

PROMOTING EDUCATION FOR SUSTAINABLE CONSUMPTION AND PRODUCTION: AN ANALYSIS OF MALAYSIAN SECONDARY SCHOOL CURRICULUM

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ABSTRACT. This paper provides understanding of education of sustainable consumption and production (ESCP) and its implementation, Education for Sustainable Consumption (ESC) and Education for Sustainable Development (ESD). These are the driving tools to address the challenges of sustainable consumptions such as environmental degradation, depletion of natural resources, pollutions, global warming and poverty that negatively affect the quality of life. Therefore, the practical approach to promote ESCP was presenting its purpose and its potential to positively affect the education system. The objective of this study is to assess the existing initiatives in ESCP for Malaysian public education system. The document analysis method was conducted towards the secondary public school for their curriculum materials and textbooks. The result from the analysis shows that some of the elements in the content are related to sustainable consumption and production of education. One of the learning outcomes was that it matches the desired behavioral of sustainable consumption. It is concluded that education plays a vital role in strengthening the sustainable consumption choice and it is evidently supported by government policy as stated in The National Sustainable Consumption and Production Blueprint 2016-2030. The integration of ESCP into curriculum is indisputably important to facilitate and provide adequate transformation for the sustainable consumption behavior into daily life practice.

Keywords: *Education for Sustainable Development (ESD), Education for Sustainable Consumption and Production (ESCP), sustainability*

JEL Classification: Q5, Q56, I25

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Recommended citation: Hong, T.L., Ho, S., Noah, S.M., *Promoting education for sustainable consumption and production: An analysis of Malaysian secondary school curriculum*, Studia UBB Negotia, vol. 64, issue 2 (June), 2019, pp. 47-66, doi: 10.24193/subbnegotia.2019.2.03

Introduction

Malaysia, together with other world leaders adopted the 2030 Agenda for Sustainable Development during the United Nations General Assembly in New York on 25th September 2015. (K. N. Adham, Siwar, & Bhuiyan, 2015) In line with this agenda, Government Transformation Programme (GTP), Economic Transformation programmes (ETP), New Economic Model (NEM), National Transformation (TN50), the 11th Malaysia Plan (11MP) and other national policies are driving to promote sustainable development as the main focus to achieve being an economically rich nation. The aim is to empower population from all ages and various walks of life to make fundamental changes on how our societies produce and consume goods as well as services towards sustainable and resource efficient society. Hence, to materialise this, the core concern of government is to strengthen its policy and institution framework shifting to Sustainable Consumption and Production (SCP) patterns at all levels. The SCP is the government's initiative to ensure that consumers and industries work hand in hand and enable the change towards SCP practices in daily life and also businesses well. Fundamentally, SCP's overarching objective is to connect the dots between SCP and SD. The phenomenon of climate change, water scarcity, energy shortage of energy, global health, food security, women's empowerment, the loss of biodiversity, atmospheric pollution and waste are the challenges for SD (UNEP, 2016)

Changing the SCP pattern is an excessively complex action. It depends on the fundamental changes of how we live and operate. Without adequate knowledge and dexterity of SCP, we could end up weakening. "Both ESC and ESD is about learning for change and learning to change," (UNESCO, 2011). The role of SC is to empower the people, culture and the ecosphere, while ESD emphasizes on the responsibilities and the human right. The educational foci of ESD and ESC explain the

background for this research. ESC and ESD are interrelated and brought to promote sustainable consumption. SCP is aiming to create green markets which indirectly make it easier to promote sustainable consumption while ESD aims to educate individuals to be aware of the impact of excessive consumption and influence of behavioral change. Consequently, SCP and ESD are best explained as a continuum approaches towards ESC. Both ESC and ESD are integrated as environmental education under Malaysian curriculum. It was conducted via formal or informal education and some were carried out as “the project base learning to solve the environmental issues such as waste management, reduce carbon foot print and recycling project,” (Mahat et al., 2014)

There is a gap concerning ESC and the secondary school curriculum. It was highlighted that ESC and ESD had lack of intent and cohesiveness. In addition, “the conceptual understanding is also considerably vague and lacking in explanation,” (Sabrina Ho Abdullah, 2015a). This research intends to explore the gap mentioned above. Thus, the general objective is to assess the current status of Curriculum Standard of Secondary School within the Malaysian Public School education system that incorporated the ESCP or at least the ESC in the content list. This paper presents results from one specific research objective which is to analyze the secondary school curriculum system for ESCP content and behavioral practices in sustainable consumption. The background and the concept of ESC and ESCP are first presented followed by an insight into Malaysia’s School Curriculum. The methodology and the result analysis were then discussed. Subsequently, the teaching approach and best practices are presented to support and promote ESCP curriculum. Lastly, the conclusion was drawn.

Why Sustainable Consumption and Production is Needed

Sustainable consumption and production (SCP) is pivotal to a number of international efforts to advance SD. During the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, the world leaders had called for action on a 10 - year - framework of program to encourage and promote regional and national initiatives to shift towards SCP on social and economic development within the carrying capacity of ecosystem (WSSD). “As the world faces the unprecedented challenges from inter-linked social, economic and environmental crisis, the broad global consensus on the ways of goods and services are produced and

consumed and how we pursue economic growth needs to be shifted towards sustainable ways of living in harmony within communities, our ecosystem and natural resources” (United Nations, 2010). Unsustainable consumption and production, including inefficient use of resources, contribute significantly to these challenges (UNEP, 2012b). Therefore, goods and services in developing and developed countries are required to produce more efficiently, use fewer resources, and create generation which cause less wastage and pollution. Innovative and concerted strategies to decouple economic growth from extraction of natural resources and environment degradation are the efforts that need to achieve. SCP also aims at “doing more and better with less” in regards with the life cycle of goods and services using less resources and environmental degradation to improve the quality of life of everyone. Thus, SCP has the potential to help the global community for poverty eradication. In short, it helps to achieve the ultimate goal of Sustainable Development Goals. While the World Business Council for Sustainable Development (WBCSD) highlighted that SCP involves business, communities, household and government to raise environmental quality with efficient production and use of natural resources, minimize the waste and optimization of products and services. Both take the lead to produce more from and turning waste into wealth. It is hope to improve quality of life and to protect the environment. SCP in context within Malaysia is a concept that promotes economic growth without compromising the environment or jeopardizing the needs of future generations. (“Eleventh Malaysia Plan, 2016-2020 | Laman Web Rasmi Unit Perancang Ekonomi,” n.d.)This means efficiently using natural resources, minimizing use of hazardous substance and reducing pollution and waste over the life cycle of products and services. Thus SCP invites everyone to consider the environmental impact and ensure resource efficiency of both production and consumption stages.

Conceptual Background

Education for Sustainable Consumption (ESC)

Sustainable consumption regards as mirroring the production side that is related to how and why goods and services are demanded, used and consumed while sustainable production is about the production and upstream perspective in more sustainable way (UNEP, 2008). The concept

of sustainable consumption was coined in Oslo on 1994 under the Brundtland commission. The definition of sustainable development includes both consumption and production. "Sustainable consumption and production is the use of goods and services that response to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations" (Prierre McDonahg, Andrea Prothero, 2011). The scope of sustainable consumption includes food, energy, waste generation, water, house, building, and mobility. Recently it also considers the perspective of infrastructure, city design and urban planning.

Environmental Education (EE) and consumer education are at the core of ESC implementation. Both EE and consumer education are considered as a key cross curricular themes for students learning (UNESCO, 2005). ESC is acknowledged as an element of ESD. It aims to spread awareness and empowerment towards everyone and encourage them to make good decisions, to be responsible, to be resource efficient and to be able to adopt environmental friendly lifestyle through sustainable consumption. ESC consists of the acquisition of knowledge, attitudes and skills which are necessary to make a society functional. It exposes about responsibility in learning, encourage individual to manage their own lives and participating in the collective global life. Under the UNEP programs for countries like Indonesia and Tanzania, ESC has used as an integrated tool to evaluate the feedback of the national policy including SCP (UNEP). This means ESC provides the guidelines to facilitate SCP program and consumer education. ESC, therefore works hand in hand to promote SCP. ESC provide students with appropriate information and knowledge on the environmental and social impact of their daily choices, actions, alternatives and workable solutions. Besides, the education that responds to the needs of alleviating poverty, hunger, gender equity, diseases and improvement of life expectancy are brought up under ESC. In most cases, ESC is regarded as an instrument that integrates the basic consumer right to live, to communicate and education (UNEP, 2010a).

As such, ESC is interdisciplinary that enhances knowledge, skills and behavioral changes that encourages sustainable consumption. This means if you are a responsible consumer, you need to be a critical thinker with consumption moral and independent decision making for sustainable

lifestyle. Therefore, ESC acquires knowledge and enhances attitudes that form the basic attribute of responsible consumer. ESC must able to lay a solid foundation and significant role for our life style choices in the communities. ESC gives better understanding on how the unsustainable consumption pattern affects the environment which indirectly causes pollution, climate change, biodiversity loss, land degradation and inequality among others. This is extremely important as nowadays, “most consumptions are unbridled consumption which promises happiness,” (UNESCO, 2015). They are exposed to images and messages that influence them to make unnecessary choices. The messages obviously do not highlight the impact of unsustainable consumption on environment. Through ESC, it is hope that it can empower the community to better understand and change their behavior to adopt sustainable lifestyle. As of now, only the educated and informed consumers are able to make demand on environmental-friendly products through their purchasing decision and have the capacity to influence a range of factors including waste generation and management, air pollution and energy conservation. With the ESC it is hope to deliver positive impact on the environment, societies and communities among others to shape and develop a sustainable consumption for future generation.

Education for Sustainable Development (ESD)

ESD is relevant for sustainable development as it links to different stages of production and consumption as a large system (UNESCO, 2011). The ability of learning to understand and process critical questions about the effects of each stages of the product life cycle is one of the important learning outcomes to achieve. The ideas of Education for Sustainable Development (ESD) emerged from the report of the World Commission on Environment and Development (1987) entitled “Our Common Future.” The United Nations Decade for education for Sustainable Development (DESD 2005-2014) had encompassed action themes which include solving poverty, achieving gender equality, promoting health, cultural diversity, protect environment, rural development, sustainable urbanization, peace and human security (UNESCO 2005). During the world Conference on Education for Sustainable Development (2009), ESD was defined as “an approach to teaching and learning lying on the concepts that underlie

sustainability". "The key issues are human rights, poverty reduction, sustainable livelihoods, climate change, gender equality, corporate social responsibility, and production of indigenous cultures in an integral way. It constitutes a comprehensive approach to quality education and learning," (Laurie, Nonoyama-Tarumi, Mckeown, & Hopkins, 2016) (UNEP, 2012a).

Apart from understanding the ESD concept as above mentioned, "ESD is about education with holistic approach," (Osman, Gapor, & Zainal Abidin Sanusi, 2005) which requires students' ability to think for themselves and encourages more independent and participatory decision-making process. It also encourages students to reflect and debate issues as well as forming their own opinions, being able to think critically and solve problems. ESD is also fostering learning which emerged from discovery and exploration through various pedagogy which does not depend on the conventional chalk and talk method but to embark on the 21st century multi-method of learning through visual media, drama, 'TEDtalk', gaming and experiential learning through field work. In other words, action is the key component of the implementation of ESD as it will create and promote awareness and indulge in deeper understanding between an individual and its surroundings to enable the understand of the responsibility for sustainable development the young generation.

Education for Sustainable Consumption and Production (ESCP) in Malaysia

The Education for Sustainable Consumption and Production (ESCP) was set along with ESD which was also responsible and geared towards national sustainable development goals. It was recommended as one of the instruments supporting SCP implementation. "It is "Malaysia's "green strategies" for environmental protection and raising the awareness through formal and informal education to promote sustainable lifestyle," (Khairul Naim Adham, Karin Merle, Gerhard Weihs, 2013). In relation with sustainable development, ESCP has become a guiding paradigm in school. ESCP was added in the secondary school curricula as requested by 11MPs. The practice curriculum update was used to extend ESCP for primary education. "By 2020, the first batch of students will finish their lessons about SCP in daily life. These students will become the ambassadors of SCP, sharing their obtained knowledge, skills and appropriate attitudes with friends and family. By 2030, Malaysia will see the first generation of young

parents passing on the passion for SCP which they acquired in school to their children.” (The National SCP Blueprint 2016-2030, 2017). This is the commitment and the government’s effort combatting with the global sustainable consumption issues. The Malaysian version of the ESCP has listed eight themes as an introduction to SCP, which are “sustainable water consumption, sustainable energy consumption, sustainable waste management, consumption, sustainable mobility, sustainable house and building, sustainable food consumption and sustainable tourism and leisure,” (Bahagian Pembangunan Kurikulum, 2017) This ESCP is not a single teaching subject by itself, it was integrated in all the teaching subjects which is relevant to SCP theme. This provides a wide opportunity for students to learn the deep understanding about the current sustainable consumption pattern and to make necessary changes to adjust to sustainable consumption that helps to reduce environmental impact. Subsequently, the collaboration of SCP demonstrates the “constrain of society growth related to its negative impact on environment with finite natural resources on this planet to exploit,” (Tukker, Cohen, Hubacek, & Mont, 2010). The future course of planet is subjected to humanity’s ability to provide quality of life for an approximate 9 billion people without exhausting the Earth’s resources. ESCP is focusing on changing towards sustainable consumption behavioral. Through this newly recommended ESCP framework, the students and teachers are able to embed Malaysia’s Green Vision where Malaysia is aiming towards a high-income developed nation. Obviously, it needs ESCP to be the catalyst of the process until we could actually achieve the green growth vision we targeted for sustainable development goal 2030. The key focus is to make changes and shape the sustainable consumption for the betterment of the environment.

Practical Approach for ESCP

Participation, System thinking and action learning (PSTAL approach)

(Birney,A.,Jackson,G and Hallen, 2008) approach was referred as the strategy to infuse for responsible consumer behavior to take action. The three principles: - participating, system thinking and action learning. I suggest this approach to be implemented for SCP practices purpose. Through participation for ESC learning, it connects the people from local

and around the world involving local and global community of various backgrounds and cultures. They would have meaningful exchange of ideas and make imperative decision making. Participation for up-cycle activities, zero hunger program, community garden or advocate to save wild-life awareness campaign are all available. The willingness to participate and make changes of personal lifestyle is therefore an advantage to secure a sustainable future. As for the digital activation to encourage participation for sustainable-consumerism campaign, it had been proven by (Liu, 2014) as the China Dream Program successfully engaged throughout the nationwide to support sustainable practices. Where, what and how to participate will be explained in the best practices for companies that exercise their corporate social responsibilities.

The second principle is system thinking. The sustainability is inherent with various systems to relate the foundational concept of sustainability network such as the ecosystem balance, and the carrying capacity of the planet to support so as to avoid environmental degradation. Lifecycle analysis and cradle to grave system analysis makes it possible to understand how the product functions from the beginning to the end life. This can save over consumption as some of old products can still be repurpose for other functions. The circular economic will encourage people to consume less resources by turning waste to profit, like upcycling the old textile for house hold product. This fundamental system analysis emphasizes on consumer's responsibilities who should pay attention to the reasons behind the practices. (UNESCO, 2012). "The system thinking allows schools and community to manage the operation system to enhance for better and more sustainable environment to develop," (Uvalić-Trumbić & Daniel, 2016).

The third principle is action learning. It means to observe, to think and make appropriate action on which approaches work best for the environment, people and economic dimension. This action learning or experimental learning using the approach of 'doing' or 'hands on' will result in constructing and obtaining new knowledge, skills, values and experiences. (Government, 2005). They are the skills to identify, investigate, evaluate and take action of SCP issues. For example, learning how to read product label, compare the brand, and search for the product information from the Internet are necessary skills before making the decision to buy a new product. The initiative and ability to acknowledge uncertainty using problem-solving skills and observation skills into the new situation must

take place to make sustainable and responsible consumption practices happen. For example, to solve the illegal logging, open burning and river pollution problems, one must know the suitable channel to advocate and take action for the solution. Apart from that, to know how to count the carbon emission, to repair simple house hold devices, to make food compose, and to grow vegetables for own consumption are sustainable skills that are crucial to learn. Thus, "Education for Sustainability is more than just a new curriculum, it is about how the content and process of education can be interwoven with real life contexts to create opportunities and take the lead in building sustainable communities" (Constanza & Kubiszewski, 2014).

Best practice of corporate social responsibilities (CSR) to support SCP education program

"In Malaysia, the changing role of company is demonstrated by their involvement for sustainable development solution and promote healthy environment," (Hezri, 2011). In order to encourage the SCP programs to relate to the real world practices, schools should encourage collaboration with the community partners and corporate companies to educate and provide case study such as lifecycle thinking system, sustainable innovation, cradle to cradle concepts, product disposal and supply chain. This CSR supports informal education learning for better understanding of SCP. "The local council throughout the nation function with the Local Agenda 21 had promoted various awareness and sustainability projects like waste separation, tree planting, monitoring open burning, community garden and urban farming within and without the school," (Jabatan Pengkomposan Sisa Semenanjung Malaysia, 2013). Toyota Eco-Youth Programs had since 2001 started the community programs with the schools to mitigate climate change, waste management, reduce carbon footprint and carbon emission. (Toyota Eco Youth, 2018) "Sime Darby had also actively involved in preserving residential green belt, the sustainable ocean, forest resources and native tribes," (Yayasan Sime Darby, 2019). While Biji-biji is a social enterprise that promotes upcycle and shares economy concepts for the communities. It conducts workshop to teach the skill of repairing household appliances and repurpose the old items (Biji-biji, 2019)

Basically, besides the sustainable consumption themes that were stated in the curriculum, the teacher should not only just focus on environmental issues. Health issues such as obesity which are caused by over consumption should be addressed among young students who fall under this category. The poverty and literacy (Pierre McDonagh, Andrea Prothero, 2011) that hits the developing countries should pay attention with the SCP as human equality topics. Apart from that the circular and shared economy approach (Harald Heinrich, 2013) should be introduced to support SCP. These two models of economic enable the participation from school and local communities to work hand in hand to promote local sustainable product and upcycle making. For example, encouraging book to book exchange by sharing novels or story books, selling upcycle products made from recycle items or set up bicycle rental booth for the needy students instead of purchasing a new one.

MATERIALS AND METHODS

The Malaysia National School Curriculum content for secondary school was used to analyze the learning outcome as desired behavioral in sustainable consumption. The specifications of official curriculum documents which were issued by the Ministry of Education (MOE) were referred for this analysis. The unit of curriculum development was in charge to develop the standard curriculum (CS) specification document for Standard Curriculum for Secondary School (Kurikulum Standard Sekolah Menengah KSSM) (Kurikulum Sekolah Menengah - KSSM - Portal Rasmi Bahagian Pembangunan Kurikulum,). The CS gives details of the curriculum which cover from the learning areas, objectives and intended outcome of the curriculum. The learning skills such as thinking strategies, sustainability, environmental issues, environment management and noble values were included for geography curriculum.

The approach opted to analyze the curriculum material may be regarded as qualitative content analysis. This was as defined by (Fitzpatrick JL, Sanders JR, 2004) and (Flick U, 2006). The Standard Curriculum for Primary (Kurikulum Standard Sekolah Rendah KSSR), Secondary School (Kurikulum Standard Sekolah Menengah KSSM) ("Buku Penerangan KSPK/ KSSR/ KSSM - Buku Penerangan - Portal Rasmi Bahagian Pembangunan Kurikulum," n.d.) and Global Sustainability ("Buku Panduan Pelaksanaan KSPK/ KSSR/ KSSM - Buku Panduan - Portal

Rasmi Bahagian Pembangunan Kurikulum,") were perused for ESC related contents to determine its learning objectives for desired behavioral change. The findings were presented systematically in data tables.

RESULTS AND DISCUSSION

The Standard Curriculum for Secondary School (Kurikulum Standard Sekolah Menengah KSSM) was introduced with effect in 2017. Of all the 60 subjects for secondary students under new curriculum of KSSM, there is no specific core subject on environmental education in school. But the topics that are related to the sustainable consumption and production are found in all learning subjects such as Geography, Sciences, Living Skill, Biology, Chemistry, Physics and Economic and languages subjects. In addition, MOE had provided a guide book on Global Sustainability for the teachers. It was proposed to be integrated with the relevant topics to promote sustainable consumption to secondary school level students. As of 2016, there were approximately 2.05 million students enrolled in government secondary schools in Malaysia ("Malaysia: public secondary school student number 2016 Statistic, 2018). These are the groups that will become the future generation and they are the only generation that need to understand and adopt more sustainable ways of living. They need to adapt towards more sustainable consumption behaviors. In this regard, "ESC plays a vital role to enhance the attitude of learning to know, learning to do, learning to be and learning to live together towards more sustainable development future," (UNEP, 2010b).

There are a total of 20 subjects in primary school level and 60 subjects in secondary school level, and a total 16 subjects are core subjects which are offered in the government aided school (Table 1). Findings from the document analysis show that while there are contents which relates to the sustainable consumption and production (Table 2), the content which highlighted the eight themes of SCP was the main sources for education of sustainable consumption and production (ESCP). The themes included SCP concepts; ranging from sustainable water consumption, sustainable energy, sustainable waste management, sustainable food, sustainable mobility, sustainable house and building and sustainable tourism. (Buku Panduan Pelaksanaan KSPK/ KSSR/ KSSM - Buku Panduan - Portal Rasmi Bahagian Pembangunan Kurikulum)

Table 1. Number of KSSR and KSSM learning subject

Level	Curriculum	Number of Subjects
Primary	Standard Curriculum for Primary Schools (Kurikulum Standard Sekolah Rendah)(KSSR) (with effects from 2011)	20
Secondary	Standard Curriculum for Secondary Schools (Kurikulum Standard Sekolah Menengah KSSM) (with effects from 2017)	60

Source: Extract from Curriculum Development Unit, Ministry of Education

Table 2. Secondary School Core subjects with ESCP Contents

ESCP Themes	Subjects	Learning Outcomes
1. Introduction to Sustainable consumption and production	i. Form 4 Chemistry Chapter 9 - Manufactured substances in industry ii Form 4 English Unit 5 - Giving opinion on building dams	i. To identify the function of composite ii. Give the opinion on building the dams.
2. Sustainable waste management.	i. Form 4 Chemistry Chapter 4 - Periodic Table of elements ii. Form 4 Moral Education Unit 18- Think before you throw.	i. To handle chemical compound wisely to avoid wastage. ii. To carry out recycle campaign in school/ community center.
3.Sustainable energy consumption	i. Form 2 Sciences Unit 2- Electricity ii. Form 2 Malay Language Theme 16 - Sustainable Environment	i. To explain the energy and sustainability of life. ii. To identify the biomass energy that generates from agricultural waste.
4.Sustainable water consumption	i. Form 4 English Unit 2- Saving every drop ii. Form 2 sciences Theme 2 - Exploration of element in nature	i. Recalling past experiences on water shortages. ii. To explain water purification and supply.
5.Sustainable food consumption	Form 4 Chemistry Chapter 1- Carbon compound Form 4 English Unit 11 - Healthy living	i. To identify the organic compound in everyday life. ii. To choose healthy food and understand the information that printed on food label
6.Sustainable mobility	i. Form 4 Malay Language Unit 5 Sustainable environment ii. Form 4 Physics Chapter 2 Forces and Motion	i. To advocate the ways to create sustainable environment ii. To identify inertia, momentum, the effect of force and safety features of the vehicles.
7.Sustainable home and building	i. Form 2 Art and Visual Studies Chapter 9 man and art ii. Form 4 Chemistry Chapter 1 Introduction to chemistry	i. To understand the harmonizing role of man and nature in art drawing. ii. To understand reduce the use of chemical that harmful to man in daily life.
8.Sustainable tourism and leisure	i. Form 4 Malay Language Unit 6 Recreation ii. Form 4 Biology Chapter 9 Endangered ecosystem	i. To challenge the Kinabalu Peak ii. To identify the human activities that endangered the ecosystem.

Source: Extract from Curriculum Development Unit, Ministry of Education

The results from the findings of document analysis show the government’s effort in promoting SCP by integrating it into all learning subjects for all schools as required by Eleventh Malaysia Plan (“Eleventh Malaysia Plan, 2016-2020 | Laman Web Rasmi Unit Perancang Ekonomi,”). The ESCP curriculum provides guidance for school teachers to inspire, encourage and provide opportunities for students to explore the fascinating world of SCP. The only subject that has the direct focus on ESCP is Geography subject. The ESCP themes are very related in the content of Geography subject for secondary one, two and three students. The learning areas, learning objectives and learning outcomes greatly correspond with ESCP, as shown in (Table 3)

Table 3. Learning Objectives and learning Outcomes for Geography

Learning Areas	Learning Objectives	Learning Outcomes
1. Water resources	Analysing the water crisis in Malaysia.	<ul style="list-style-type: none"> ● identify the root cause for water crisis. ● explain the effects of water crisis. ● suggest smart ways to reduce water crisis effect.
2. Domestic waste	The effect of increasing domestic waste	<ul style="list-style-type: none"> ● identify the type of domestic waste. ● explain the effects of domestic waste ● suggest the effective solutions to reduce domestic waste.
For Secondary two students		
3. Weather and Climates of Malaysia	Evaluating of human activities towards weather and climate of Malaysia	<ul style="list-style-type: none"> ● justify the impact of human activities towards weather and climate of Malaysia. ● suggest solutions to reduce the weather and climate change of Malaysia.
4. Transportation in Malaysia	Evaluating of the importance of public transportation in Malaysia.	<ul style="list-style-type: none"> ● list the importance of public transportation for the local communities. ● suggest effective ways to increase the services of public transportation. ● adopt the sustainable way of mobility.
5. Global warming	Analyzing the effects of global warming	<ul style="list-style-type: none"> ● state what global warming is ● explain the cause for global warming ● identify the steps to reduce global warming
6. Green technology	Evaluating the importance of green technology	<ul style="list-style-type: none"> ● state the concept of green technology ● identify the example of green technology ● justify the needs to adopt green technology for sustainable living ● generate creative and innovative ideas of green technology
For secondary three students		
7. Natural vegetation	Evaluating the impact of human activities towards the natural vegetation in Malaysia.	<ul style="list-style-type: none"> ● advocate the human activities that endangered the natural vegetation in Malaysia

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Learning Areas	Learning Objectives	Learning Outcomes
8. Natural resources in Malaysia	To identify the renewable resources and non-renewable resources in Malaysia	<ul style="list-style-type: none"> ● explain the importance of natural resources for economic development in Malaysia. ● advocate the consumption of natural resources for economic development in Malaysia. ● suggest the potential of natural resources for local community development.
9. World natural vegetation and wildlife	Analyzing the importance of the world natural resources and wildlife	<ul style="list-style-type: none"> ● advocate the importance of the world natural resources and wildlife
10. World natural resources and economic cooperation.	Evaluating the importance of world natural resources and economic cooperation.	<ul style="list-style-type: none"> ● justify the importance of world economic cooperation. ● advocate the world energy crisis and natural resources crisis.
11. Forest resources	Conservation and preservation effort of forest resources in Malaysia	<ul style="list-style-type: none"> ● explain the importance to conserve and preserve the forest resources. ● plan the ideas to protect the wildlife and preserve the Geopark in Malaysia.
12. Recycle	Evaluating the importance of recycling.	<ul style="list-style-type: none"> ● state the importance of 3R (reduce, reuse and recycle) practices ● adopt 3R (reduce, practices in daily life. ● compare 3R practices in Malaysia and foreign countries. ● create a product from recycle material.

Source: Extract from Curriculum Development Unit, Ministry of Education

As referred in Table 3, most of the learning outcomes are instructional statements such as to identify, explain, suggest, and other forms of action verbs as conform to taxonomy learning. However, the learning outcomes that required students to practice, protect, advocate, create and compare are the actions that are needed for SCP behavioral change. (Bahagian Pembangunan Kurikulum, 2017) In view of this, how actions are taken remain vague and ambiguous. The problems occurred when it cannot be known whether the students were aware of the environmental impact of their own consumptions which contribute towards the pollution and domestic waste or whether or not they were aware of their decision that buying single use products will contribute towards the deterioration of the environment or depletion of the natural resources. As highlighted by (Quoquab & Mohammad, 2017), managing sustainable consumption to reduce environmental pressure can be achieved by three pillars of sustainable consumption, mainly environmental concern, meeting basic needs wisely and considering

the needs of the future generation. Thus, embedding education for sustainable consumption will turn in more efficient resources consumption, reduce waste, and eradicate poverty without undermining the basis of human development.(Bizikova et al., 2015) As such, ESCP in the school education will lay the foundation towards the generation change as emphasized in the Eleventh Malaysia Plan.

Based on the studies by (Sabrina Ho Abdullah, 2015b), social participation with the public especially for food waste composting activities, recycling campaign, cycling and jungle trekking are some of the practical approaches to encourage sustainable consumption practices. “The multiple aspects of educational instrument via formal and informal education such as awareness campaign, training, research and development are essential to support ESCP,” (N. Adham, Merle, & Weihs, 2013). “Whereas adoption of sustainable lifestyle, behavioral change and decision making that leads to sustainable use of resources which cause minimal environmental impact and have learning outcomes should be focused to ensure environmental sustainability,” (Wang, Liu, & Qi, 2014). It is undoubtedly plausible that the responsibilities of ESCP are so important in order to find solution that positively affect and cause better change for human kind and the planet. Collectively, it is a shared responsibility of all people by taking small actions in leading towards sustainable behavioral change. The discussion above provides some possible avenues for future actions to shift the current unsustainable consumption and production into sustainable consumption and production.

CONCLUSIONS

There is an ample adoption of sustainable consumption elements in the new Standard Curriculum of Secondary School. The government had taken the step forward to promote ESC specifically through ESCP in the new school curriculum commencing from 2017. This is to move in parallel with the global 2030 SDGs and implementing Eleventh Malaysia Plan. Malaysia SCP Blue Print as a driving force to materialise the shift to sustainable consumption. The learning outcomes for sustainability action in those particular contexts that were presented by ESCP provide valuable mechanism in connecting the individual and sustainable practices. Various internal and external attribute provide valuable insight on how

ESCP can be achieved. “The cooperation among teachers, students and various government agencies, NGOs, private corporation and learning institute will create positive impact to steer towards sustainable development,” (Quoquab & Mohammad, 2017). Generally, SCP practices need a dynamic and adaptable way to fill the gap to collaborate in instilling responsible consumption. Government’s function as a catalyst SCP should not be undermined. The efforts and adequate approaches in ensuring the success of SCP progress needs a holistic method in order to meet the SCP key performance indicators.

Acknowledgements. Many thanks towards fellow researchers who have helped in obtaining the curriculum analysis and the reviewers of this paper for the suggestions and useful recommendations.

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