

## Developing Sustainable Communities by Integrating the Sustainable Development Concept into University Courses: Social Science Lecturers' Perspectives in UKM

Membangunkan Komuniti Lestari dengan Mengintegrasikan Konsep Pembangunan Lestari dalam Kursus Universiti: Perspektif Sains pensyarah Sains Sosial di UKM

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### ABSTRACT

*Sustainable cities are formed by sustainable communities and vice versa. Developing sustainable cities and sustainable communities need individuals who are taught about the principles, criteria and elements of sustainable development (SD) and sustainability, and have been 'bred' in sustainable environments at least during the students' years in sustainable campuses. To enable the university students to learn about and practice sustainable SD, all courses must be integrated with SD elements. Therefore, the understanding and willingness of lecturers to integrate SD principles and elements in their courses is very vital. The purpose is to discuss the relationship between social science lecturers' understandings towards SD concept and their beliefs in integrating this concept into their own courses in Universiti Kebangsaan Malaysia (UKM). Lecturers' understandings of SD concept and beliefs in integrating the concept into the courses are important because they can facilitate the implementation stage of integrating SD concept into various courses at the university. Statistically, the results of this study indicated that the relationship between lecturers' understandings towards SD concept and their beliefs in integrating the concept into social science courses is significant at  $p < 0.05$ . Unfortunately, the relationship showed a very low level of strength, which is 0.22. However, the qualitative results showed that several lecturers illustrated a very high level of belief in integrating SD concept into their courses even though they do not fully understand the concept. Thus, the findings suggested that training should be implemented for social science lecturers to enhance their level of understanding towards SD concept and explore the appropriate teaching approach in integrating this concept into the courses.*

*Keywords: Sustainable development; lecturers; social science courses; Universiti Kebangsaan Malaysia*

### ABSTRAK

*Bandar-bandar lestari dibentuk oleh masyarakat lestari dan sebaliknya. Masyarakat dan bandar-bandar lestari yang membangun memerlukan individu yang diajar mengenai prinsip, kriteria dan unsur-unsur pembangunan lestari (PL) dan kelestarian serta telah 'dibesarkan' dalam persekitaran yang lestari sekurang-kurangnya sewaktu zaman belajar dalam kampus lestari. Untuk membolehkan pelajar universiti belajar dan mengamalkan PL, semua kursus haruslah disepadukan dengan unsur PL. Oleh itu, pemahaman dan kesanggupan para pensyarah untuk menyepadukan prinsip dan unsur-unsur PL dalam semua bidang amat penting. Tujuan kajian ini adalah untuk membincangkan hubungan antara pemahaman pensyarah-pensyarah sains sosial ke arah konsep PL dalam menyepadukan konsep ini ke dalam bidang masing-masing di Universiti Kebangsaan Malaysia (UKM). Pemahaman pensyarah mengenai konsep PL dalam menyepadukan konsep ini ke dalam bidang mereka amat penting kerana mereka boleh memudahkan langkah pelaksanaan dalam menyepadukan konsep PL ke dalam pelbagai bidang di universiti. Secara statistik, hasil kajian ini menunjukkan hubungan antara pemahaman dan kepercayaan pensyarah dalam menyepadukan konsep ini ke dalam bidang sains sosial adalah signifikan pada  $p < 0.05$ . Malangnya, hubungan menunjukkan tahap kekuatan yang sangat rendah iaitu 0.22. Walau bagaimanapun, hasil kuantitatif menunjukkan beberapa pensyarah menggambarkan kepercayaan yang sangat tinggi dalam kesepaduan konsep PL ke dalam bidang mereka walaupun mereka mungkin tidak memahaminya secara menyeluruh. Justeru, penemuan kajian menyarankan agar latihan harus diberikan kepada pensyarah sains sosial untuk meningkatkan tahap pemahaman konsep PL dan meneroka kaedah pengajaran yang sesuai dalam menyepadukan konsep ini ke dalam bidang masing-masing.*

*Kata kunci: Pembangunan lestari; pensyarah; bidang sains sosial; Universiti Kebangsaan Malaysia*

## INTRODUCTION

Sustainable cities are formed by sustainable communities and vice versa. Developing sustainable cities and sustainable communities need individuals who are taught about the principles, criteria and elements of sustainable development (SD) and sustainability, and have been 'bred' in sustainable environments at least during the students' years in sustainable campuses. To enable the university students to learn about and practice sustainable SD, all courses must be integrated with SD elements. Therefore, the understanding and willingness of lecturers to integrate SD principles and elements in their courses is very vital.

Education is recognized to play an important role in solving the environmental problems such as global warming, land degradation, water pollution and other critical environmental problem that we face nowadays. Sustainable development (SD) concept has been proposed as a solution to these environmental challenges. Global movement to promote the SD concept has been started since 1987 and 40 chapters of Agenda 21 were declared in 1992. The concept of SD debated rapidly in many conferences and agenda particularly in term of education. In fact, various universities around the world responded to the Decade of Education for Sustainable Development (DESD), which is began in 2005 to 2014.

Unfortunately, according to Yang et al. (2010) the term of SD that has been used for more than three decades, still lacks of holistically definition. Misconception, ill-information and contradictory interpretation of what the process of SD was usually translated into negative views, which reflect on reluctant to pursue actively efforts towards sustainability (Filho & Salomone 2006). In addition, Reid & Petocz (2006) indicated that lack of shared understanding and language for discussing sustainability issues hampered the efforts to engage academics in Education for Sustainable Development (ESD) and academics are likely to resist this effort if their views are not taken into account (Cotton et al. 2007). Lozano (2006) also stated that a large percentage of university leaders and faculty members are unaware of SD and its principles and considered the SD concept as a resistance in education and learning of conventional subjects.

These obstacles expected relate to academics' perception on SD and ESD because the importance,

benefits and advantages, and the positive impact of sustainability, not only on the individuals but also on the communities, have not widely understood in developing countries (Eyuboglu et al. 2010). So, the aims of this paper is to; (a) determine lecturers' understanding on the aspects of the SD concept, (b) examine lecturers' beliefs in integrating SD concept into their courses and (c) investigate the relationship between their understanding towards the SD concept and beliefs in integrating the concept into their courses.

The Social Sciences Group of disciplines was chosen to be discussed in this paper particularly because ESD is very relevant to social science courses. Egan (2003) emphasized that sociology is ideally suited as a means of teaching undergraduates the concept of sustainability because sociology is a science that not only sees progress as a defining feature of modern society, but also sees as its goal the creation of solutions to the problems it uncovers. Montrie (Egan at al. 2003) said SD concept relevance to history subjects because most people infrequently think of the past when dealing with the present problems especially in term of social, economic or environmental problems. He explained that by studying the past, history can provide better understanding of the present while, in fact, we cannot understand who, what and where we are without knowledge of whom and what came before us. Sustainable development is simply impossible to have a full understanding of interrelated economic and environmental problems without knowing their history as well.

Gray (Egan at al. 2003) also stated that political science relevance with SD concept because it is concerned about conflicts and power. In environmental issues, a sensitivity to power differentials is important to understand how the issues are unimportance because of stake, resources and capabilities of different groups. Kaufman (Egan at al. 2003) asserted that SD concept relevance to integrate in philosophy subject because it is concerned about the role of moral values in the debate about sustainable practices. He emphasized that teaching of values in humanities emerged because there can be no formula for us to reconcile the competing values of economic sustainability, environmental protection, and social justice.

## METHOD

This paper was used cross-sectional research design and involved two stage approach in data collection that were questionnaire survey and semi-structured interviews. The target population of this paper were 478 lecturers of social science cluster in Universiti Kebangsaan Malaysia. This cluster consists of five faculties, namely, Faculty of Social Sciences and Humanities, Faculty of Economics and Management, Faculty of Islamic Studies, Faculty of Education and Faculty of Law.

The sample of survey comprised of 145 lecturers of social science cluster in UKM that showed 30% of response rate. A set of questionnaire was used as research instrument to investigate lecturers' understanding on the concept of SD and their beliefs in integrating the concept into their courses. The questionnaire was adapted from Cotton et al. (2006) to identify the lecturers' perspective on the SD concept which consists of closed and open-ended questions.

Stratified random sampling was applied in order to represent the proportion of respondents in every faculty in social science cluster in UKM. The questionnaire was conducted through mail, face-to-face and online technique, using Survey Monkey Method. Descriptive mean and inference statistic which is Pearson correlation was used in survey data analysis. Mean score used to determine the level of lecturers' understanding on SD concept and their belief in integrating the concept into the social science courses. While, Pearson correlation

analysis was utilized to determine the relationship (in terms of significance, strength and direction) between lecturers' understanding on the SD concept and beliefs in integrating the concept into their courses. Statistical Product and Service Solutions (SPSS) 19.0 was used as analysis tool to facilitate the statistical analysis.

Following the survey method, lecturers were invited to share their insight towards the understanding on SD concept and beliefs in integrating the concept into their teaching courses. Snowball technique was utilized to gain the potential lecturers to give the deeper insight regarding to the aims of this paper. Ten lecturers were interviewed, specifically; two lecturers were selected for each faculties of social science cluster in UKM. Thematic analysis was used in interview data analysis.

## FINDINGS AND DISCUSSIONS

### THE UNDERSTANDING ON SUSTAINABLE DEVELOPMENT CONCEPT

Table 1 showed the series of proposition on SD concept that focused on environmental aspect, social aspect and economical aspect. The results of the descriptive mean analysis on lecturers' understanding on SD concept showed the high score. Overall, social science lecturers in UKM showed their high level of understanding toward SD concept with range of mean score from 3.88 to 4.52.

TABLE 1. Lecturers' Understanding on SD Concept

	Items	Mean Score
Environmental Aspect	i. Maintaining biodiversity in the local environment	4.52
	ii. Recycling waste products	4.49
	iii. Developing new technologies to reduce the impact of harmful by-products of production	4.22
Social Aspect	iv. Helping people to avoid starvation and disease	4.16
	v. Social progress which recognizes the needs of everyone	4.01
Economical Aspect	vi. A significant degree of local production and consumption	4.25
	vii. Maintaining high and stable levels of economic growth	3.88

Source: Analysis of Survey Data

The qualitative results showed that there were three main patterns that respondents expressed in addressing the concept of SD. First, some of the respondents elaborated the SD concept based on their own experience and interpretation. Second, other individuals quoted the popular reference of

SD definition such as the World Commission on Environment and Development 1987. Third, some of the respondent considered their lack of knowledge in addressing the SD concept and indicated that SD concept is unfamiliar to them.

This result showed similarities with the findings of Jones et al. (2008) who found three main patterns detected on academics' understanding of the concept of SD. First, academics feel comfortable with the concept of SD and elaborated on their own interpretation through case studies and anecdotes. Second, some academics making repeated reference to its lack of clarity. In fact, Jones (2008) also explained that there are academics who consider lack of knowledge is a barrier to their involvement with the concept. Besides that, Norizan & Rabiatal (2012) indicated that at the beginning of study, they found that teachers' understanding of the SD is good and they know that SD outlines three components of sustainability and the relationship between the three components of the social, economic and environment. Teachers' understanding of ESD is also good and agreed that ESD is balance between the human and economic as well as cultural traditions and appreciates the natural resources of this earth. However, at the end of the their study, they were able to conclude that teachers seem just understand the basic knowledge of ESD but their understanding of the relationship between the three components of the SD aspects of environmental, social and economics is poor.

In addition, Filho (2000) highlighted that a number of barriers to sustainability is a misunderstanding or

incorrect interpretation of the concept (misconception) and conflicting interpretations reflect a negative outlook. Meanwhile, the person who is familiar with the SD principles and practices and sensitive to the impact of SD in university activities has the potential to work well in this field.

#### BELIEFS IN INTEGRATING SUSTAINABLE DEVELOPMENT CONCEPT INTO THE SOCIAL SCIENCE COURSES

The results of descriptive mean analysis in Table 2 showed the high level of beliefs in integrating SD concept into their courses with range of mean score from 3.57 to 3.89. In addition, qualitative results also showed that respondents expressed their support and high level of beliefs in integrating SD concept into their own courses. Some of the respondents explained that they supported if UKM want to integrate SD concept into the various courses but they need to understand the teaching method to integrate this concept. Other respondents also stated that SD concept should be integrated into the courses through the infusion method rather than create SD subject on its own.

TABLE 2. Lecturers' Beliefs in Integrating SD Concept into the courses

Items	Mean Score
i. Sustainable development was central to my teaching interests generally.	3.89
ii. Sustainable development was central to my subject generally.	3.76
iii. I will include the elements of sustainable development into my teaching next semesters	3.79
iv. Teaching of aspects of sustainable development will affect the teaching-learning methods of my courses	3.57

Source: Analysis of Survey Data

Sammalisto & Lindhqvist (2008) found that lecturers or researchers believed that even impossible and difficult to make all the changes to the classification of courses in SD elements, changes will occur. Meanwhile, there are academicians who have changed their courses plan by adding new lectures or assignments that take into account the environmental issues associated with the subject. Several informants also stated that they were aware of the importance of environmental thought that proactive and well aware of the potential environmental impact through indirect measurements such as in teaching. However, not all

lecturers or researchers who have the awareness to change their course, but one in this group is ready to answer students' questions with respect to these issues. In contrast, Qablan et al. (2009) found that professors' beliefs in teaching SD concept is average with the mean score of 3.31 from the scale 1.00 to 5.00. Cotton et al. (2007) also found that only 55 % of lecturers who agreed or strongly agreed that the SD concept is important for teaching and subjects of interest and 35 % of lecturers expressed uncertainty about the relationship between teaching and SD elements.

### THE RELATIONSHIP BETWEEN UNDERSTANDING ON SUSTAINABLE DEVELOPMENT CONCEPT AND BELIEFS IN INTEGRATING THE CONCEPT INTO THE COURSES

Pearson correlation analysis was used to determine the relationship between lecturers' understanding on SD concept and their beliefs in integrating the concept into their courses. Table 3 showed that the Pearson correlation coefficient for the relationship

between understanding on SD concept and beliefs in integrating the concept into the courses is  $r = 0.223$  at a significant level of  $0.007$  ( $p < 0.05$ ). These results showed a significant relationship between lecturers' understanding on SD concept and their belief in integrating the concept into the social science courses. The relationship between these two constructs is positive correlation with the strength of a weak relationship.

TABLE 3. The Correlation between Lecturers' Understanding on SD Concept and Beliefs in Integrating the Concept into the Courses

Dependent Variable		Independent Variable Understanding of SD Concept
Beliefs in integrating SD concept into the social science courses	Pearson Correlation	.223*
	Significant	.007
	Sample (N)	145

\*The Correlation is significant at 0.05

Source: Analysis of Survey Data

These results can be explained by qualitative data that revealed two patterns of relationship between lecturers' understanding towards SD concept and their beliefs in integrating the concept into the courses. First, lecturers who asserted their high level of understanding towards SD concept also showed their high level of beliefs in integrating the concept into their courses. Second, lecturers who indicated their low level of understanding towards SD concept showed their high level of beliefs in integrating the concept into their courses.

This study was supported by Jones et al. (2008) who found that the perception and understanding of academics towards SD influence the formation of ESD especially in the Faculty of Environment, Earth and Sea and also influence integration the SD concept in the future. Eyuboglu et al. (2010) emphasized that a better understanding and orientation of thought, feeling and behavior of society is needed in order to achieve the right attitude to sustainability.

In addition, reasoned action theory explained that a person's attitude toward the behavior started with his beliefs about the behavioral effects. This theory also stated that the intent of the behavior depends on the motivation factor of determination and willingness to do something. Attitude toward behavior also involves an assessment of whether the behavior is good or not and whether the person wants to do or not. This theory supports

some aspects of this study regarding the lecturers' understandings towards the concept of SD that involves the suitability of their courses will convince them to integrate this concept in their own courses. Meanwhile, the theory of planned behavior, however, stated that control over the behavior, individuals would intent to do anything if they are able to control the implementation of the action. According to Ajzen & Fishbein (1980), individuals with high control will have a strong intention to perform certain behavior and will act at the appropriate time. Control is different according to the perception of difficulty in performing the behavior. This perception is based on the reflection of a person's experiences and obstacles and barriers in implementing these behaviours.

### CONCLUSION AND SUGGESTION

The quantitative results showed that lecturers' understanding of the concept of SD and their beliefs in integrating the concept into their courses is high. While, the relationship between these two constructs indicated a significant relationship, positive correlation with the strength of weak relationship. However, the qualitative results revealed some of the lecturers do not familiar with the term of SD and the results also showed high level of beliefs in

integrating SD concept into their courses. The results also showed two pattern of relationship among these constructs; several lecturers understand the SD concept and willing to integrate the concept into their courses and some lecturer do not familiar with the SD concept but they also want to integrate the concept into their courses. UKM has the potential to integrate the concept of SD in Social Science course by increasing the level of understanding about the balance of three elements of SD which is environmental, social and economic concerns. This study found that the information of the concept of SD is important to lecturers in the effort to ESD because they are responsible for developing the knowledge and skills needed by students for a sustainable future. Therefore, Filho (2000) suggests the need for university staff training so that they are confident to introduce the concept of sustainability as part of their work. Filho (2000) also suggested from his study of the need to provide training to academics for example teaching controversial issues in the classroom.

Educating students in SD principles, criteria, elements and indicators, and giving them the opportunity to live their few years lives in sustainable campuses, will give them the opportunity to practise what they learn, thus training them to be sustainable citizens. By the time these students graduate, they would have been ready to join or develop sustainable communities, and finally contribute towards developing sustainable cities. This is in line with Sustainable UKM motto which is engrained in the Sustainable UKM logo, as introduced in UKM's Sustainable UKM Charter that was officially launched on 21 June 2007. UKM then would have realized its motto of sustainable UKM for Malaysia and the world.

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