

## **Campus Sustainability: The Level of Knowledge on Sustainable Development Issues and Perception on Community College Physical Development**

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### **ABSTRACT**

Sustainable development in education, or Education for Sustainable Development (ESD), is one of the proposed sustainable development policies in Malaysia. This resulted in educational institutions of the country, in particular higher education institutions, starting to bond with the transition towards sustainable campus development. The main purpose of this study was to identify the level of students' knowledge on sustainable development, and their perceptions of the concept of the physical development of community colleges. Data was obtained through a survey method, using questionnaires. This study involved 126 students from three different type of community college which are shophouses, campus and commercial type where the selection of community college campus was made on the basis of a random sampling. The study revealed lack of awareness in the level of students' knowledge regarding sustainability, and the challenges faced by existing community colleges on improving the quality of physical development. Community colleges require a physical development framework to support their efforts in transitioning towards more sustainable campuses.

*Keywords:* community college, physical development, sustainable development, sustainable development in education, sustainable campus

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### **INTRODUCTION**

During the 1992 United Nations Environment and Development summit organized by the United Nation Environment Programme (UNEP) in Rio De Janeiro, it became apparent that Education for Sustainable Development (ESD) comprised the essence of education reform. Sustainable

development has been defined as “enhancing the quality of human life while residing in an area that supports the ecosystem” (Tasci, 2015). This concept has had an impact on social and economic development and the environment, all around the world. Following a discussion on the role of education for sustainable development, which was discussed in Agenda 21 of the United Nations Conference on Environment and Development, the (UNESCO, 1997) on sustainable development in Johannesburg in 2002, and during the UN Decade Education sustainable development (UNESCO, 2007), the involvement of higher education institutions in sustainability has increased worldwide (HEIS).

However, progress towards the goals established at Rio de Janeiro was slower than expected and the implementation of sustainability in higher level education institutions has had its ups and downs (Velazquez et al., 2006). Malaysia and 178 other countries in the world have signed an agreement of acceptance and implementation of sustainable development as stipulated in Agenda 21 and these have been reconfirmed in Johannesburg in 2002. According to Dernbach and Cheever (2015) in January 2010, the number of universities around the world who signed this Declaration rose up to 413.

In January 2010, a total of 413 universities around the world agreed to sign the Talloires Declaration. The Talloires Declaration was the first attempt to promote the implementation of sustainable aspects in the development of institutions of higher

learning (Dernbach, 2003). The Declaration for sustainability initially received the support of 22 universities, each of which is expected to develop, create and support the idea of this kind of sustainability. Universiti Kebangsaan Malaysia (UKM) is one of the universities which has signed this Declaration, thus they are striving to apply the idea of sustainability in their university system. The United Nations Decade of Education for Sustainable Development (DESD) 2005-2014, was created to place emphasis on the field of education as a site to implement the concept of sustainable development, among campus community and the general public (UNESCO, 1997).

The Malaysian Government’s commitment can be seen in the five-year Development Scheme of the sixth Malaysia Plan up to the ninth, from 1990 to 2010. In Malaysia, the concept of sustainable development was first introduced in the seventh Malaysia Plan (RMK-7) in 1996. As a country that fully supports these sustainability development efforts, the issue of environmental sustainability has been added in line with economic development in the long-term planning of Malaysia through the ‘Third Outline 1 Plan, 2001-2010’. Education for Sustainable Development (ESD) is one of the suggested sustainable development programmes that were proposed by Malaysia. The importance of ESD has become one of the priorities in this country, and one hopes that it also becomes a global priority. Higher education institutions throughout Malaysia have adopted the movement towards the development of

sustainable campuses (Saadatian et al., 2010) therefore most universities and colleges are in various stages of integrating sustainable components in their planning and management structures.

The transformational impact of sustainable education in the institutions of higher learning in Malaysia showed through the recognition of the role of the universities in Malaysia, such as Universiti Sains Malaysia (USM). There are initiatives being taken in order for USM to develop sustainable development organization, namely through its corporate and sustainable development division (BPLK). In 2006, BPLK organized an international conference on education for sustainable development which was attended by 120 experts from various fields, to identify practical solutions to the issues of environmental, economic, social and cultural current (Kaprawi & Azroai, 2009). Similarly, Universiti Kebangsaan Malaysia (UKM) committed to implementing sustainable development with the establishment of the Institute of the environment and Sustainable Development in 1994. These efforts were reinforced when it introduced a ‘sustainable campus master plan’, as aggressive measures to aid the development of a sustainable campus. Polytechnic institutions are also not excluded from the set targets for sustainability in their human capital and also environment.

“Environment and development are integrated into education from school to higher education” (Malaysia’s Green Strategy) the responsibility of the community college to the sustainability challenge. “Until now, community colleges have been through

the process of branding, consolidation and empowerment in the years 2007, 2010 and 2013. The involvement of the community college staff with the community and industry should be accelerated dynamically” to empower the sustainability development (Noor, 2015). These could provide rebranding to community colleges, thereby contributing to the educational institutions of the country.

The role of the community college in sustainability in education began over a decade ago, around the year 2005. The successes of community colleges in producing thousands of graduates who are sought-after by the industry each year, has become symbolic of the existence and sustainability of the community college (Noor, 2015). The Policy, International Relations and Education department of the community college have analysed the development of Technical Vocational Education and Training (TVET) and lifelong learning to ensure sustainability and the relevance of a community college education system at a global level. Various efforts and initiatives have been taken in order to implement this concept of sustainability among the students and the local community. In February 2016, Kemaman Community College held sustainability programs aimed at enhancing skills among participants, furthermore, promoting the role of the community college in providing lifelong learning as well as opportunities, to the local community. The community should be notified of the achievements, and success of the process of sustainability at the university, as encouragement to increase

their commitment to it. Compared to others Higher Education Institution (HEI) across Malaysia, community colleges offer a better avenue of reaching out to the community; it is in keeping with the mission of community colleges, which is to develop local communities and to provide lifelong education to individuals and local communities in order to enhance the quality of community life.

Each university must enhance its capacity building effort among all members of the university (Grindsted, 2011). In September 2015, a national innovation competition for community college lecturers (FLAVORS) was organized by the Research and Innovation, Academic and Continuation of Education Department of the college community. The theme for the program was 'Innovation Catalyst: Sustainability of Knowledge', which intended to foster and promote the competitiveness and sustainability of innovation as well as research in the community college, among the lecturers. To ensure the sustainability of these efforts reaches all levels, the cooperation and participation of all stakeholders of the university are needed to effectively achieve sustainability (Alshuwaikhat & Abubakar, 2008). Clearly, in order to achieve sustainability of an IPT, responsibility and participation of all parties is needed to ensure that the concept of sustainable development in education is accessible to all levels of society.

The implementation of the programme is based on the concept of sustainability at the level of community colleges, for

example, in the field of entrepreneurship programs either on-going programmes or lifetime programmes are offered. However, there are still no sustainable development efforts that lead to the physical development of community colleges. Universities in the country which had been recognizing the concept of Sustainable in Higher Education Institutions (SHEi) or sustainability in institutions of higher learning, began to take different initiatives in aspects of sustainability policy, planning and administration, courses and curriculum, research and scholarship, and outreach in operations of university services (Saadatian et al., 2013). However, there are still many aspects of physical planning which fail to offer an environment that is conducive to learning and living in the campus (Shuhana et al., 2007). In this regard, development or physical planning should be taken seriously by the community colleges in an effort to implement the concept of a sustainable campus.

The main purpose of this study was to identify and analyse two issues; (i) the level of students' knowledge about issues of sustainability, and (ii) the perceptions on the concept of the physical development of existing community colleges. Data was obtained through the survey method, using questionnaires. The next section discusses the proposed strategy in support of the above, which will be submitted to ensure that efforts towards sustainable physical development of the community college campus is achieved.

## METHODS

A study on the students' level of knowledge on sustainable development and perceptions on the concept of physical development in community college was done in July 2016, at several community colleges in Malaysia. The survey was conducted in all types of community colleges which included campus premises, shop houses and commercial

premises. A total of 126 students, which is 18.3% of the total students in nationwide community colleges, were selected. The community college selections were made using a random sampling method, based on the types of premises of the college community. The 10 colleges involved are as shown in Table 1.

Table 1  
*List of community college together with the status of premises*

No.	Community College	Status of Premises	Number of respondentS
1.	Kolej Komuniti Segamat 2, Johor	Campus	10
2.	Kolej Komuniti Jasin, Melaka	Campus	13
3.	Kolej Komuniti Jempol, Negeri Sembilan	Shop houses	17
4.	Kolej Komuniti Ampang, Kuala Lumpur	Shop houses	8
5.	Kolej Komuniti Sabak Bernam, Selangor	Shop houses	15
6.	Kolej Komuniti Telok Intan, Perak	Shop houses	15
7.	Kolej Komuniti Arau, Perlis	Shop houses	15
8.	Kolej Komuniti Bayan Baru, Pulau Pinang	Commercial	8
9.	Kolej Komuniti Kuantan, Pahang	Shop houses	15
10.	Kolej Komuniti Penampang, Sabah	Shop houses	10

In addition to theoretical examples from a literature study, this study used a survey to gain feedback from students on the sustainable development of their community college. This study limits itself to the physical development of community colleges and the reason behind the selection of students as respondents is because they are the majority of users involved directly or indirectly in setting up a sustainable environment. Students' perceptions are important in shaping the perspective of quality education (Shuhana et al., 2007).

Data collection was carried out using a questionnaire comprising both structured

and open questions. The questionnaire was divided into four sections as follows: 1) profile of students 2) level of knowledge of respondents about sustainable development 3) level of satisfaction of respondents towards the development of community colleges and 4) level of satisfaction of respondents regarding elements of development in the community college. The perceptions of respondents was assessed using five levels of Likert scales using "1" to mean strongly disagree, "2" to mean disagree, "3" for naturalness "4" to mean agree and "5" to strongly agree. Using '3' as the mean value of the scale the values above "3" were

treated as agreement and values below the mean were treated as disagreement. The answers to this questionnaire were given a value in percentage and the mean displayed in the form of diagrams. Descriptive analysis was chosen to analyse each component of this study. SPSS 19 was used to analyse the data and the results are presented in the form of a percentage of the mean.

**RESULTS AND DISCUSSION**

A total of 126 students took part in the survey which was conducted in 10 community colleges throughout the country.

**Respondents’ Demographics**

Table 2 shows the distribution and the percentage of students who took part in the questionnaire. Males dominate the percentage of respondents, with 75 students (59.5%) and 51 students were female (40.4%). This distribution is in line with the concept that 70% of learning in community college consists of technical skills. As for the distribution of race, a total of 106 (84.1%) students were Malays, followed by one (0.7%) Indian student, one (0.7%) Chinese student and 15 (11.9%) students of other races such as the Dusun and Sabah.

The number and percentage of respondents by the type of premises of the community college showed that 23 (18%) students were from the community college campus premises category, 95 (76%) students from the community college shop houses, and 8 (6%) students from the community college commercial premises. Data shows that the number of students

from community college shop houses was the highest since the number of college community shop houses is the highest category of all the premises (Komuniti, 2015).

Table 2  
*Respondents’ demography distribution*

		No.	%
Gender	Male	75	59.5
	Female	51	40.4
Age	18-23	114	90.4
	24-29	6	4.8
	30-35	5	4.0
	36-41	1	0.7
	42-above	0	0.0
Race	Malay	106	84.1
	India	1	0.7
	Chinese	1	0.7
	Other	15	11.9
Types of premises	Campus	23	18
	Shop houses	95	76
	Commercial	8	6

**Knowledge of Sustainable Development**

In the context of the students’ knowledge of sustainable development issues, students were asked questions pertaining to the concept of sustainable development. Table 3 shows that the level of students’ knowledge about sustainable development is average. A majority of students did not have a deep understanding about the concept of sustainable development, which was 66 of the respondents (52.4%) but surprisingly half of them (64 students (50.8%)) agreed to the importance of preserving the environment.

Table 4 shows the role of community college students on sustainability. The analysis shows that students which consisted

Table 3  
Level of students' knowledge about sustainable development

	Strongly disagree		Disagree		Medium Agree		Agree		Strongly agree	
	N	%	N	%	N	%	N	%	N	%
<i>I know about sustainable development</i>	5	4.0	11	8.7	61	48.4	45	35.7	4	3.2
<i>I know about the concept of sustainable development</i>	5	4.0	8	6.3	66	52.4	43	34.1	4	3.2
<i>I know about the importance of preserving and conserving the environment.</i>		0.0	3	2.4	14	11.1	64	50.8	45	35.7
<i>I agree sustainable development can build a prosperous and comfortable environment.</i>	1	0.8	5	4.0	25	19.8	66	52.4	29	23.0
<i>I know sustainable development can improve the quality of the learning environment in educational institutions</i>	1	0.8	4	3.2	25	19.8	63	50.0	33	26.2

N = number of respondents

of 56 respondents (44.4%), knew their great role in the sustainable development. In addition, a total of 52 students (41.3%) are always, advising their colleagues in the use of existing space development. Respondents were also willing to participate in any development program, namely a total of 71 students (56.3%). Willingness of

respondents were not only limited in their participation in the programs of sustainable development, but they also agreed to help on managing sustainable campus development program either within the college or outside the college. A total of 76 students (60.3%) had agreed to help on managing the program.

Table 4  
Community college student's role in sustainable development

	Strongly disagree		Disagree		Medium Agree		Agree		Strongly agree	
	N	%	N	%	N	%	N	%	N	%
<i>I know my bigger contribution toward forming a sustainable campus</i>	0	0.0	5	4.0	53	42.1	56	44.4	12	9.5
<i>I always advise my colleagues on the ethics of using existing space development</i>	2	1.6	11	8.7	51	40.5	52	41.3	10	7.9
<i>I am ready to participate in any sustainable development program at the college</i>	2	1.6	2	1.6	30	23.8	71	56.3	21	16.7
<i>I'm willing to help in arranging any sustainable campus development program at the college.</i>	1	0.8	4	3.2	28	22.2	76	60.3	17	13.5

N = number of respondents

Students' awareness of their role in terms of sustainable development showed a positive response and could therefore had a high impact on the community college's attempt in achieving sustainable development. Community colleges need to be more aggressive in implementing conservation programs and improving sustainability education among students so that they can together help with, and appreciate, the efforts being carried out in the context of the development of community colleges.

### Community College Sustainable Development

In this study, respondents were also asked about their level of satisfaction with the development efforts of community colleges. Regarding this, respondents were asked about the level of sustainable development in their community colleges with their

responses being categorized according to four scores mean ranging from "1.00-1.99" to weak mean score, "2.00-2.99" to low mean score, "3.00-3.99" for the moderate mean score, "4.00-5.00" for high mean score. Figure 1 below shows that the mean value of 'community college students at the commercial college' status is the highest, followed by the mean value of 'community college students at the college campus' status, and the lowest is the mean value of 'community college students at the college shophouses' status. This shows that the level of students' satisfaction pertaining to the sustainable development of community colleges at shophouses is still low as compared with other community college premises.

The majority of students showed a moderate level of satisfaction with the statement that 'the development of the college gives them the opportunity to get a

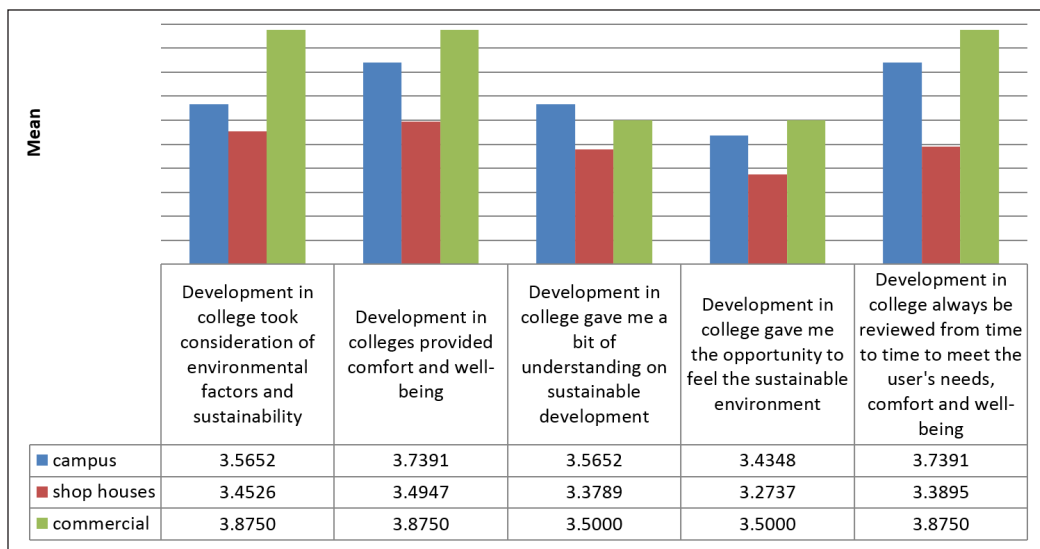


Figure 1. Satisfaction value towards sustainable development in community college. The data obtained were analyzed using simple descriptive analysis mean score.



sustainable environment’, as the ‘students from the campus premises’ showed mean score 3.438, while those from the shop houses is mean score 3.2737 and the mean score of the commercial premises was 3.500. All of them agreed that the development in colleges should be improved from time to time to meet the needs, comfort and well-being of students. On the other hand, students from the shop houses showed a score mean 3.3895, as they less-than-agreed with the statement.

There are 69 shophouses premises of community colleges nationwide. Most of the shop houses began as rented premises and did not have a physical design that met the needs and functions of an educational institution; as a result, it could be seen as the weak factor when it came to providing a sustainable learning environment. Improvements to these premises were also constrained by the factors already mentioned.

Figure 2 shows that the mean value of students from community colleges at commercial premises precedes the mean value of community college students at other premises (n = 4.000). It mainly refers to the development factor in providing a comfortable learning environment and stimulating the learning process during the various activities and programs of study. This data is parallel with the development plan of the community colleges at commercial premises, where selection of the courses was based on the existing functions and facilities that are available at the premises. One example is that the commercial premises at Bayan Baru Community College were originally built up as a club house. The courses being offered in this college are a Pastry Certificate, Certificate of Beautification & Spa Therapy and a Hairdressing Certificate (Azis, 2016), which is suited to the existing facilities.

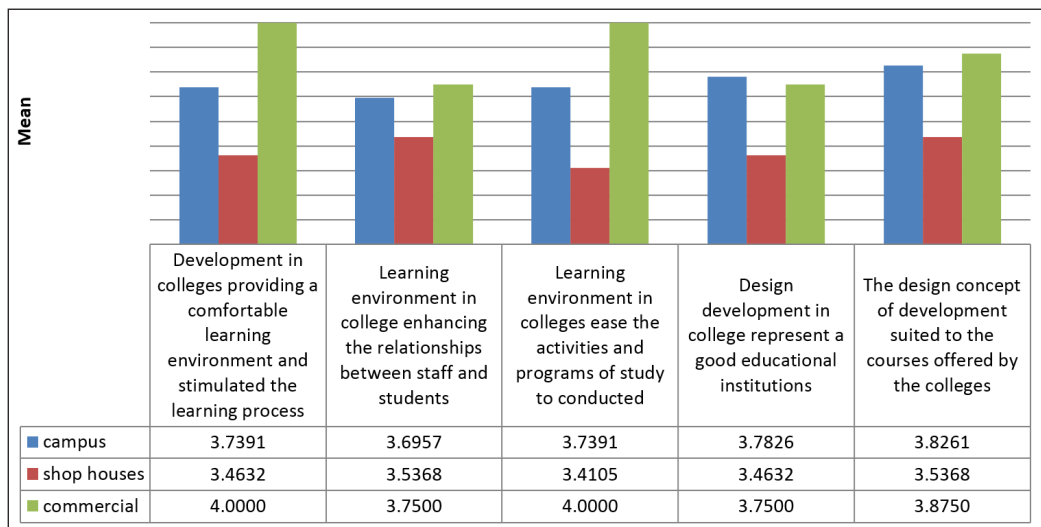


Figure 2. Satisfaction levels toward environment and campus development concepts

Campus premises reached a mean value of above 3.500, indicating a moderate level of satisfaction and agreement to all evaluation factors. The mean value of 3.7826 obtained in the statement of design development at the college reflect a good educational institution, and the mean value of 3.8261 for the development of planning concepts is appropriate with the courses offered by community colleges. The development concept of community college campus premises started from the early stages, which included identifying areas that would be offered, planning the development concept, designing areas that had been provided, and the overall physical design should meet the design standard of educational buildings. The development concept became a factor that showed student satisfaction levels at the campus premises as being higher than that of the college and shop houses.

The lowest mean satisfaction level value of community college students are at the shop houses. Low levels of satisfaction are driven by the shop houses not having clear guidelines regarding the improvement and renovation of the education building. Overall, the mean value of the level of satisfaction based on the development of community colleges is moderate. The development of community colleges in all types of premises did not highly concern environmental factors which are in directly will affect the student's comfort

and well-being. In addition, the community colleges do not provide an understanding of sustainability; and less opportunities were given to community college students to feel the atmosphere of sustainability.

## CONCLUSION

Based on this study, students in the shop house premises of community colleges are lacking in and understanding of and opportunities to experience sustainable development. Developments that are less concerned with environmental aspects can affect the understanding of sustainability. Developments in the shop house premises are less than those of a comfortable environment which stimulates the learning process. One of the factors is the lack of physical development compared to other premises such as the campuses and commercial buildings.

Overall it can be seen that the premises of the shop houses showed a significant weakness in relation to the other premises. Through the study, the overall level of satisfaction of respondents found the lowest satisfaction in shop house premises, followed by campus and commercial buildings. Although the percentages of weaknesses are almost the same, improvements need to be done to ensure that sustainability for community college campuses be achieved. By minimizing these weaknesses, the level of comfort and well-being of campus citizens can be improved.

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