

## SUSTAINABILITY IN HIGHER EDUCATION: MALAYSIAN POLYTECHNICS

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This study was conducted to determine how far education for sustainable development (ESD) is being integrated in Malaysian TVET system. It was pursued following the rigours of quantitative-qualitative cross sectional research design. The *Sustainability Assessment Questionnaire* (SAQ) developed by University Leaders for a Sustainable Future (ULSF) was modified and used as research instrument in this study. A total of five polytechnics were involved and they were purposely selected based on the maturity level of the organization and the number and type of program being offered. Quantitative data was analysed using descriptive statistics using SPSS software, while the qualitative data was manually analysed using thematic content. Majority polytechnics in Malaysia are involved in sustainable development initiatives, most notably in the area of curriculum and operations. Sustainability research and scholarship is given little attention; most polytechnics do not have multi- or inter-disciplinary research structures to address specifically on sustainability issues. The integration of ESD in the other dimensions (faculty/staff development and rewards, outreach and service, student opportunities, institutional mission, structure, and planning) is still very low and not notable. Polytechnic institutions should provide more training programs and seminar / talk on sustainability to increase the sustainability awareness among its staff, lecturers and students. Polytechnic's lecturers should try to use their own sustainability initiatives so that they can effectively deliver the sustainability knowledge to their students. A follow-up study needs to be pursued to cover more polytechnic institutions in Malaysia.

### INTRODUCTION

Education for Sustainable Development (ESD) is a contentious concept that has been present in many official agendas at higher education institutions (HEI) for more than a decade. Many higher education institutions have already recognized that they must play a role in creating a more sustainable future. However, because there is a general lack of adequate conditions, the progress on campuses has not been as fast as expected (Velazquez, Munguia, & Sanchez, 2005).

ESD can be defined as 'the use of education as a tool to achieve sustainability' (McKeown, *et al.*, 2002). Sustainable development according to Ospina (2000) occurs when we acknowledge the relationship between human needs and the natural environment. Thus, sustainable development (SD) can be best described as 'a development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland Report, 1987).

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ESD was first described in Chapter 36 of *Agenda 21*. Adopted by the 1992 Earth Summit, *Agenda 21* emphasizes that human population; consumption and technology are the primary driving forces of environmental change. UNCED reported that 'education is critical for promoting sustainable development and improving the capacity of all people to address environment and development issues' (UNCED, 1992).

The impact of sustainable development in higher education institutions is greatly bigger than the impact of any other single sector of society. This is because universities and polytechnics are the place where they educate the next generation of decision-makers and influencers, and also the centres of research and development activities.

Studies about ESD in Higher Education have been done in developed countries like Russia, USA, United Kingdom, Sweden, and Germany for years. Garcia (2010) stated that studies assessing the status of ESD in HEI have been performed by private and public organizations in developed countries. Unfortunately, in developing countries, this type of studies is limited. In Malaysia for example, there has been no recorded study to determine the implementation of ESD in the polytechnics. This study therefore was conducted to know whether if ESD is being practiced in Malaysian TVET system, especially in polytechnics.

### **SUSTAINABLE DEVELOPMENT AND HIGHER EDUCATION**

Universities and other higher education institutes create bridges between knowledge generation and application of this knowledge in society through the process of education, outreach and service to community and region. There are several ways for universities and higher education institutes can contribute to sustainable development (Unesco, 2002):

- (i) By giving sustainable development a place in all university curricular and educational and research program.
- (ii) By playing an important role as a local knowledge centres for sustainable development in order to help society meet the challenge of sustainable development at the local level.
- (iii) By making sustainable development a leading principle in their own logistics and managerial processes.

Calder and Clugston (2003) were able to identified seven critical dimensions in universities activities that need to be addressed when considering sustainability issues, as follows:

1. Curriculum
2. Research and Scholarship
3. Operation
4. Faculty and Staff Hiring, Development & Rewards

5. Outreach and Service
6. Student Opportunities
7. Institutional Mission, Structure and Planning

As a TVET and higher education institution, polytechnic in Malaysia plays an important role in combining all the three pillars of sustainable development (economic, social, environment). Paryono (2010) claimed that to incorporate the three pillars, there are many roles TVET institutions can play, for example; create a new green technology that not only economically feasible but also at the same time environmentally friendly.

### **METHODOLOGY**

This research was pursued using quantitative-qualitative cross-sectional research design. A total of five polytechnics were involved in this study, and they were purposely selected based on the maturity level of the organization and the number and type of program being offered.

The Sustainability Assessment Questionnaire (SAQ) developed by University Leaders for a Sustainable Future (2009) was modified and used as research instrument in this study. It was chosen as the preferred research instrument for two reasons:

- (i) The SAQ had been piloted in an Australian benchmarking study which evaluated the environmental performance of the country's 38 major universities (Bekessy *et al.*, 2002; Beringer *et al.*, 2008)
- (ii) The SAQ emphasizes (cross-sectional) sustainability as a process and also probing questions that identify weaknesses and set goals (Shriberg, 2002).

Lecturers of polytechnics were chosen as respondents because they meet the criteria to answer the Sustainability Assessment Questionnaire (SAQ) which is about the seven dimensions of ESD (Curriculum; Research and Scholarship; Operations; Faculty and Staff Development and Rewards; Outreach and Service; Student Opportunities; and Institutional Mission and Planning). Nasir (2002) reported in his study that the job scope of polytechnic lecturers are not only teaching, but also includes clerical duties, managing, doing research and other common duties of lecturers. Quantitative data was analysed using descriptive statistics with the aid of SPSS software version 16.0. The qualitative data on the other hand, was manually analysed using thematic content analysis.

### **FINDINGS**

This section will present the integration of ESD in seven dimension of sustainability in higher education. The report finding is divided into eight subsections (including one additional subsection- sustainability background), following the seven parts of the SAQ:

- (1) Curriculum
- (2) Research and scholarship
- (3) Operations
- (4) Faculty and staff development and rewards
- (5) Outreach and service
- (6) Student opportunities
- (7) Institutional mission, structure, and planning

### **Sustainability Background**

Table 1 (Appendix I) shows the respondents' response on the items related to their sustainability background and experience.

In academic background, it shows that there are only 42.7 percent of the respondents have an academic background related to sustainability. On working experience related to sustainability, 70.8 percent of respondents claimed that they do not have any experience working on sustainability related projects. The other 29.2 percent claimed that they have some experience working on sustainability related projects and/or teaching sustainability concepts in their institution. Based on the comments given by the respondents, there are five sustainability concepts that they have been working with the most; environmental (7.9 percent), social (7.9 percent), individual and community wellbeing (5.6 percent), economic (4.5 percent), and Ethical (3.4 percent).

In their training background, only 18 percent of the respondents claimed that they have undergone some training related to sustainability, 77.5 percent claimed that they have no training experience related to sustainability, and the other 4.5 percent did not provide any answer.

Although majority of the respondents have no training and working experience on sustainability, 60.7 percent of them claimed that they are familiar with the term 'Sustainable Development' and they also know its true meaning and/or definition. Based on the comments provided, these respondents gained their knowledge on sustainability based on their journals reading, advertisements/posters, and by attending sustainability related seminars/talk.

Table 2 (Appendix I) presents respondents' awareness on sustainability. Although 73 percent of the respondents never heard about DESD before, majority of the respondents (76.4 percent) claimed that they are actually interested in sustainability. However, only some of them (37.1 percent) are really sure about the meaning of sustainability. Still, when they were asked to explain sustainable development (SD) as a concept, only 22.5 percent of the respondents have the confidence to do so.

### **Curriculum**

Curriculum assessment measured the extent to which the polytechnics address the topic related to sustainability in the curriculum. Based on Table 3 (Appendix I), a total of mean score 1.72 indicates that polytechnics 'never' address sustainability related topics in their curriculum. Majority of respondents (43.8 percent) claimed that sustainability is being addressed in their institution, but only 'a little'. However, there are some respondents (21.3 percent) claimed that their institution 'never' addressed sustainability related topic in their curriculum. Sadly, there are only few respondents (5.6 percent) claimed that they teach about sustainability 'a great deal'.

Based on the comments given by the respondents, there are four programs that are related to sustainability in polytechnics. The list of programs are presented in Table 4 (Appendix II).

Most polytechnics in Malaysia are not offering courses that specifically focused on sustainability. However, there are some polytechnics that are taking other alternatives such as embedding sustainability concepts in their existing courses. Almost half of the respondents (40.4 percent) claimed that sustainability concepts are being embedded in their existing courses only 'a little'. Another 22.5 percent of the respondents claimed that sustainability concepts are 'somewhat' being embedded in their existing courses. Results are presented in Table 5 (Appendix II). A total of mean score 1.93 indicates that sustainability concepts are 'never' being embedded in polytechnic's existing courses.

### **Research and Scholarship**

Research and scholarship assessment measured the participation of faculty, staff and students in research and scholarship in areas of sustainability. Table 6 and 7 (see Appendix II) presents the respondents' response on sustainability related research being done in their institution. A total of mean score 1.54 in Table 6 indicates that research in sustainability areas are never being done by polytechnic's lecturers.

There are only a few respondents (5.6 percent) claimed that 'a great deal' research in sustainability area are currently being done or already being done in their institution. Apparently, there are some respondents (28.1 percent) that have no idea if there are any sustainability related research were being conducted in their institution.

Results in Table 7 (Appendix II) indicate that most polytechnic's lecturers do not know any research in sustainability area being done by their students (mean score=1.09). Based on the comments given by the respondents, polytechnic's students and lecturers were doing their sustainability related research in the following areas; solar energy, food innovation & development, recycling solid waste, water conservation, energy conservation, recycling cooking oil, and green technology. Most polytechnics in Malaysia do not have multi- or interdisciplinary

structure, for example a collaborative research centre which focusing in sustainability research. However, all polytechnics have their own research unit that will handle and organize all research activities in their institution.

### **Operations**

Operations assessment measured the extent to which the institution has implemented the operational practices emphasized by institutions moving toward sustainability. Table 8 (Appendix III) presents the green practices that are currently being practiced in polytechnics. The most popular green practices are energy conservation practice and waste reduction. Both with 15.7 percent of respondents claiming that it is being practiced 'to a great extent' in their institution. The least popular green practice in polytechnic is building construction and renovation with 38.2 percent of respondents claimed that it is 'never' being practiced in their institution before.

Aside from green practice, polytechnics in Malaysia are also practicing 'Green space'. There are currently four green space practices that are being practiced in polytechnics. Results are presented in Table 9 (Appendix III). One of the respondents commented that 'increasing native plant species' in their institution was done by planting new local trees around campus. Another respondent commented that to 'increase overall green space on campus', every department were given a small area (land) where they can do their own 'green activities' such as landscaping, gardening, and even working on their own composting project.

### **Faculty and Staff Development**

The assessment on faculty and staff development measured practices in polytechnics to promote sustainability in faculty and staff.

Table 10 (Appendix III) shows the results of respondents' assessment on the extent of opportunities provided by the institution to the faculty and staff development to enhance understanding, teaching and research in sustainability. The mean value of 1.66 indicates that sustainability is not being promoted to the faculty and staff in polytechnics. However, some respondents commented that they are still getting some sustainability related opportunities from their institutions from time to time, such as; in house training (research and publications), seminar / talk related to environment; collaboration with the industry (industrial training for polytechnic's staff/lecturers), research unit (helping and guiding lecturers to conduct a research).

Total mean of 1.53 in Table 11 (Appendix III) indicates that lecturer's contributions for sustainability is 'never' being counted for tenure and promotions. However, there are a few respondents chose 'a great deal' (5.6 percent) and 'to a great extent' (1.1 percent). These findings somehow prove that in some institutions lecturer's contribution to sustainability is still counted as important and can be used to help them to get their promotions.

### **Outreach and Service**

The assessment on outreach and service area measured the polytechnic's involvements in issues related to sustainability and/or sustainable development in its local area and the surrounding region.

A total mean of 1.69 in Table 12 (Appendix IV) indicates that polytechnic's staff and students are 'never' get involve or concerned with activities that can improve the sustainability status in their campus or surrounding areas.

Almost half of the respondents (48.3 percent) claimed that they are involved 'a little' with some sustainability related activities in their institution. Some activities that listed down by the respondents are including; final year student's project based on the green technology and/or recycling material concepts; student volunteers-joining the community service in their local areas; and collaboration with the forestry department to plant new trees at the beach areas. However, those activities are still not enough to increase the status of sustainability in their campus and its surrounding areas.

Results in Table 13 (Appendix IV) indicates that polytechnics 'never' (mean score=2.00) get involved in sustainable community work or partnership at local, regional, national or international levels. Most sustainability activities or partnership that provided by the respondents are merely on campus level. Examples of activities are; clean beach program, community service program at the orphanage; and collaboration with other HEI to conduct community service in primary school.

### **Student Opportunities**

Student opportunities assessment measured the practices in the polytechnics to provide students with opportunities to participate in sustainable development (SD) initiatives. Table 14 (Appendix IV) presents the top three sustainability events that are being celebrated in polytechnics. Student's involvements in all three events are more encouraging than the campus involvements.

This could be due to students are being encouraged to get involved with sustainability related activities in campus (see Table 15 in Appendix IV). Other than that, students were also being given the opportunities to join sustainability focused club/group and programs provided by the institution. Example of sustainability focused group and program for students are presented in Table 16 (Appendix IV).

### **Institutional Mission, Structure and Planning**

In this area of assessment, it measured the commitment of polytechnics to promote SD at the institutional mission level. Table 17 (Appendix IV) present the results on lecturer's view on formal written statements related to sustainability in their institution. Total mean score of 1.01 indicates that there are no formal written statements in polytechnic that describing the purpose, objectives and their commitment to sustainability.

However, although there are no formal written statements related to sustainability in polytechnics, some of them (polytechnics) are doing their own sustainability initiatives by providing some sustainability related positions and committees in their institution (Table 18 - Appendix IV).

## CONCLUSIONS

Based on the findings, the following conclusions can be drawn:

1. Sustainability are being embedded in only a few courses (food technology, electrical engineering, mechanical engineering, civil engineering) in Malaysian polytechnic.
2. Research in sustainability area is given very little attention. Some polytechnics even ignoring this area.
3. Green practices in polytechnics are still in its early stage with positive implementation
4. Faculty and staff are not getting enough opportunities for them to enhance their understanding, teaching and research in sustainability.
5. Polytechnics involvement in sustainability issues in its local areas are still low and not notable
6. More sustainability opportunities should be given to polytechnic's students
7. There are no formal written statements available in polytechnics that describes the purpose and objectives of institution reflecting their commitment to sustainability

## RECOMMENDATION

The following recommendations are addressed to the polytechnic institutions, polytechnic's lecturers, and fellow researchers:

1. Polytechnic institutions should provide more training programs and seminar / talk on sustainability to increase the sustainability awareness among its staff, lecturers and students.
2. Polytechnic's lecturer is an important medium between ESD and the students. They should be able to find and create their own sustainability initiatives so that they can effectively deliver the sustainability knowledge to their students.
3. A follow-up study needs to be pursued to cover more polytechnic institutions in Malaysia.

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## APPENDIX I

TABLE 1: RESPONDENTS' RESPONSE ON SUSTAINABILITY BACKGROUND  
Familiarity with the term 'Sustainable Development'

<i>Response</i>	<i>Percentage (%)</i>
Yes	60.7
No	39.3
Academic background related to sustainability	
Yes	42.7
No	57.3
Experience working on sustainability related projects	
Yes	29.2
No	70.8
Training related to sustainability	
Yes	18.0
No	77.5
No answer	4.5
Sustainability concepts related to sustainability projects	
Environmental	7.9
Social	7.9
Individual and community wellbeing	5.6
Economic	4.5
Ethical	3.4

TABLE 2: RESPONDENTS' AWARENESS ON SUSTAINABILITY

<i>Response</i>	<i>Percentage (%)</i>
Interested in sustainability	
Yes	76.4
No	11.2
Partially	11.2
Unsure what sustainability means	
Yes	47.2
No	37.1
Partially	15.7
Feel confident explaining sustainable development as a concept	
Yes	22.5
No	30.3
Partially	47.2
Heard about UNESCO Decade of Education for Sustainable Development (DESD)	
Yes	27
No	73

TABLE 3: RESPONDENTS' VIEW ON ADDRESSING SUSTAINABILITY RELATED TOPICS IN CURRICULUM

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	15.7	
Never	13.5	
Little	40.4	1.72
Somewhat	22.5	
A great deal	7.9	
To a great extent	0	

\* *Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more*

## APPENDIX II

TABLE 4: POLYTECHNIC'S COURSES / PROGRAM THAT ARE RELATED TO SUSTAINABILITY

Courses / Programs
Food Technology <ul style="list-style-type: none"> <li>• Nutrition</li> <li>• Food safety</li> <li>• biotechnology</li> </ul>
Electrical Engineering <ul style="list-style-type: none"> <li>• Solar energy and solar energy utilization (semi-conductor devices)</li> <li>• Green technology</li> <li>• Renewable technology (power electronics)</li> </ul>
Mechanical Engineering <ul style="list-style-type: none"> <li>• OSHA (Occupational, Safety and Health Act)</li> <li>• Green technology</li> <li>• Renewable technology</li> </ul>
Civil Engineering <ul style="list-style-type: none"> <li>• OSHA</li> <li>• Geo-environmental</li> <li>• Environment and pollution</li> <li>• Water waste</li> </ul>

TABLE 5: RESPONDENTS' VIEW ON EMBEDDED SUSTAINABILITY CONCEPTS IN EXISTING COURSES

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	15.7	
Never	13.5	
Little	40.4	1.93
Somewhat	22.5	
A great deal	7.9	
To a great extent	0	

\* *Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more*

TABLE 6: RESPONDENTS' VIEW ON RESEARCH DONE BY LECTURERS/STAFF IN SUSTAINABILITY AREA

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	28.1	
Never	12.4	
Little	42.7	1.54
Somewhat	11.2	
A great deal	5.6	
To a great extent	0	

\* *Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more*

TABLE 7: LECTURER'S VIEW ON RESEARCH DONE BY STUDENTS IN SUSTAINABILITY AREA

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	46.1	
Never	19.1	
Little	21.3	1.09
Somewhat	9.0	
A great deal	2.2	
To a great extent	2.2	

\* *Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more*

## APENDIX III

TABLE 8: SUSTAINABILITY PRACTICES IN POLYTECHNIC

<i>Sustainability Practices</i>	<i>Don't know (%)</i>	<i>Never (%)</i>	<i>Little (%)</i>	<i>Somewhat (%)</i>	<i>A great deal (%)</i>	<i>To a great extent (%)</i>
Recycling of solid waste	6.7	10.1	37.1	16.9	23.6	5.6
Energy conservation practices	4.5	6.7	37.1	27	9	15.7
Water conservation practices	5.6	27	30.3	18	14.6	4.5
Waste reduction practices	0	10.1	31.5	32.6	10.1	15.7
Sustainable transportation program	6.7	33.7	40.4	13.5	5.6	0
Green purchasing	18	29.2	39.3	6.7	4.5	2.2
Sustainable landscaping	5.6	25.8	34.8	21.3	5.6	6.7
Building construction and renovation	22.5	38.2	24.7	7.9	5.6	1.1

TABLE 9: 'GREEN SPACE' PRACTICES IN POLYTECHNICS

<i>'Green Space' practices</i>	<i>Percentage (%)</i>
Increase native plant species on campus	16.9
Increase overall green space on campus	18
Reduce parking lot size in campus	7.9
Promote and increase involvement with community garden boxes on campus	10.1

TABLE 10: RESPONDENTS' VIEW ON THE EXTENT OF OPPORTUNITIES PROVIDED TO FACULTY AND STAFF FOR ENHANCED UNDERSTANDING OF SUSTAINABILITY

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	16.9	
Never	22.5	
Little	46.1	1.66
Somewhat	6.7	
A great deal	7.9	
To a great extent	0	

\* Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more

TABLE 11: RESPONDENTS' VIEW ON THE EXTENT TO WHICH LECTURER'S CONTRIBUTION TO SUSTAINABILITY IS COUNTED FOR TENURE AND PROMOTIONS

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	18	
Never	30.3	
Little	40.4	1.53
Somewhat	4.5	
A great deal	5.6	
To a great extent	1.1	

\* Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more

## APPENDIX IV

TABLE 12: LECTURER'S VIEW ON STAFF AND STUDENTS INVOLVEMENT  
IN IMPROVING CAMPUS OR LOCAL SUSTAINABILITY

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	18	
Never	16.9	
Little	48.3	1.69
Somewhat	12.4	
Quite a bit	4.5	
A great deal	0	

\* Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more

TABLE 13: LECTURER'S VIEW ON INSTITUTION'S INVOLVEMENT IN SUSTAINABLE  
COMMUNITY WORK OR PARTNERSHIPS AT ALL LEVELS

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	19.1	
Never	9.0	
Little	40.4	2.00
Somewhat	19.1	
Quite a bit	9.0	
A great deal	3.4	

\* Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more

TABLE 14: STUDENT'S INVOLVEMENT IN SUSTAINABILITY RELATED EVENTS

<i>Sustainability related events</i>	<i>Percentage (%)</i>	
	<i>Campus involvement</i>	<i>Student involvement</i>
Earth day	33.3	62.1
Environment day	33.3	69.7
Recycling day	36.4	72.7

TABLE 15: LECTURER'S RESPONSE ON STUDENTS BEING ENCOURAGED TO JOIN  
SUSTAINABILITY RELATED ACTIVITIES IN CAMPUS

<i>Response</i>	<i>Percentage (%)</i>
Yes	71.9
No	28.1

TABLE 16: SUSTAINABILITY RELATED OPPORTUNITIES FOR STUDENTS  
IN POLYTECHNIC

<i>Sustainability focused group/program</i>	<i>Percentage (%)</i>
Orientation program(s) on sustainability	29.3
Student group(s) with environmental or sustainability focus	38.3
Student environmental centre	13.6

TABLE 17: RESPONDENTS' VIEW ON SUSTAINABILITY RELATED WRITTEN STATEMENT (FORMAL) IN POLYTECHNIC

<i>Response</i>	<i>Percentage (%)</i>	<i>Total Mean</i>
Don't know	47.2	
Never	14.6	
Little	31.5	1.01
Somewhat	4.5	
Quite a bit	1.1	
A great deal	1.1	

\* *Don't know= Mean score 0.51-1.5; Never= Mean score 1.51-2.5; Little= Mean score 2.51-3.5; Somewhat= Mean score 3.51-4.5; A great deal= Mean score 4.51-5.5; To a great extent= Mean score 5.51 and more*

TABLE 18: SUSTAINABILITY RELATED POSITIONS AND COMMITTEES IN POLYTECHNIC

<i>Sustainability related positions and committees</i>	<i>Percentage (%)</i>
SS program coordinator	68.5
Energy officer	7.9
Orientation program on sustainability for faculty and staff	1.1
Go green program coordinator	22.5
Green purchasing coordinator	4.5
Environmental coordinator	9
Environmental council	3.4
Head of environmental program	1.1