observation

Process of collecting kitchen waste



Suggestions

Policies (focus works)	Taiwan	Hong Kong	Suggestions for the Hong Kong government
Promotion	•Step by step •sustainable	•Not enough •Short term	-Gaining insight from Taiwan's experience -Continuous promotions -Allow the citizens to have a clear understanding of the recycling program e.g. purpose, how to join it
Participation rate	Continuous participate	Relatively low at the beginning	-Effective promotion work -Great participation of the program
Education	Included in the new syllabus	/	-Learning from Taiwan's experience -Provide more related information to students -Raise their environmental awareness

Introduction

There are 3,154.3 tonnes untreated kitchen waste directly disposed into a landfill per day and 2/3 of them were come from domestic waste. Since the Hong Kong government still cannot adopt an efficient policy, this environmental problem will become more serious and becomes the main cause of the saturation of the landfills.

Method

This study is an examination of the feasibility of using a composting method (堆肥) to reduce the domestic kitchen waste in Hong Kong through conducting questionnaires with 100 citizens, an observation on Park Island (珀麗灣), 15 interviews of its residents and a study of Taiwan's successful experience of adopting this method.

The analysis of these questionnaires result gives out an expected result: although most of the citizens have no cognition towards the composting method, they were willing to accept it. This indicates a strong willingness to participate in the program. In the observation and the interviews, findings clearly show that the importance of an effective and clear operation system should be set up for collecting the kitchen waste and lots of promotions should also be done.

Result

As a result of the study, this composting system is feasible to implement to reduce a large amount of domestic kitchen waste. Therefore we have also concluded four main successful factors of the successful implement aims of the kitchen waste-recycling program widely- spread by referencing the experiences of Taiwan: 1) ample promotions of how and why to join the composting system are needed at the beginning of the programme; 2) an urge of the government to set up an efficient and clear system for collecting the kitchen waste; 3) the use of this organic fertilizers produced by the compost system; 4) environmental education in schools is important to ensure the future sustainability of this system.

Conclusion

In analyzing from different aspects: participation rate, support of government policy, budgets planning etc, this project provides a useful suggestion to solve the kitchen waste problem.



比較香港與西方國家的綠色住宅

How do Green Residential Buildings in Hong Kong differ from the Western countries?

聖保羅男女中學 St. Paul's Co-Educational College

Introduction

Since the 1970s, people have been aware of the damage done to the environment during the construction of buildings. A new idea of 'green buildings' is then gaining attention. **Green buildings are buildings which use environmentally friendly design, construction materials, as well as construction and demolition method.** However, the actual practice of construction of this kind may be different across countries. This study aims at doing a comparison between the green buildings in Hong Kong and those in other countries in order to build up a more environmentally friendly future in Hong Kong.

Analysis and Discussion

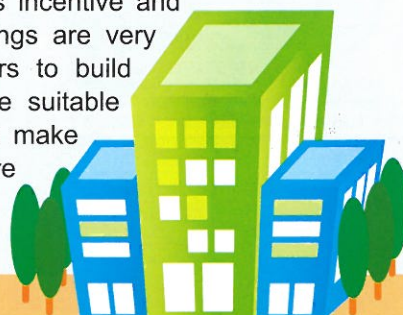
The comparison of green building standards shows that mitigated site impact, transport, microclimate consideration, indoor environmental quality, waste and pollution control and the adoption of sustainable designs and policies are often cited as important measurements of green buildings in Hong Kong and the West. However, Hong Kong standards lack some of the important features of green buildings in the West. We believe that the difference of climate, lack of space and a shorter history of green buildings are the reasons why Hong Kong seldom uses recycled materials, equipments for fine ventilation and insulation system, and does not have enough insulation and ventilation in the green residential buildings.

The concept of green residential buildings is also compared in terms of people perception. The survey results indicated that the promotion of green buildings in western countries is better in Hong Kong. Also, Hong Kong residents agree that residential green buildings in Hong Kong are not green enough, mainly because of lack of public support and green features. Yet, the majority of residents still think residential green buildings should be used widely in Hong Kong.

In light of this, it is suggested that attention has to be given to the lack of public support, the lack of green features, slack execution of green policies and low standard of green buildings, which are the four main reasons why Hong Kong green residential buildings are not green enough. The government may implement policies to encourage the construction of green buildings. Having said that, the most important thing is to promote the concept of "green building" to the public. Real motivation still lies in people's acceptance and preference of green buildings.

Conclusion

In conclusion, promotion, government's incentive and gaining public support of green buildings are very important to encourage the developers to build more green residential buildings. More suitable green features can also be added to make residential buildings in Hong Kong more 'green'.



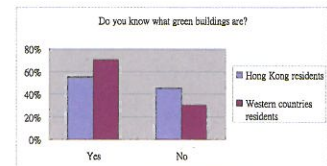
Survey

Aim: to know more about the public acceptance of green residential buildings in HK and the Western countries

Respondents: 40 Hong Kong residents, with 4 living in green building.

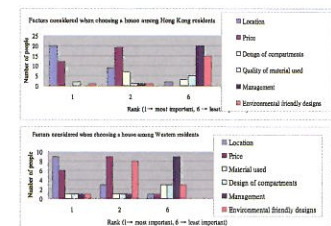
22 Western country residents, with 4 living in green building.

The survey was conducted through e-mail, telephone and distribution of copies of the survey.



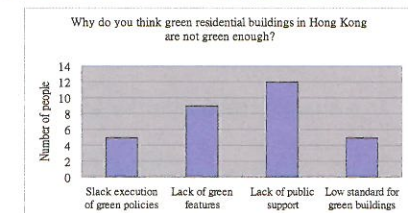
Number of residents in Hong Kong and Western countries knowing the concept

A quarter more of residents in western countries than those in HK know what green buildings are. This indicated that the promotions of green buildings in Hong Kong are not enough.



Ranking of factors when choosing a house

Location and price are the two most important factors. However, Hong Kong residents think that the management of the building and environmental friendly design are less important while residents in Western countries tend to be more concerned about environment.



Reasons why Hong Kong residents think green buildings are not green enough

Green residential buildings in Hong Kong are believed not to be green enough mainly because of lack of public support and green features.

獨善其身? Me, and Me Alone? 皇仁書院 Queen's College

為何選擇這題目?

全球暖化的現象一年比一年嚴重，在傳媒的灌輸下，普羅大眾對這現象應該略有所聞，大概了解到全球暖化所帶來的種種壞影響，例如冰川融化導致水位上升，引致沿海地區水浸。世界各地的科學家和學者都為減緩全球暖化的速度絞盡腦汁，想出了不少解決方法。其中不少人把方向定在汽車所排放的廢氣上。

研究目的

此研究旨在探討香港市民使用私家車和公共交通工具的習慣。當知道私家車對環境的損害後，若能了解市民為何仍選擇以私家車代步，就可以提出可行和具建設性的建議去鼓勵市民多用公共交通工具，從而減少溫室氣體排放，紓緩全球暖化的問題。

研究問題

我們希望透過是次研習探討以下問題：

1. 探討市民為何會選擇私家車而非公共交通工具。
2. 探討鼓勵市民多選擇公共交通工具的可行辦法。
3. 探討減低汽車排出溫室氣體量的可行方案。

研究方法

文獻探討、實地統計、問卷調查、分析探討

撮要

此研究旨在探討香港市民使用私家車和公共交通工具的習慣。香港路邊空氣污染相當嚴重，影響市民健康和環境，其中私家車所排出的廢氣正是空氣污染物的最大來源。若能了解市民為何選擇以私家車代步，就可以提出可行和具建設性的建議去鼓勵市民多用公共交通工具，以及減低汽車廢氣排放的方案。

我們在研習中先就政府政策作文獻探討，再透過實地車輛流量統計了解道路使用者的特徵和道路使用的現況。然後我們向學生家長和網民以問卷形式作量性調查，統計市民使用私家車和公共交通工具的習慣和對這議題的意見。我們亦以訪問形式作質性調查，了解受訪者選擇代步工具背後的原因和動機。

透過是次行動研究，我們有了以下的發現：

1. 私家車佔路面交通比重最高
2. 普遍市民對私家車廢氣排放的問題有一定認知，但仍欠缺足夠承擔

3. 私家車較公共交通工具舒適方便可能只是乘客錯覺
4. 經濟誘因比其他措施更能推動市民使用公共交通工具
5. 公共運輸系統配套不足使部分市民卻步
6. 市民對停車熄匙、環保車等環保概念並不抗拒

解決建議

- 1 提供經濟誘因
 - 增加燃油稅、汽車牌費或首次登記稅
 - 實施電子道路收費計劃
- 2 完善公共交通工具
- 3 推廣環保概念
 - 停車熄匙
 - 於新市鎮設置單車徑
 - 使用環保車

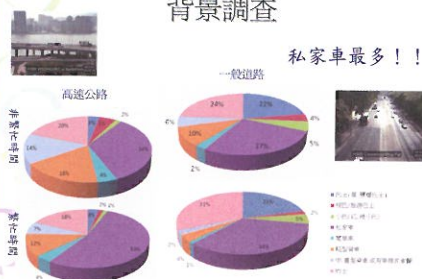
透過是次探討，我們盼望能喚起各界人士對汽車廢氣排放的關注，減少使用私家車而多使用集體運輸系統，為香港的藍天打氣！



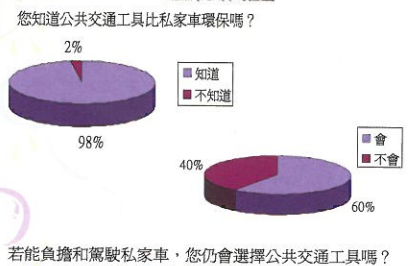
獨善其身



背景調查

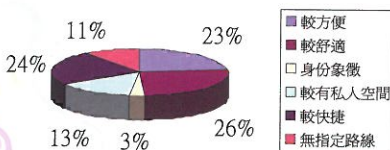


量性調查



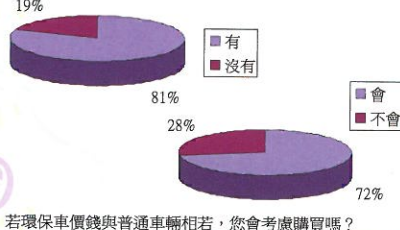
量性調查

您為什麼會較常選擇乘搭私家車／的士



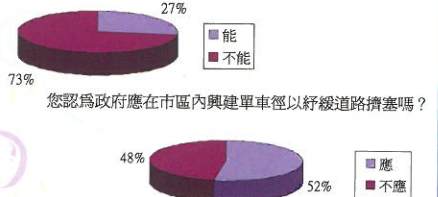
量性調查

你有聽說過環保車嗎？



量性調查

本港私家車數目持續上升，您認為道路發展應付這趨勢嗎？



探討都市固體廢物的處理方法 A Study of Municipal Solid Waste Treatment

觀塘官立中學 Kwun Tong Government Secondary School

Introduction

Every day, about 15,000 tonnes of wastes is generated and disposed of at landfills. According to the statistics of the Environmental Protection Department, the remaining landfill space can last for only 6 to 10 years. As 62% of wastes disposed of at landfills are Municipal Solid Waste (MSW), which comprises solid waste from households, commercial and industrial sources, a study of the MSW treatment may be a means to solve the landfill problem in Hong Kong.

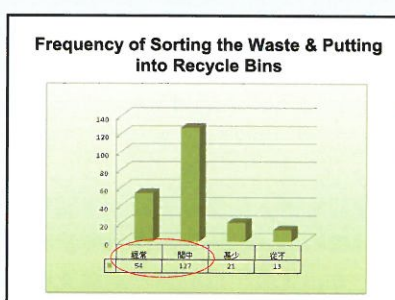
Analysis and Discussion

We had assumed that Hong Kong citizens did not support the recycling work as the MSW recycle rate of Hong Kong is only 45%. But we found that most of the citizens were willing to support the recycling work as 84% of the respondents of our questionnaire usually or always separate the source of waste and put them into recycling bins. Considering this, the low recycle rate of Hong Kong can be ascribed to the lack of recycling bins in Hong Kong.

By gathering information from the internet and books, we have chosen Germany, one of the most successful countries of the disposal of MSW, as our model. In Germany, the classification of wastes is more detailed than Hong Kong's. Based on her case, a waste separating system with a much more detailed classification of wastes has been suggested. With the need of hands, there will be more job opportunities. Also, the system can help to minimize the amount of waste required disposal and hence can help to slow down the speed of running out of landfill space.

Conclusion

As stated by the Environmental Protection Department, if the solutions of disposing of the waste are not identified immediately, we could face a crisis in the next decade of having nowhere to put the thousands of tonnes of waste thrown away each day. The suggested system is the most effective and long-term solution of the MSW problem. Despite the previous study of the government, our project may give inspirations to the government about the disposal of solid waste in Hong Kong and hence to solve the landfill problem.

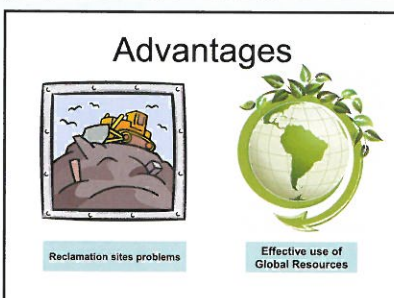


	Currently Used Recycling Bins	Recommended Recycling Bins
Glass Bottles	X	✓
Vacuum Flask	X	✓
Wooden Products	X	✓

	Currently Used Recycling Bins	Recommended Recycling Bins
PVC Bottles	✓	✓
Papers	✓	✓
Cans	✓	✓



	Currently Used Recycling Bins	Recommended Recycling Bins
Batteries	X	✓
Tyres	X	✓
Kitchen Wastes	X	✓
Packaging Bags for Potato Chips	X	✓



生態足印 Ecological Footprint 皇仁書院 Queen's College

序言

許多人說香港人是地球母親的敗家子，例如：我們每天製造了三萬噸廢物，包括膠袋、發泡膠製品，而且我們經常浪費能源，加上香港人生活節奏急促，的確對於環境有較少的注意，但是是否真的那麼負面——要用「敗家子」來形容香港人嗎？我們希望透過利用「生態足印」——一個量度社會對環境破壞的方法，透過調查和比較，來探討這個問題。

研究目的

首先我們希望學習生態足印這個概念，包括它的計算方法、現時的認受性等。其後，透過研究香港人對環境造成破壞的不同源頭和現時香港的生態環境，了解生態足印擴大的原因和後果；此外我們會探討具體減低的方法，以及分析現時不同措施的成效和優劣，從而引起香港人對保護環境的關注。

研究方法

對於了解生態足印這個概念和一些基本的環境知識，我們會透過互聯網和相關書籍找尋資料。其次，我們會盡量獲得多些第一手資料，包括會做一些訪問、統計和調查，包括透過一些於外國生活的同學或師兄了解當地的環境、人們對保護環境的態度及生活方式，同時也會有實地考察，了解多些關於香港自然生態的情況並拍攝照片。另一方面，我們也會用一個較科學的角度進行探討，包括做一些小型的實驗如建立一個個的小型生態箱並了解不同污染物的影響，也會使用pH計量度不同地區泥土的酸鹼度。

研究展望

我們香港這個地方不算很大，同時也不是一個工業主導的地方，所以要進行環境保護的話，推行上遇到的阻力和障礙是較少的。大家都是生活於香港，為了讓自己和我們的下一代有更好的生活環境，努力維持可持續發展是應該的。我們相信人類和大自然之間是可以互惠互利的，關鍵就是我們是否願意付出心力。我們希望這份專題研習能引起公眾對減少對自然衝擊的關注，同時也相信我們能夠在寫這份報告的過程中會有莫大的裨益。

研究摘要

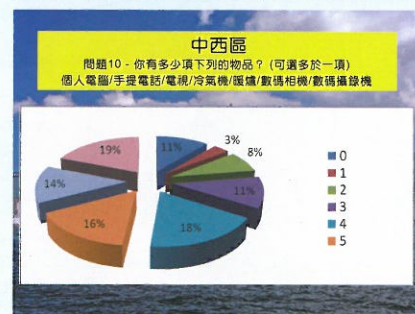
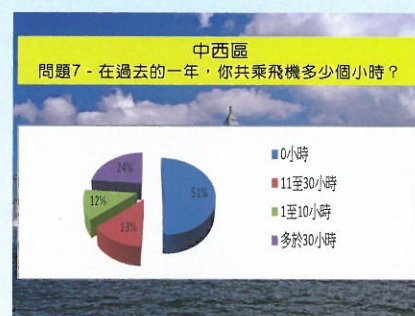
此研究旨在探討香港人的生態足印。生態足印是一量度地方對自然資源運用以維持個人或社會的消耗的概念。本研究主要從香港三類不同收入階層的地區著手，透過調查各區的生態足印，作出比較，以引證一些探究者的假設，同時亦能總結香港現時對自然資源消耗的情況。

探究者透過量性調查(Quantitative Research) (網上問卷) 和 質性調查(Qualitative Research) (街頭訪問選出的七個區域的市民)來了解不同收入階層的香港人的生態足印。

透過是次研究，探究者確實對香港人的生態足印有了更深的體會和發現，當中包括：

1. 香港人的平均生態足印等同於1.77個地球的資源，遠遠比已發展國家為低，顯示香港人的環保意識很高
2. 高收入人士對自然資源的消耗並不一定很高
3. 潮流是會影響物質生活，從而擴大生態足印
4. 一般香港人認為生態足印超出一個地球資源並不是一件特別的事

透過是次研究，探究者希望香港社會能更重視保育環境的重要性，因為保留現有的地球資源能保障香港人的下一代的生活，特別在這個資源短缺的地方，香港人更是有責任減少對外資源的依賴。



溫室球救~十年拯救地球計劃

皇仁書院 Queen's College

引言

目前，中國以及全球都受到溫室效應的影響，例如：動物數量及物種下降、溫度上升、水位上升等。儘管溫室效應已廣泛影響人類日常生活，但各國仍只為自己國家利益著想，而妄顧全球危機。

我們將詳細分析全球暖化的原因、影響，以一個十年的計劃拆解危機。為此，我們將深入解構，為地球的「球」救伸出援手。

研究目的

1. 全球暖化的情況嚴重，令讀者明白其重要性。
2. 發掘各種危機，以帶出環保的重要性。

主題

1. 列出問題源（如廢氣排放、砍伐樹木等）
2. 列出已有的危害和影響（如冰川數量下降、水位上升）
3. 列出解決方法~十年大計（如減低廢氣排放等）

研究意義

有云：水能載舟，亦能覆舟。人類將地球破壞，又為不可能把地球回復原貌，將地球從水深火熱中拯救出來？為可要破壞家園，而引起類似「溫水煮蛙」令地球迫向瀕臨滅亡的邊緣呢？因此我們要愛護地球，推廣環保！

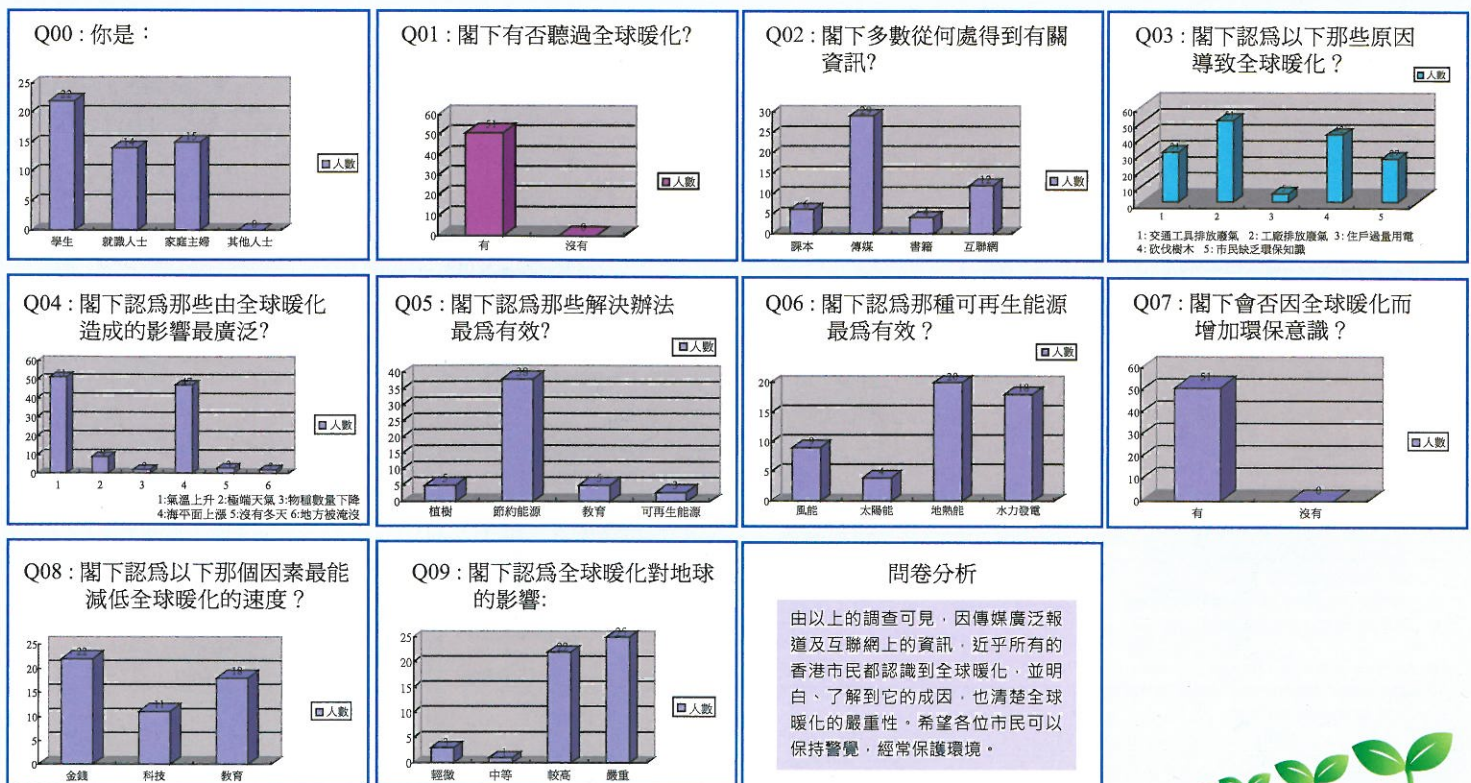
研究摘要

目前，中國以及全球都受到溫室效應的影響，例如：動物數量及物種下降、溫度上升、水位上升等。儘管溫室效應已廣泛影響人類日常生活，但各國仍只為自己國家利益著想，而妄顧全球危機。

我們將詳細分析全球暖化的原因、影響，以一個十年的計劃拆解危機。為此，我們將深入解構，為地球伸出援手。

人類將地球破壞，就有責任把地球回復原貌，將地球和人類從水深火熱中拯救出來。因此我們要盡力拯救地球，推廣環保信息！

經過這次對全球暖化的研究後，我們終於知道，人類將來的存亡，是要我們盡快在最短時間內，彌補我們人類之前所犯下的錯誤。雖然，這樣做可能十分困難，但『一人做事，一人當』，所以我們現在彌補仍不會太遲，只要我們肯做，未來仍可改變。請大家加快行動，推廣環保信息！



Polar Regions in Risks?!

宣道會鄭榮之中學 Christian Alliance Cheng Wing Gee College

1. Pollution Problem in Polar Regions

a) Sources of pollutants:

- From the faeces of Migratory birds
- Industrial and agricultural chemicals

b) Pollutants:

- Dichloro-Diphenyl-Trichloroethane (DDT)
- Polychlorinated biphenyl(PCB)
 - coolants and insulating fluids in industrial product.
 - affect health problems of animals
 - i. accumulate in fat reserves of seals
 - ii. weaken immune system in polar bears which become more susceptible to disease or parasites
 - iii. cause fatal effect to consumers

c) Polar organisms

- In winter, polar organisms have big appetites before going into hibernation.
- build up thick fat under skin and pollutants ingested will stay in the fatty tissue.
- fat reserves are broken down to release energy, so the concentration of chemicals become high
 - interfere with sex hormone
 - affect the development of the reproductive tract and the mammary gland.
 - cause abnormal mating behaviour.

d) Others

- In the laying of eggs and delivery of the baby
- pollutants are transferred from mother to offspring
 - higher concentrations of pollutants in males than in females
- Newborn cubs are especially vulnerable to these pollutants.
- they are totally dependent on the mother's milk for growth and development
- If milk contains high concentrations of chemicals.
 - poison the cubs
 - Lower their survival rates

2. Effect of Oil activities in Polar Region

a) Activities affect polar bears and their habitat

- Petroleum exploration
- Extraction
- Transports
- Processing

b) Effect of Oil on Polar Organisms (E.g. Polar bears)

i. Contacting the oil spills

- reduce the insulating effect of bears' fur.
- need more energy to keep warm
- must compensate for this energy loss by increasing its caloric intake
- If...limited supply of food for long period of time? Starvation of bears

ii. Ingest oil

Through grooming scavenging and preying on contaminated seals, seabirds, and other preys.

Causes

- Liver and kidney damage, and has long-term toxicity
- can kill the polar bear

iii. Extraction process

- Discharges of a number of toxic substances
 - e.g. oil-based drilling muds contain both heavy metals and Persistent organic pollutants (POPs)
- Cause health problems
 - e.g. disruption of the endocrine, reproductive, and immune systems.

3. Arctic and Antarctic Climate Change

- Earth's climate is changing
- Global temperature now rising
- caused by the increased emissions of carbon dioxide & other greenhouse gases.

a) Arctic Climate changes

- warmer winters
- earlier break-up of ice in the spring
- thinner ice round the year.

b) Antarctic Climate change

- can cause the melting of ice (crumbling of ice shelf) easily
- lead to sea-level rise

c) Effect of Climate change on Polar bears

i. Retreat of sea ice and its formation later in the year:

- Ice is breaking up earlier
- Forces bears ashore before building up sufficient fat stores
- Forcing them to swim longer distances
- May exhaust them, leading to drowning
- Declines of polar bear

ii. Hungry polar bear eat polar bears

Effect of global warming

- non-ice period is lengthening
 - hungry polar bears cannot find food-start eating their partners.
- The first record of eating their partner was made in 2004.
So, polar bears may extinct by the end of this century.

iii. Number of penguins sharply decreases

- the climate becomes warmer and warmer
- increasing hunting by humans
- the penguins have less food endanger
- Sea-ice melt too fast
 - many eggs of penguin and baby penguin cannot survive.

4. Occurrence of Bacteria

Area of Antarctic ice shelf decreases gradually, prehistoric bacteria and virus unfreeze.

When the glacier melts

- the virus trapped in ice can be activated again
- can be dispersed to other parts of world
- cause harmful effect to human

5. Ecotourism

The Main Reason

- Melting sea ice cause opening of the Arctic to tourism?
- more people visit the Arctic

Results

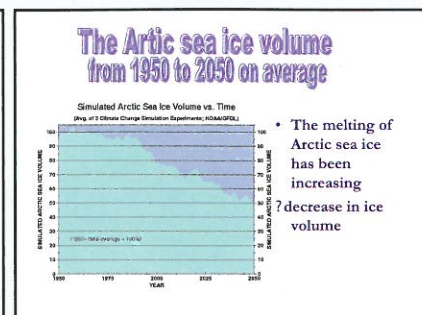
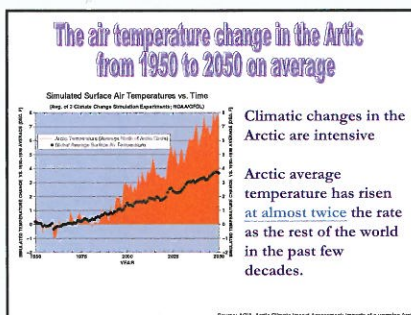
- noise pollution and interactions with polar bears increase
- harassed by photographers and tourists
- bears are attracted to human camps by the smell of food
- This may be perceived as a threat to the polar bear.

Environmental impacts

- Transportation by water increased the chance of oil spills and other risks to environment.
- Repeated trampling by tourists, the ground becoming bare.
- Helicopters are noisy, disrupting the seabirds, and other pole animals
- Recreational activities cause local disturbance at bird colonies.
- Decomposition of garbage and waste is slow
- This results in serious land pollution

Conclusion

- We should try to prevent the intensify of Global Warming
- Oil activities should be well control
- pollution due to ecotourism should be considered seriously
- To arouse the public awareness of protecting the natural environment in Polar Regions for the sake of sustainable development.



誰是香港空氣污染的原兇？

長洲官立中學 Cheung Chau Government School

香港是一個面積細小的繁華都市，卻有著其獨特的地理環境。山多平地少的地勢，令空氣內的污染物不容易吹散，滯留在都市裏，香港發展密度高，而樓宇高度一般亦較高，加上大量運輸廢氣令香港的空氣質素日漸變差。

我們這次的專題研習，便以「香港的空氣污染問題」為目標，找出香港空氣污染問題的原兇，並討論香港空氣污染問題的情況、成因，後果，以及空氣污染物的種類、源頭，和政府的努力及對其政策成效作出評估。

在整項研究中，我們收集不同時期(2006年和2007年)以及粵港各地地區的空氣污染數據，進行分析。同時，又會輔以氣候和土地利用的資料，分析空氣污染的季節性轉變與氣候因素的關係，以及空氣污染的地區性差異與該區的地理分佈、土地利用的關係。

香港空氣污染問題一直嚴重，部份是由於本港的本地因素，如交通、發電廠引起；而從空氣污染的季節性轉變研究得知，在春季、秋季及冬季時，偏北風把境外(內地珠江三角洲等地)的空氣污染物吹至本港，以致天空被一層灰灰的煙霧籠罩，而在夏季，由南太平洋以來的空氣較佳，把本港的空氣污染物吹散，令我們可以看到藍藍的天空。

另外，從空氣污染的地區性差異研究得知，空氣污染是有地區性差異，同時亦受該區的分佈和土地利用所影響，若一地區位處郊外，如香港塔門，接近郊野公園、綠化帶，並遠離商業中心區、工業區等，空氣污染便較輕微；相反，若一地區位處鬧市，如荃灣和東涌，接近工業區、交通繁忙地區，空氣污染情況明顯較郊區嚴重。

空氣污染的季節性轉變

2006年空氣污染指數分佈(每天計)

季節	春季 (2月-4月)	夏季 (5月-9月)	秋冬季 (10月-1月)
輕微	5.2	46.8	0.7
中等	34.3	78.2	36.1
偏高	45.8	24.1	78.9
甚高	0.8	0.3	0.1
嚴重	0	0	0

空氣污染的季節性轉變

2006年盛行風向分佈(每天計)

季節	春季	夏季	秋冬季
月份	2月 0	3月 1	4月 10
偏南風	18	25	24
偏北風	28	30	18
	14	4	6
	6	6	10
	10	10	28
	31	29	

空氣污染的季節性轉變

2007年空氣污染指數分佈(每天計)

季節	春季 (2月-4月)	夏季 (5月-9月)	秋冬季 (10月-1月)
輕微	3.1	55	1.8
中等	50.4	64.2	28.7
偏高	35.1	32	86.6
甚高	0.1	0.2	0.6
嚴重	0	0	0

空氣污染的季節性轉變

2007年盛行風向分佈(每天計)

季節	春季	夏季	秋冬季
月份	2月 6	3月 7	4月 9
偏南風	20	29	31
偏北風	22	30	21
	11	3	0
	8	28	31
	30	31	30

研究2 - 空氣污染的地區性差異

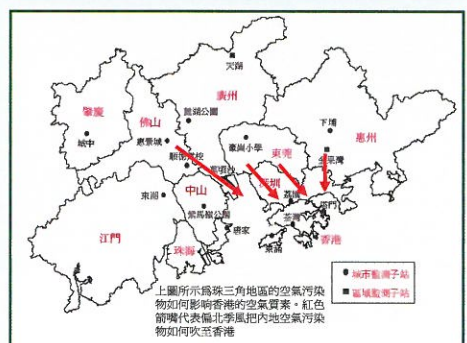
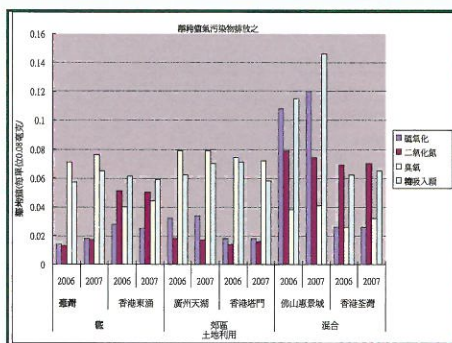
塔門、東涌、荃灣三區的比較

	塔門	東涌	荃灣
地理區位	西貢	離島	葵青
地區狀況	海島	新市鎮	城市
主要土地利用	康樂利用	住宅利用	混合工業、住宅利用
鄰近污染源	不明顯	機場	公路、工廠

粵港六區空氣監測站地點的比較

監測站	地址	地區類別
惠州金果灣	惠州市金果灣生態農莊	居民區
香港東涌	東涌富東街6號	新市鎮：住宅區
廣州天湖	從化市天湖公園	背景：郊區
香港塔門	塔門警崗	背景：郊區
佛山惠景城	禪城區汾江南路127號	住宅/商業/工業混合發展區
香港荃灣	荃灣大河道60號	住宅/商業/工業混合發展區

土地 利用	地點	四種空氣污染物排放之年平均值 [國家二級年均標準：0.08 毫克/立方米]							
		二氧化硫		二氧化氮		臭氧		可吸入顆粒物	
		2006	2007	2006	2007	2006	2007	2006	2007
住宅 區	惠州金果灣	0.014	0.018	0.013	0.017	0.071	0.076	0.057	0.065
	香港東涌	0.028	0.025	0.051	0.050	0.040	0.044	0.061	0.059
郊區	廣州天湖	0.032	0.034	0.018	0.017	0.079	0.079	0.062	0.070
	香港塔門	0.018	0.018	0.014	0.016	0.074	0.072	0.071	0.058
混合	佛山惠景城	0.108	0.120	0.079	0.074	0.038	0.041	0.115	0.146
	香港荃灣	0.026	0.026	0.069	0.070	0.026	0.032	0.062	0.065



How can Secondary Students make an impact on the environment through changing their life styles

聖保羅男女中學 St. Paul's Co-Educational College

Project question:

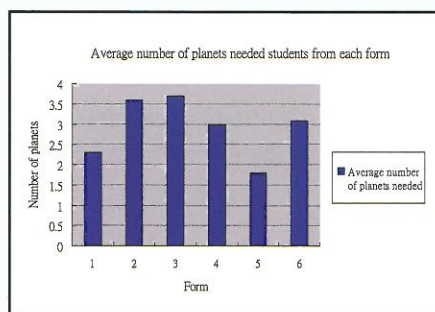
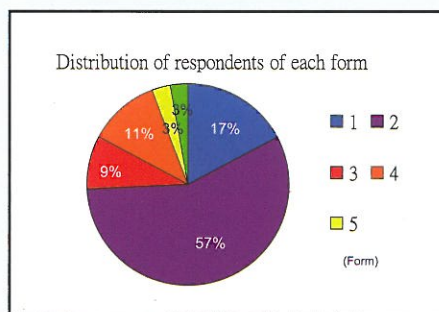
How can secondary students make an impact on the environment through changing their lifestyles? A case study of St. Paul's Co-educational College students

Our school has initiated an Environmental Drive: "A New Lifestyle, A new Earth" in this academic year. The main aim is to focus on changing the lifestyles of students and all staff to protect the environment by using the 4Rs – Reduce, Recycle, Reuse and Replace as much as possible. We would like to investigate into the impact on the Environmental Drive on students' lifestyle by using the Ecological Footprint, a resource management tool widely used internationally.

At the beginning of the case study, we sent e-mails to all Form 2 students to invite them to complete the online ecological footprint quiz. Two students with the most negative results were invited to participate in the case-study.

The entire case-study consists of four days. On the first day, the two participants were instructed to record the initial amount of waste produced by them, including amount of solid waste, time traveled by cars, and amount of processed, packaged or imported food eaten. On the following three days, they were directed to record the final amount of wastes created while living more environmentally-friendly under some guidelines given. The results shows that the number of rubbish reduced was not too distinct but the difference would be a significant one if the change of their habits could sustain for a year or more.

The school can use different educational activities to promote habitual change. This study concludes that though these measures might not create drastic changes in students' lives, it is likely that significant improvement would be made if the campaign is not a one-off activity. Further research on the impact of environmental campaign may contribute to a more comprehensive understanding about our efforts made.



Student A's result		Student B's result	
Item	Initial amount	Average final amount	
Amount of solid rubbish created everyday (e.g. coke cans, tissue papers, plastic lunchboxes etc.)	15	9	
	17	13	
Time traveled by cars (e.g. private cars, school buses, mass transit etc.)	180	135	
	105	40	
Amount of processed, packaged or imported food eaten (e.g. cup noodles, sausages, coke, imported poultry etc.)	5	3	
	2	1	

Items	Percentage decrease
Amount of solid rubbish created everyday (e.g. coke cans, tissue papers, plastic lunchboxes etc.)	40%
Time traveled by cars (e.g. private cars, school buses, mass transit etc.)	24%
Amount of processed, packaged or imported food eaten (e.g. cup noodles, sausages, coke, imported poultry etc.)	25%
	62%
	40%
	50%

Air pollutants =
(distance traveled) x [average emission of different cars (g/km)]

Vehicle	Amount of emission (g/km)
Private cars	0.2
Minibuses/light trucks	0.55
Buses/heavy trucks	2.05

Item	Average initial amount (per day)	Average final amount (per day)	Difference in initial and final amount (per day)	Amount of waste reduced throughout a year
rubbish	16	10	6	2190
Time traveled by cars	82	77	5	1825
Processed, packaged or imported food	3	2	1	365

Environment and Our Respiratory System

英皇書院 King's College

OVERVIEW

- Our health is directly influenced by the environment.
- Adverse environmental conditions would in no doubt harm our health.

IN THIS STUDY PROJECT, WE WILL MAINLY FOCUS ON:

- The effects of undesirable environmental conditions on our respiratory system
- Present situations
- Causes
- Statistical data
- Solutions
- Suggestions to the Government.

WE WOULD LIKE TO REVEAL:

the implication between the environment and the health of our respiratory system.

HOWEVER,....

- as there are a myriad of environmental respiratory diseases
- It is impossible for us to reveal each of them in this study.
- we will narrow down our target on Asthma and divulge the problems of Asthma in Hong Kong

POLLUTIONS—PRESENT SITUATION

- Hong Kong has long been flourished and been credited for its rapid economic development.
- However, there are a myriad of environmental problems.
- It is packed with a multitude of skyscrapers and has long been notorious for its serious environmental problems.
- For instance, the air pollution is serious in Hong Kong as a result of the tense transport. As this is closely related to a lot of environmental respiratory disease e.g. Asthma, it will be discussed in depth in this study.

HEALTH EFFECTS

API levels have been related to concentrations of:

- ambient respirable suspended particulate (RSP),
 - sulphur dioxide (SO₂),
 - carbon monoxide (CO),
 - ozone (O₃) and
 - nitrogen dioxide (NO₂)
- over a 24-hour period based on the potential health effects of air pollutants.

EFFECTS ON CLIMATE AND ECOSYSTEMS

- Air pollutants such as ozone, nitrogen oxides, and sulfur dioxide also have harmful effects on natural ecosystems.
- They can kill crops, plants and trees by destroying their leaves, and can kill animals, especially fish in highly polluted rivers

SOME AIR POLLUTANTS CAUSE GLOBAL WARMING

- Air pollution includes gases such as carbon dioxide, methane, and nitrous oxide are greenhouse gases.
- Greenhouse gases cause global warming by trapping solar radiation in the atmosphere.

SOME AIR POLLUTANTS CAUSE TEMPORARY GLOBAL COOLING

- Cars, trucks, and smokestacks also release tiny particles into the atmosphere.
- They can be composed of various substances such as mineral dust, sulphates, sea salt, or carbon.
- Some of these tiny particles blocks a little bit of solar radiation from getting to Earth causing cooling.

EFFECTS OF GLOBAL WARMING

- Raising sea levels
- Glacier retreat
- Arctic shrinkage
- Altered patterns of agriculture
- Extreme weather events
- An expansion of tropical diseases
- Changes in the timing of seasonal patterns in ecosystems
- Drastic economic impact

STATISTICS

- According to many statistics as shown above from EPD, the air pollution remains poor ever year.
- As seen from the data for recent years, the Air Pollution Index remains high throughout the years.
- In winters, the API is even usually higher than 100 which may aggravate the health condition of cardiovascular and respiratory diseases.

ACCORDING TO A RESEARCH BY LI KA SHING FACULTY OF MEDICINE OF THE UNIVERSITY OF HONG KONG IN 2006

- It was found that there were significant associations between asthma admission number and the changes of Nitrogen Dioxide (NO₂), Ozone (O₃), particles with aerodynamic diameter less than 10 micrometer (PM₁₀) and particles with aerodynamic diameter less than 2.5 micrometer (PM_{2.5}) levels.
- An increase of 5.64% of daily asthma admission count was attributed by an increase in NO₂ level, and 3.76% by O₃, 3.67% by PM₁₀ and 3.24% by PM_{2.5}.

FROM THIS REPORT

It shows that asthma hospital admission counts in Hong Kong increased with ambient levels of NO₂, O₃, PM₁₀ and PM_{2.5}, which are the most abundant air pollutants in the atmosphere.

ACCORDING TO A RESEARCH BY THE FACULTY OF MEDICINE OF THE CHINESE UNIVERSITY OF HONG KONG IN 2007

- Significant associations were found between hospital admissions for asthma to 15 major hospitals in Hong Kong and the levels of NO₂, O₃, PM₁₀ and PM_{2.5} from January 2000 to December 2005.
- For every 10 g/m³ increase in NO₂, O₃, PM₁₀ and PM_{2.5}, there were 2.8%, 3.4%, 1.9% and 2.1% increases in the rates of asthma hospitalizations respectively.
- The younger age group (0-14 years) tended to have a higher risk for each 10 g/m³ increase in pollutants than those aged 15-65 years.
- The elderly (aged ≥65 years) had a shorter lag time to develop asthma exacerbation following exposure to pollutants than those aged <65 years.

FROM THIS REPORT

- The harmful effects of air pollutants appeared more pronounced in the young and the elderly when compared to the rest of the adult population.
- Adverse effects of ambient concentrations of air pollutants on hospitalization rates for asthma are evident.
- Measures to improve air quality in Hong Kong are urgently needed.

FROM THE QUESTIONNAIRES

- A mass majority of people think that the air pollution problem in Hong Kong is poor.
- Many people are dissatisfied with the current policies on air pollution control by the government.
- The awareness of people to the relationship between their health and the environment is high.
- More than one third interviewees suffered from environmentally related respiratory disease

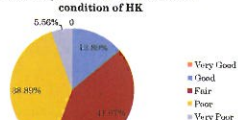
CONCLUSION

From the statistical data, it is found that asthma is closely related to the deteriorating air pollution such that the hospital admission rate and death rates as a result of asthma attacks increases with the Air Pollution Level. It is also found that Hong Kong had quite a lot of people suffering from environmentally related respiratory disease as a result of the poor air condition in Hong Kong.

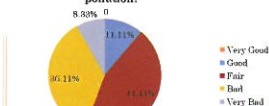
SUGGESTIONS AND SOLUTIONS

- First and foremost, the government can set up harsher rule in controlling the emission of particles from cars, factories and etc.
- Second, people should be more aware of the close relationship between air pollution and asthma, such that they can carry out preventive measures for the sake of alleviating the problems of asthma.
- Finally, education should be enhanced for arousing people's especially the young ones' awareness towards asthma. "Prevention is better than cure."

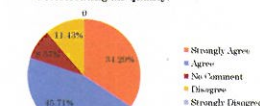
How do you comment about the air condition of HK



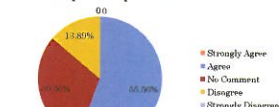
How will you comment on the policies carried out by the government on air pollution?



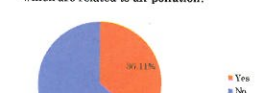
You are concerned that your health would be affected because of the deteriorating air quality.



You always keep yourself familiar with air pollution problems.



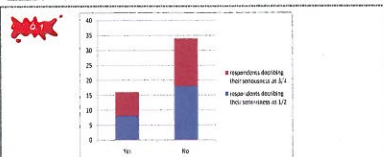
Do you have any respiratory diseases which are related to air pollution?



Relationship between Environmental Factors and Allergic Rhinitis

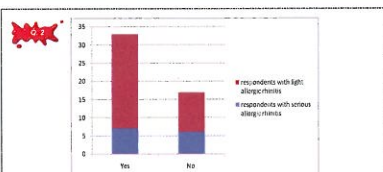
觀塘官立中學 Kwun Tong Government Secondary School

Part II: Conditions of household environment



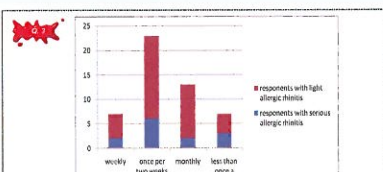
Ch.4.2 Figure 3: Allergic rhinitis patients' responses to the poll 'Are there any members in your family who are used to smoke?'

- Patients who have smokers in their family have a slightly higher rate (i.e. 3%) of suffering from serious allergic rhinitis.



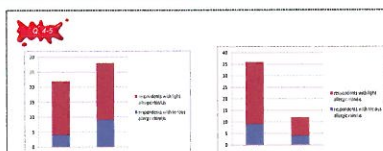
Ch.4.2 Figure 4: Allergic rhinitis patients' responses to the poll 'Do you clean the filters of your air conditioner monthly when you use?'

- Respondents who clean the filters of their air conditioners monthly when their air conditioners are constantly in use have a lower rate (i.e. 14%) of suffering from serious allergic rhinitis



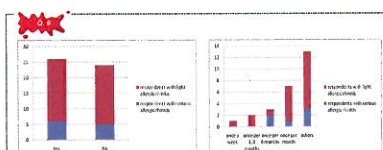
Ch.4.2 Figure 5: The frequency of allergic rhinitis patients launder their bedding.

- Generally speaking, patients who launder their beddings more frequently are less likely to suffer from serious allergic rhinitis.



Ch.4.2 Figure 6: Allergic rhinitis patients' responses to the poll 'Do you give the contents of your shower or tub a weekly shower with a cleaning solution containing 5% chlorine bleach and a small amount of detergent?'

- Respondents who do so have lower rates of suffering from allergic rhinitis (i.e. 14% and 7% respectively)



Ch.4.2 Figure 7: Allergic rhinitis patients' responses to the poll 'Do you use the ventilation fan or open the window when you are taking a shower?'

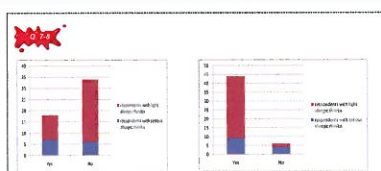
- The rate of suffering from serious allergic rhinitis of respondents who do and do not clean regularly under their stoves, refrigerators and toasters are almost the same

Introduction

Allergic rhinitis is so common that many people in Hong Kong are suffered. However, do people really know why they have allergic rhinitis? How many of us notice the effects brought by the weather conditions? Do the majority of allergic rhinitis patients know how to make their houses allergy-free? Many of us will probably answer "How do I know?". We find that people can hardly find a clear instruction about how to control allergic rhinitis, even from the library.

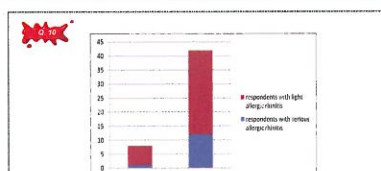
Analysis and Discussion

Therefore, we want to find out how do the weather conditions and household environment affect allergic rhinitis through case studies and a questionnaire respectively. For case studies, we have ten-day records from five respondents who live in Kwun Tong and Sai Kung to work out the relations between weather conditions and allergic rhinitis. We find that patients get more symptoms on a day when the API is high and their conditions get worse with the varying temperature and humidity. For questionnaire, 50 valid responses are involved. We asked for patients' conditions as well as conditions of their household environment and try to link them together. We find that allergic rhinitis can be affected by various household environmental factors, such as passive smoking, frequency of laundering beddings and hairy pets etc. Generally speaking, most of the results are consistent with our initial hypothesis. Polluted air contains a wide range of chemicals which can trigger allergic rhinitis. Temperature and humidity factors stimulate patients' parasympathetic nervous system or lead to over-active vasomotor actions. Some specific temperature or humidity changes can lead to the production of some allergens which can worsen allergic rhinitis. In our household environment, many allergens are hiding in patients' beddings, in patients' kitchens, and all over their houses. However, as not many patients really know how to avoid those allergens through cleaning their houses, allergic rhinitis is easily triggered.



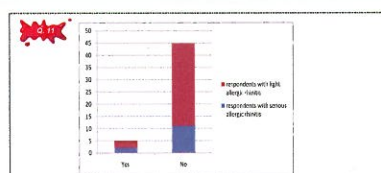
Ch.4.2 Figure 10: Allergic rhinitis patients' responses to the poll 'Do you leave dishes in sink?'

- Respondents who do not leave dishes in sink and keep all food sealed tight have lower rates of suffering from allergic rhinitis (i.e. 20% and 45% respectively)



Ch.4.2 Figure 13: Allergic rhinitis patients' responses to the poll 'Do you cover the mattress and pillows with impermeable covers?'

- Respondents who cover the mattress and pillows with impermeable covers have lower rate of suffering from allergic rhinitis (i.e. 16.5%)



Ch.4.2 Figure 14: Allergic rhinitis patients' responses to the poll 'Do you keep hairy pets, such as dogs and cats?'

- Respondents who keep hairy pets have a higher rate of suffering from serious allergic rhinitis (i.e. 16%)

speaking, most of the results are consistent with our initial hypothesis. Polluted air contains a wide range of chemicals which can trigger allergic rhinitis. Temperature and humidity factors stimulate patients' parasympathetic nervous system or lead to over-active vasomotor actions. Some specific temperature or humidity changes can lead to the production of some allergens which can worsen allergic rhinitis. In our household environment, many allergens are hiding in patients' beddings, in patients' kitchens, and all over their houses. However, as not many patients really know how to avoid those allergens through cleaning their houses, allergic rhinitis is easily triggered.

Conclusion

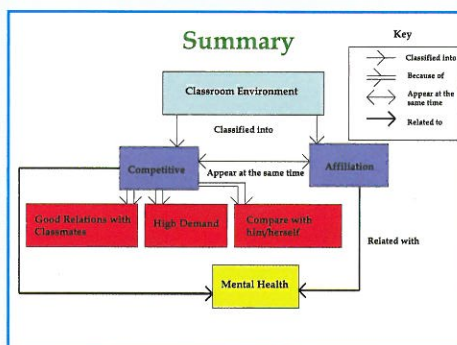
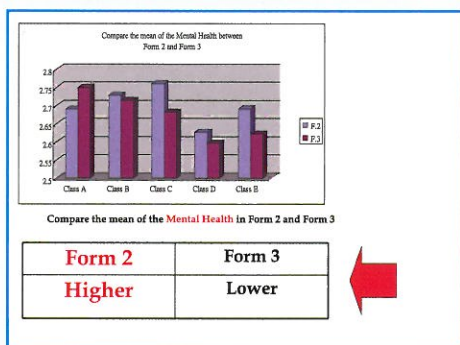
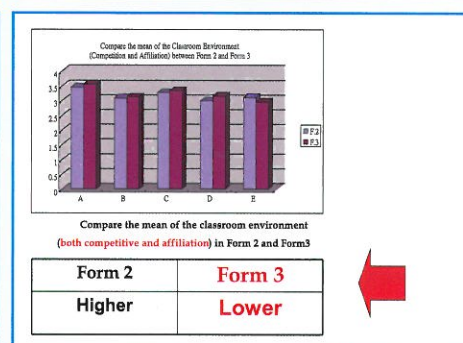
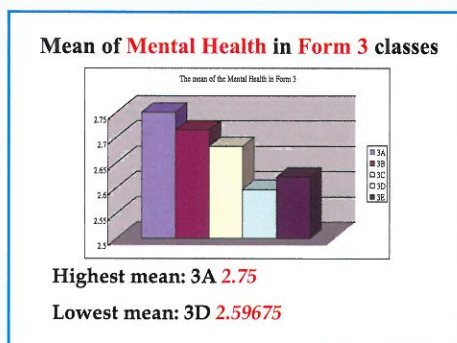
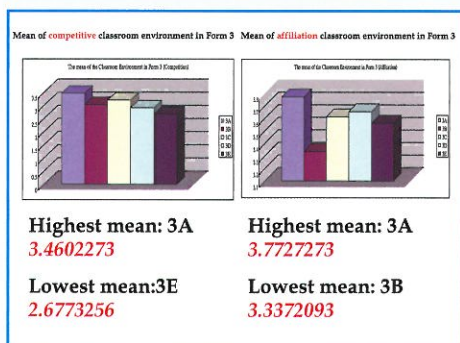
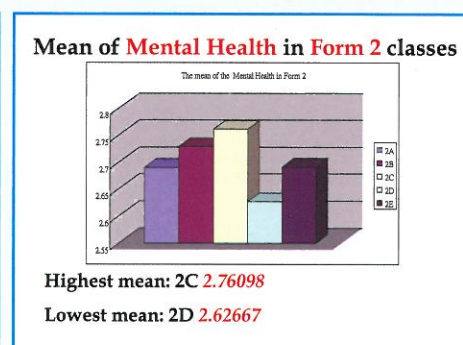
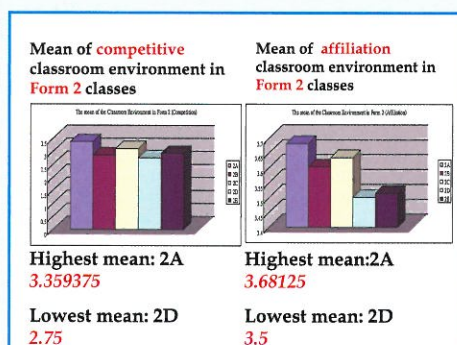
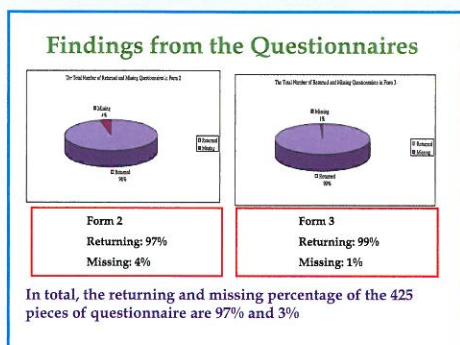
Allergic rhinitis is an extremely common disease nowadays. It is very important for the public and patients to learn how to improve allergic rhinitis. Through protecting our environment, air pollution can be lightened and climate change can be less varying. In this case, conditions of the patients all over the world can be relieved. Through wide promotion of the relations between allergic rhinitis and household environment, patients can have a clear instruction about how to avoid allergens, and hence, their conditions can be significantly relieved.

The Relationship between the Classroom Environment and the Development of Mental Health of Secondary Students

觀塘官立中學 Kwun Tong Government Secondary School

In a competitive society nowadays, academic performance is seen as an important key to future success. Many Hong Kong students feel stressed when facing their school life and seriously suffered from mental problems. This problem will affect their future development and require public attention and care. The present study investigates the relationship between the classroom environment and the development of mental health of secondary students. It aimed at identifying the influence of classroom environment on mental health. We have chosen the competitive aspect and affiliation aspect of the classroom environment to study in depth. According to the 425 questionnaires of Form Two and Form Three students and interview of three students, we have collected lots of useful information. Excel and SPSS were used to check the degree of correlation of the variables.

In this study, we find that the more competitive and affiliated the classroom environment, the more stressful were the students. However, an affiliated classroom environment in Form Three didn't show the correlation. For this phenomenon, we can explain that the students can have a good relationship with classmates in their free time; they still have to face the pressure of studies, examinations and competition with their classmates. Our research has confirmed that there is a close correlation between the classroom environment and the development of mental health of secondary students. The correlation can be positive as well as negative. The aims of our study are that attention should be given to nurture an affiliated classroom environment to facilitate learning. This finding further support the motto of our government, "Learning: it's more than scoring". We must first provide a good classroom environment to solve the mental problems faced by the students. At last, we hope this study can be used as reminder to the public to pay more attentions on classroom environment and students' mental health condition.



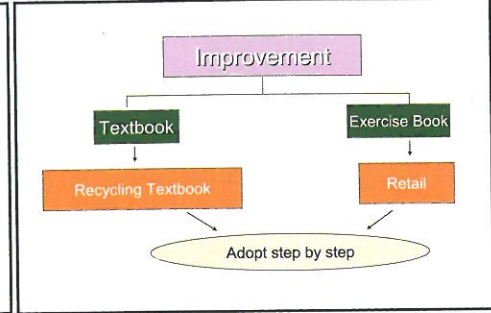
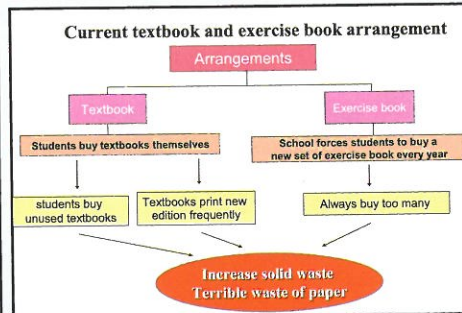
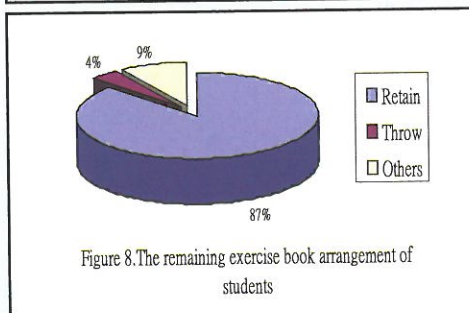
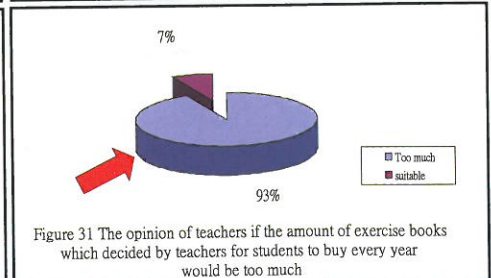
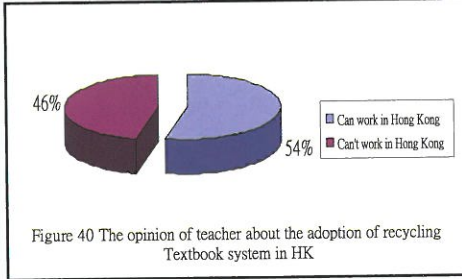
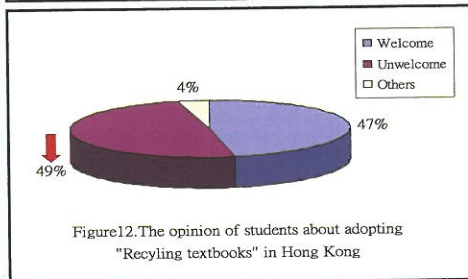
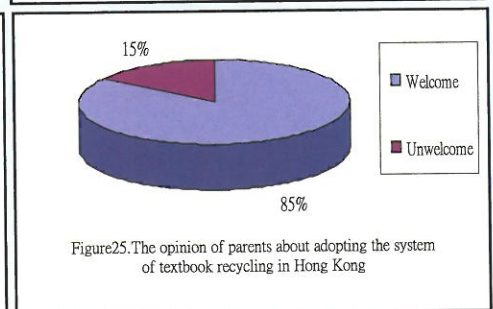
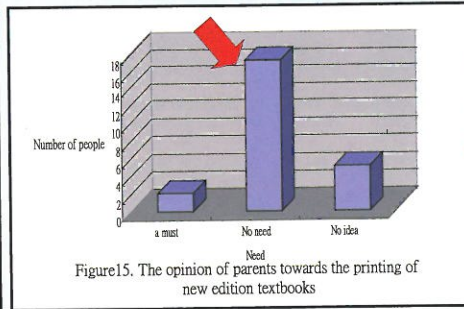
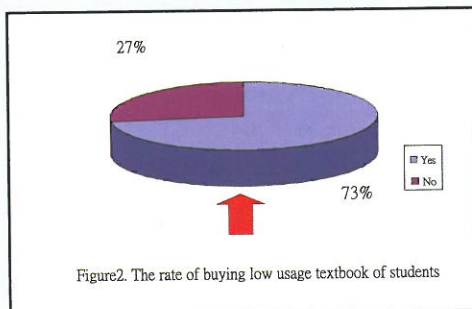
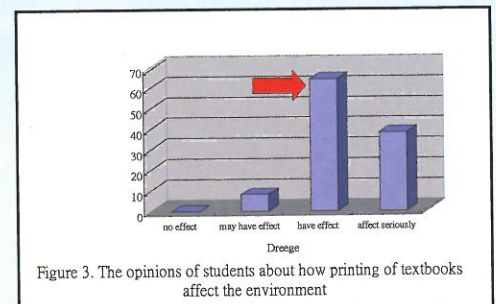
How Environmental – friendly are the Textbook and Exercise book Arrangements in Secondary school in Hong Kong

觀塘官立中學 Kwun Tong Government Secondary School

This study is to find out the environmental problems caused by our textbook and exercise book arrangements and, investigate the possibility of adopting a system of textbook recycling and the sale of exercise books in Hong Kong. The present sale of textbooks and exercise books waste a lot of paper. Global warming becomes serious and it is essential for us to reduce the deforestation rate by finding out more environmental-friendly arrangements of textbooks and exercise books.

We suggested that, learning from foreign countries, students do not need to buy the textbooks and they just need to borrow the textbooks from school. As for the exercise books, we think that it is possible for the school to sell the exercise books to the students whenever they need but not compulsorily. We first prove that the detrimental effect on the environment present in our existing arrangements and then investigate an alternative system for Hong Kong to remedy the situation. We believe that a change of people's behavior requires an impetus and the reduced amount of paper is a good start for our next generation to learn environmental conservation.

In the research, we will collect the data by archival study, conduct interviews of teachers and questionnaire survey of students and parents. The result shows that there is a difference among students, parents and teachers' opinions towards both the existing and the new suggested arrangements. It is not consistent with our prediction that all of the teachers, parents and students welcome our suggested arrangement though they are more environmental-friendly. This suggested that their opinions and attitude may be affected by their conflicting roles.



Attitude of Consumers Towards Genetically Modified food

觀塘官立中學 Kwun Tong Government Secondary School

Introduction

Talking about environment protection, most people neglect that FOOD is an important issue related to our environment. Successful environmental protection needs the consideration of consumers' right and education. So we chose a topic about genetically modified (GM) food.

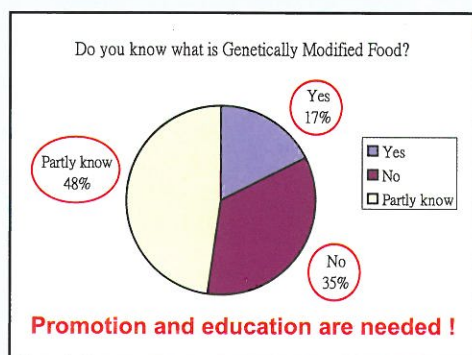
Up to now, the debate on GM food is still carrying on. All advantages of GM food are related to improving the production quality and quantity of the agricultural produce but mass production of GM food still has an "unknown" harm to our environment. Is it worth the trade-off? Environment protection is a long-term investment and it contributes to sustainable development. We should not only focus on present benefits but have to consider long-term benefits as well. Moreover, consumers are not always informed whether the food they bought is GM or not. They may unavoidably give a hand to harm the environment. Consumer's choice will affect the producers' methods of production which is important to environment conservation.

Analysis and Discussion

Our research project has three objectives: 1) to investigate the attitude of consumers towards GM food; 2) find out the impacts of GM food to the environment and 3) analyze whether government should legislate the labeling system. We carry out a questionnaire survey of housewives: 1) to check their cognition of GM food, 2) to investigate their behaviours on buying GM food and 3) to ask for their opinions on labeling system. From our result, most people do not know what is GM food and even misunderstand it. So promotion and education are needed. 84% of housewives will not buy GM food after they knew the impacts of it. It reflects that cognition has a direct influence on the behaviours. Consumer education in this way would give a hand to environmental protection. Moreover, 90% of interviewees support the government to legislate the labeling system to protect their interests. The main concern now is to increase the consumers' knowledge of GM food. In our opinion, media, non-government organizations and schools should give a strong push for propaganda. Also, the government can protect consumers' right and satisfy the requirements of environmental groups by legislating labeling system.

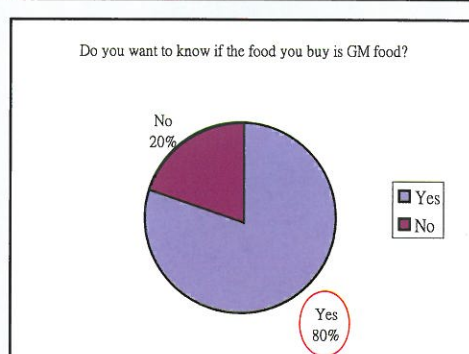
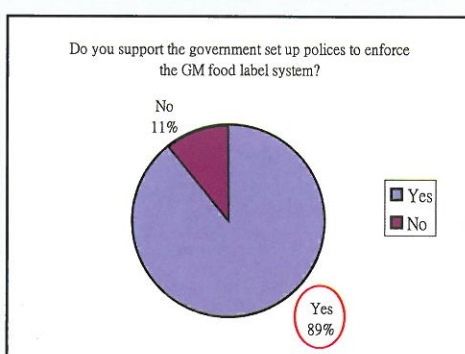
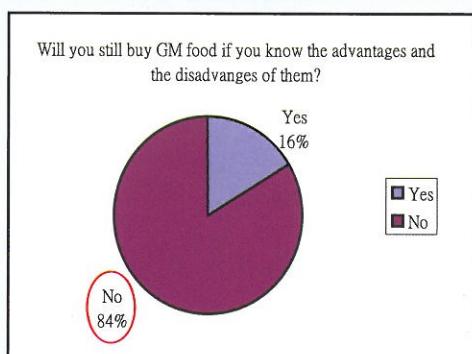
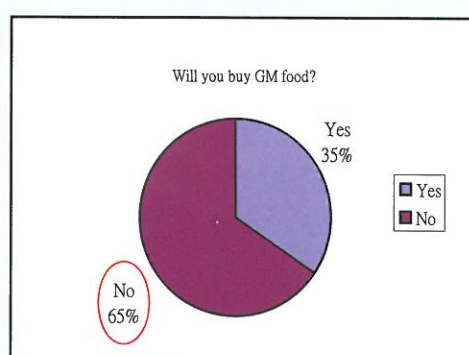
Conclusion

This research offers an alternative approach to environmental protection. It aims to raise the awareness of the people to reconsider the scope of environmental protection.



quality and quantity		effects to the environment	
Advantages of GM food		Disadvantages of GM food	
Increase crop yields		disturbing the balance of ecosystems	
Provide resistance to crop pests and reduce the use of pesticides		development of super pests	
Improve sensory attributes of food, e.g. flavour, texture		unintended modification of similar species in the neighbouring fields due to cross pollination	
Improve processing characteristics so as to reduce wastage and costs		whether it is acceptable to move genes between plants or animals which do not normally interbreed	

(All from Food and Environmental Hygiene Department of Hong Kong, 2005)



「初賽及總決賽」花絮 Highlight of the Semi-Final and Final Competition

初賽 Semi-final Competition (10-5-2008)



1. 參賽同學報告參選計劃
Students presenting their project
2. 初賽評審團
Judging panel of the semi-final competition

3. 參賽同學回答評審團的發問
Students answering questions from the judging panel
4. 參賽同學等候報告參選計劃
Students were waiting for presenting their projects



決賽 Final Competition (24-5-2008)



- 5~8. 參賽同學報告入圍計劃
Students presenting their projects
9. 入圍計劃海報展覽
Poster presentation of the selected projects

10. 本會主席梁仲清先生致歡迎辭
Welcome Speech delivered by Mr. Edwin Leung, MBE, Chairman of Hong Kong Tuberculosis Association
11. 環境局局長邱騰華太平紳士致辭
Speech delivered by Mr. Edward Yau, JP, Secretary for the Environment

HEALTH



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12. 環境保護署助理署長(空氣質素政策)黃耀錦先生致辭

Speech delivered by Mr. Wong Yiu Kam, JP, Assistant Director (Air Policy), Environment Protection Department

13. 教育局首席助理秘書長(課程發展)陳嘉琪博士

Speech delivered by Dr. Chan Ka Ki, Principal Assistant Secretary (Curriculum Development), Education Bureau

14. 香港理工大學醫療及社會科學院鄧柏濃教授

Speech delivered by Prof. Tang Pak Lai, Faculty of Health and Social Science, Hong Kong Polytechnic University



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15. 本會通識健康教育計劃籌委會主席及前教署副署長關定輝先生總結是次計劃

Round-up speech delivered by Mr. T.F. Kwan, Chairman, Steering Committee of the Liberal Studies, HK Tuberculosis Association & Former Deputy Director, Education Department

16. 環境局局長邱騰華太平紳士頒發冠軍獎座予中華基金中學

Mr. Edward Yau, JP, Secretary for the Environment presented the Champion Award to The Chinese Foundation Secondary School, Hong Kong

17. 環境局局長邱騰華太平紳士頒發亞軍獎座予嶺南中學

Mr. Edward Yau, JP, Secretary for the Environment presented the 1st Runner-up Award to Lingnan Secondary School

18. 環境局局長邱騰華太平紳士頒發季軍獎座予觀塘官立中學

Mr. Edward Yau, JP, Secretary for the Environment presented the 2nd Runner-up Award to Kwun Tong Government Secondary School

19. 本會董事及「通識健康教育計劃」籌委會成員與主禮嘉賓合照

Group Photo of Platform Party of the Award Presentation Ceremony, Board members of the Association and Steering Committee of the Liberal Studies



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20. 參賽同學及嘉賓大合照

Group Photo of guests and participating students





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如想詳盡了解個別報告內容，可到本會網頁瀏覽：

For details of projects, please visit our website :

www.antitb.org.hk/zh/healthinfo.html

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EXCEED YOUR VISION *Epson Foundation*