



Secondary school academic management strategies based on the concept of skills development for the green economy

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Abstract

The aim of this analysis was to examine the strengths, weaknesses, opportunities, and threats related to academic management in secondary schools, as well as to develop academic administration management strategies based on the concept of skills development for the green economy. The study applied a multi-phase mixed method. In the first phase of the study, a multi-stage random sampling method was used to select 341 secondary schools to comprise survey groups. The school director, head of academic affairs, head of each subject department, and academic teachers at each school were among the 1,705 providers approached to participate. Five-level rating scale questionnaires were used in this analysis, and 70.56 percent of the distributed questionnaires were returned. Frequency distribution, percentages, means, standard deviations, $PNI_{Modified}$, and content analysis were used to analyze the data. Based on the results of the first phase, a focus group was conducted to create academic administration management strategies. Three main strategies were identified for managing academic administration, which include: (1) to establish educational institutions in order to improve the green environment curriculum, which includes 2 sub-strategies; (2) to improve the standard of teaching and learning to develop students' skills for the green economy, which includes 2 sub-strategies; and (3) to modify the evaluation and appraisal of student learning capabilities for the green economy, which includes 2 sub-strategies.

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Introduction

In the past century, globalization, especially in the industrial sector, has expanded rapidly. Economic development progressed from a resource-based economy to the present innovation-led economy, which is

an economy driven by knowledge (Drucker, 1999). However, changing and expanding the global economy without effective preparation can have a significant impact on the environment. For example, the Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment,

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Thailand (2017) reported that, in 2015 and 2016, the most critical environmental concerns were the dual problems of climate change and global warming. Furthermore, the Food and Agriculture Organization of the United Nation (2016) found that the amount of global forest was decreasing by 0.13 percent per year, mostly in Africa and South America. Moreover, many areas of the world suffered from water shortages, degradation of habitats and ecosystems, and threats to plant and animal species as well.

Due to economic development and population growth, the importance and urgency of the problems of natural resource and environmental degradation are globally recognized. The United Nations Conference on Environment and Development (UNCED) introduced the concept of sustainable development, which has been further developed to include green growth concepts and low-carbon development. The focus is on maintaining consistent economic growth in order to secure people's livelihoods. At the same time, the growth must be environmentally sustainable. The sustainability trend has become ever more widespread and accepted. The Rio+20 conference reaffirmed its commitment to tackling the green economy issue in the direction of poverty alleviation and sustainable development. At Rio+20, the concept of the "green economy" was highlighted as a crucial instrument for sustainable development that emphasizes the convergence of economic, social, environmental, and governance aspects (United Nations, 2012).

In Thailand, environmentally friendly development has been officially promoted since the 11th National Economic and Social Development Plan was adopted. However, the Office of the National Economic and Social Development Board reported that in 2017–2018, the growth rate of gross domestic product (GDP) in the industrial sector was relatively low and could actually decrease. Moreover, models of industrial development in Thailand found that the system was heavily dependent on export, focused on low-cost employment, and that it lacked technology for industrial development and environmental care in production (Ngamjitanan, 2018, p. 4). Therefore, it is important for all parties to review and create a new development model that focuses on industrial development that is driven by technology that increases labor productivity and enhances environmental protection.

Education is an important tool in developing high quality of life, and helping people achieve their potential. The education system is responsible for helping youth to be knowledgeable and capable, and to help develop

appropriate attitudes, values and morals following the standards in the curricula. According to Arasinah et al. (2016), skills development for the green economy should be implemented urgently from the time students are in elementary school onwards in order to produce responsible and capable citizens, and to preserve the environment. Skills development for the green economy is an educational element that can be added to or integrated with the curricula and other programs for students. Although the importance of developing people's skills for a green economy has been widely recognized, educational management for developing these skills has not yet been implemented in Thailand. Therefore, we explore the needs for academic management based on the concepts of skill development for a green economy and create an academic management strategy for secondary schools based on the same concept.

Literature Review

Secondary School Academic Management

Academic administration pertains to the efficient and advantageous management of all activities associated with the enhancement of educational quality, including teacher development, curriculum creation, teaching and learning, and evaluation, with the goal of fulfilling curricular objectives (Fry et al., 2009). Since academic administration is regarded as the center of activities in educational institutions, it must be aligned with established goals, and it must prioritize advantages that will accrue to students. Executives must also pay attention to, give value to, and recognize the significance of academic administration. In accordance with educational standards, this will result in the successful growth of students and assist them in achieving their desired goals. Curriculum creation, teaching and learning management, and assessment and evaluation are its three main components (Faber & Shearron, 1970; Ministry of Education, Thailand, 2007; Sergiovanni et al., 1981).

1. *Curriculum creation* is a term used to describe initiatives or plans for instruction that are developed and decided upon by educational establishments. The objectives, policies, procedures, and activities utilized to structure learning experiences, standards for monitoring and assessing academic progress, and guidelines for assessing and refining curricula are all included in the process of curriculum creation (Keesukphan, 1982; Oliva, 2008; Saylor et al, 1981).

2. *Teaching and learning management* includes setting up classes so that students can learn in accordance with the curriculum's content, and generate new information through independent thought. In order to improve understanding and be able to apply knowledge in their daily lives, kids should be encouraged to learn by doing (Asavapoom 2008; Kohtbantau, 2009; Wongnutaroj, 2010).

3. *Measurement and evaluation* looks at the outcomes of teaching and learning in three areas: knowledge, process skills, and desirable characteristics in accordance with the learning objectives according to the goals and principles of the curriculum. These are crucial parts of teaching and learning, and they should be part of a data feedback process in academic administration (Asavapoom, 2008). Regulations and guidelines govern measurement and evaluation in accordance with actual-life situations, including the creation of instruments for measurement and evaluation that adhere to standards.

Skills for Green Economy

The green economy and green work are concepts that prioritize improving quality of life and equality. Reducing environmental risks, adverse effects of human activity, and the scarcity of natural resources and ecosystems are all necessary aspects of these green concepts. Although the skills that are necessary for the green economy remain unclear, three phrases are used by academics and organizations to refer to these skills: green skills, green job skills, and skills for a green economy; these three terms are sometimes used interchangeably and have comparable meanings. Cedefop (2010) and Martinez-Fernandez et al. (2010) have proposed the idea that the development of a low-carbon economy depends on improving existing skills rather than developing specific green skills.

Through investigation of documents and by conducting research, eight skills for the green economy have been identified:

1. *Adaptability, learning, and transferable skills related to sustainable development and environment awareness (ALTs)* — These are skills that workers use to change their thinking processes, and to be ready to learn about sustainable development concepts and practices. Since the use of new technology or processes is necessary for operations to achieve sustainable development, these skills include the ability to transfer that knowledge to coworkers. According to Strietska-Ilina et al. (2011), workers should acquire and use new technologies and processes that are required to build their green

occupations with the support of these transferable and adaptive skills. Pavlova and Huang (2013) suggested that environmental awareness, attitude, and openness to learn about sustainable development are other critical components of green skills that will improve workers' capacity for green work.

2. *Leadership skills for a sustainability economy (Ls)* — These comprise the abilities to plan, develop, and implement strategies; to take the lead in managing regulations and quality; to plan and allocate resources; and to plan human resources in a way that promotes low-carbon industry and energy efficiency. According to Department for Environment, Food and Rural Affairs [DEFRA] (2008), having these abilities will support efficient resource management, impact assessment, comprehension of low-carbon activities, and spatial planning.

3. *Coordination and management skills for the environment (CMs)* — These are skills that are employed in managing and organizing resources amongst teams or organizations, as well as in coordinating communications and coordination between individuals in an effort to accomplish objectives related to economics, society, and environmental preservation. As stated by Pavlova and Huang (2013) and Strietska-Ilina et al. (2011), these skills support the ability to choose the best course of action, and to accomplish goals; they also support comprehensive, multidisciplinary initiatives to accomplish social, economic, and ecological goals.

4. *Systems and risk analysis skills for sustainability (SRs)* — These are abilities that practitioners and entrepreneurs employ to evaluate risks in order to address new issues; examine cost-benefit, carbon, and resource scarcity; and assess, interpret, and comprehend necessary modifications and actions. Based on Pavlova and Huang (2013), green job creators should comprehend the reasoning behind the quickly expanding economy and how it varies from the traditional model. It takes research abilities, systems thinking, and analytical thinking to build the conventional linear approach using such knowledge.

5. *Designing and using innovation skills to promote the environment (DIs)* — This competency is centered on workers' knowledge and inventiveness in problem-solving or manufacturing new items in response to individuals or clients, as well as offering beneficial new services, goods, or procedures that are valued or have the potential to add value. The innovations that emerge will improve resource efficiency, lower carbon emissions, defend against environmental deterioration, and avert energy and carbon shortages.

One such breakthrough will involve creating things that can be recycled. Both Pavlova and Huang (2013) and Strietska-Ilina et al. (2011) concur that innovation skills will help green practitioners and entrepreneurs see opportunities and develop fresh approaches to address environmental concerns.

6. *Entrepreneurial, marketing and business skills for the environment (EMBs)* — These are competencies utilized in the creation and operation of companies to develop and take advantage of low-carbon technology prospects to improve business operations (Pavlova & Huang, 2013; Strietska-Ilina et al., 2011). This is done by organizing and carrying out marketing campaigns to highlight a company's eco-friendly goods and services. Green jobs are those that require enhanced goods, services, and procedures to address environmental and climate change (Cedefop, 2010). Skills in marketing are consequently required to increase a product's popularity.

7. *Language, communication and negotiation skills for the value of environmentally friendly operations in the environment (LCNs)* — These are fundamental skills needed for all jobs. The capacity to communicate in multiple languages, verbally and in writing, including negotiating to inspire and recognize team and individual accomplishments, will keep employees motivated and in harmony. These skills help enhance the perceived value green work and help to minimize disagreements and disputes in operations.

8. *Networking and information technology skills to connect the creation of work that is environmentally friendly (NITs)* — These skills comprise another essential ability for functioning in the twenty-first century, and range from knowledge of fundamental information technology usage to expertise in information technology. It is necessary for businesses to effectively conduct operations in a global market that is a green market.

Methodology

The objectives of this study were (1) to analyze the need for development of secondary school academic management based on the concept of skills development for a green economy, and (2) to develop strategies for secondary school academic administration based on the concept of skills development for a green economy. The study used a multiphase-mixed method to collect both qualitative and quantitative data. First, the researcher collected quantitative data using the current and desirable conditions of secondary school academic management based on the concept of skill development for the green economy as a research tool. Information was collected by postal delivery and collection. Next, the researcher uses the quantitative data collected to analyze the priority need index. Then, the researcher created a draft strategy for experts to participate in group discussions using a strategic evaluation form as a research instrument. Finally, the researcher improved it into a complete strategy based on the recommendations obtained from the focus groups.

Participants

The population in this study comprised 2,358 secondary schools under the Office of the Basic Education Commission in 2019; these schools were located in the Northern, Northeastern, Central, Eastern, and Southern regions of Thailand. The sample size was calculated using Yamane's sample size calculation at a 95 percent confidence level. Multi-stage sampling was used. The population was categorized into four groups based on the school size criteria of schools under the Office of the Basic Education Commission: small, medium, large, and extra-large. The sample size was then determined by ratio as indicated in Table 1 after the population was split into 5 regions: Bangkok, Northern, Northeastern, Central Western and Eastern, and Southern.

Table 1 Number of population and sample size

Regions	Schools under the Office of the Basic Education Commission						
	Population	Percentage	Sample size	School size			
				Small	Medium	Large	Extra large
Northern	455	19.3	66	16	16	17	17
Northeastern	933	39.6	135	33	34	34	34
Central Western and Eastern	517	21.9	75	18	19	19	19
Southern	334	14.2	48	12	12	12	12
Bangkok	119	5.0	17	4	4	4	5
Total	2,358	100	341	83	85	86	87

Note: The sample groups used in this study comprised 1,203 randomly selected providers, including school administrators, heads of academic affairs, heads of subject departments, and academic teachers for each school.

Research Instruments

The Questionnaire on the Current and Desirable States of Secondary Schools Academic Management Based on the Concept of Skill Development for Green Economy was created to gather perspectives from school directors and teachers. A 5-point Likert-like measurement scale, which ranged from strongly disagree “1” to strongly agree “5”, was employed. There were 4 sections of this questionnaire: the basic demographic questions (i.e. age, gender, level of education, current position), and opinions about internal factors in academic management — curriculum, instruction and evaluation, combined with skills development for a green economy. Finally, participants were asked about their views of external influences, namely, political, economic, social, and technology effecting skills development for a green economy in schools.

Validity and Reliability

The content validity of the questionnaire was identified with respect to this instrument by analysis of relevant literature and evaluation of academics who actively contribute to the education commission. Item-Objective Congruence Index (IOC) was used to calculate the validity.

The research ethics review committee for research involving human subjects — the second allied academic group in social sciences, humanities and fine and applied arts, Chulalongkorn University — also approved the study in accordance with the International Conference on Harmonization — Good Clinical Practice (ICH-GCP).

A group of thirty school directors and teachers were randomly selected for a pilot study to ensure the reliability of the method. In each segment, the respondents were asked to provide input on the clarity of the items in the tool. After that, the pilot test was conducted using the Statistical Package of Social Science (SPSS) Statistics 21 to assess the reliability test. Cronbach’s alpha for each segment was higher than 0.7, showing that there was a strong internal consistency between the items.

Data Analysis and Reliability

Descriptive analysis was used to address the first study query, in which the current state and desirable state were evaluated by calculation of means and standard deviations. The PNI_{modified} was based on the Equation (1)

$$PNI_{\text{modified}} = (I - D) / D \quad (1)$$

Wongwanit (2007) was later used to measure appraisal requirements. The TOWS matrix was used to analyze the possible techniques in order to address the second research question by using the PNI_{modified} index to identify the strengths, weaknesses, opportunities, and threats.

Following completion of the feasibility review, a focus group was formed, consisting of eight staff, researchers, and professors with expertise or experience, each of whom had familiarity with scholarly practices related to academic management and skills development for a green economy.

Results and Discussion

The Current and Desirable States of Secondary School Academic Management Based on the Concept of Skills Development for a Green Economy

Table 2 presents the current state (D), the desirable state (I), and the needs (PNI) of assessment of the internal factors, while Table 3 presents The SWOT table with the analysis of the internal factors. Table 2 shows the needs of secondary school academic management based on the concept of skills development for a green economy, classified by skill. The skill with the highest needs index is SRs ($PNI_{\text{modified}} = 0.404$), followed by DIs ($PNI_{\text{modified}} = 0.393$), and EMBs ($PNI_{\text{modified}} = 0.388$), respectively. The skill with the lowest need index is NITs ($PNI_{\text{modified}} = 0.328$). This shows that a student’s cognitive development is still the fundamental goal of school. However, students’ skills needed for future work are not being developed well enough, particularly in the areas of risk assessment, innovation development and utilization, and entrepreneurial abilities.

The skills that comprise common weaknesses (Table 3) reflect that the current academic administration does not promote these skills as effectively as they should. This might result from the fact that course syllabi, subject contents, learning standards, and other indicators tend to remain relatively stable over time. Consequently, educational establishments are unable to autonomously oversee or modify the curriculum. It is likely that the only ways available to develop abilities are through indirect methods such as extracurricular activities or projects run by other organizations. Therefore, it is imperative to strengthen these three skills via curriculum development, teaching and learning management, and assessment and evaluation as quickly as possible.

Table 2 The current state (D), the desirable state (I), and the needs (PNI) of assessment of the internal factors

Skills for Green Economy	Topic	Academic management					Average	Level	SEQ.
		The internal factor							
		Curriculum development	Teaching and learning management		Measurement and evaluation				
			Planning	Instruction	Setting the criteria	Tools development			
1. ALTs	D	3.59	3.30	3.40	3.09	3.18	3.31	Low	6
	I	4.51	4.52	4.51	4.42	4.44	4.48		
	PNI	0.256	0.370	0.326	0.434	0.396	0.353		
2. Ls	D	3.43	3.13	3.30	3.02	3.11	3.21	High	4
	I	4.44	4.45	4.50	4.42	4.40	4.44		
	PNI	0.294	0.422	0.364	0.464	0.415	0.383		
3. CMs	D	3.46	3.19	3.34	3.05	3.14	3.24	High	5
	I	4.47	4.45	4.47	4.43	4.43	4.45		
	PNI	0.292	0.395	0.338	0.452	0.411	0.375		
4. SRs	D	3.30	3.09	3.23	3.00	3.07	3.14	High	1
	I	4.39	4.40	4.44	4.40	4.39	4.40		
	PNI	0.330	0.424	0.375	0.467	0.430	0.404		
5. DIs	D	3.35	3.15	3.27	3.04	3.13	3.19	High	2
	I	4.44	4.46	4.48	4.43	4.40	4.44		
	PNI	0.325	0.416	0.370	0.457	0.406	0.393		
6. EMBs	D	3.15	3.05	3.16	3.36	3.04	3.15	High	3
	I	4.32	4.39	4.42	4.35	4.39	4.37		
	PNI	0.371	0.439	0.399	0.295	0.444	0.388		
7. LCNs	D	3.29	3.54	3.22	3.42	3.11	3.31	Low	7
	I	4.44	4.41	4.45	4.40	4.40	4.42		
	PNI	0.350	0.246	0.382	0.287	0.415	0.334		
8. NITs	D	3.34	3.56	3.27	3.45	3.15	3.35	Low	8
	I	4.48	4.46	4.49	4.41	4.43	4.45		
	PNI	0.341	0.253	0.373	0.278	0.406	0.328		

Table 3 The SWOT table – the analysis of the internal factors

Skills for Green Economy	Academic management				
	SWOT Analysis (PNI _{Modified} index)				
	Curriculum development	Teaching and learning management		Measurement and evaluation	
		Planning	Instruction	Setting the criteria	Tools development
1. ALTs	S1 (0.256)	W6 (0.370)	S1 (0.326)	W5 (0.434)	W8 (0.396)
2. Ls	S3 (0.294)	W3 (0.422)	W6 (0.364)	W2 (0.464)	W3 (0.415)
3. CMs	S2 (0.292)	W5 (0.395)	S2 (0.338)	W4 (0.452)	W5 (0.411)
4. SRs	W4 (0.330)	W2 (0.424)	W3 (0.375)	W1 (0.467)	W2 (0.430)
5. DIs	W5 (0.325)	W4 (0.416)	W5 (0.370)	W3 (0.457)	W6 (0.406)
6. EMBs	W1 (0.371)	W1 (0.439)	W1 (0.399)	S3 (0.295)	W1 (0.444)
7. LCNs	W2 (0.350)	S1 (0.246)	W2 (0.382)	S2 (0.287)	W3 (0.415)
8. NITs	W3 (0.341)	S2 (0.253)	W4 (0.373)	S1 (0.278)	W6 (0.406)
Total	S1 (0.319)	S2 (0.357)		W1 (0.401)	

Note: The SWOT analysis table was generated using the PNI_{Modified} index and divided into two groups: Strengths and Weaknesses. These were separated by using the highest PNI_{Modified} index – the lowest PNI_{Modified} index of each item and divided by two. Each PNI is listed in the strength section if it exceeds half of the previous calculation; otherwise, it is in the weakness section.

Table 4 presents the current state (D), the desirable state (I), and the needs (PNI) of assessment of the external factors, and Table 5 shows the SWOT table and analysis of the external factors. Table 3 shows the needs of secondary school academic management based on the concept of skills development for a green economy classified by external factors. The factor with the highest needs index is socio-cultural factor ($PNI_{\text{modified}} = 0.361$),

followed by economic factor ($PNI_{\text{modified}} = 0.338$), and political and policy factor ($PNI_{\text{modified}} = 0.335$), respectively. The factor with the lowest need index is technological factor ($PNI_{\text{modified}} = 0.304$). This study shows that effective use of resources is not highly valued in Thai culture, and academic administration in secondary schools is not encouraged or supported in its efforts to equip students with skills relevant to the green economy.

Table 4 The current state (D), the desirable state (I), and the needs (PNI) of assessment of the external factors

External factor	Topic	Academic management					Level	SEQ.
		Curriculum development	Teaching and learning management	Measurement and evaluation	Average			
1. Political and policy Analysis	D	3.26	3.27	3.29	3.27	High	3	
	I	4.35	4.41	4.34	4.37			
	PNI	0.334	0.349	0.319	0.335			
2. Economic Analysis	D	3.06	3.46	3.36	3.28	High	2	
	I	4.41	4.40	4.39	4.39			
	PNI	0.451	0.272	0.307	0.338			
3. Social Analysis	D	3.11	3.22	3.43	3.25	High	1	
	I	4.43	4.44	4.42	4.42			
	PNI	0.424	0.379	0.289	0.361			
4. Technological Analysis	D	3.48	3.22	3.52	3.41	Low	4	
	I	4.43	4.48	4.45	4.45			
	PNI	0.273	0.387	0.264	0.304			

Table 5 The SWOT table – the analysis of the external factors

	External factors	Skills for Green Economy								Total
		SWOT Analysis (PNI_{Modified} index)								
		Skill 1	Skill 2	Skill 3	Skill 4	Skill 5	Skill 6	Skill 7	Skill 8	
Political	Curriculum development (O2; 0.334)	T3 (0.424)	T1 (0.455)	T2 (0.427)	O1 (0.271)	O2 (0.283)	O5 (0.296)	O6 (0.294)	O4 (0.292)	T3 (0.335)
	Teaching and learning management (T1; 0.349)	O1 (0.324)	O4 (0.349)	O3 (0.348)	O5 (0.354)	O2 (0.345)	T1 (0.365)	O7 (0.355)	O5 (0.354)	
	Measurement and evaluation (O1; 0.319)	T1 (0.392)	O1 (0.299)	O2 (0.304)	O5 (0.319)	O3 (0.316)	O7 (0.340)	O6 (0.324)	O4 (0.318)	
Economic	Curriculum development (T1; 0.451)	T6 (0.444)	T1 (0.462)	T4 (0.455)	T3 (0.457)	T6 (0.444)	T1 (0.462)	T8 (0.443)	T5 (0.446)	T2 (0.338)
	Teaching and learning management (O1; 0.272)	O1 (0.246)	O2 (0.269)	O3 (0.271)	O6 (0.276)	O4 (0.272)	O8 (0.298)	O7 (0.278)	O4 (0.272)	
	Measurement and evaluation (O2; 0.307)	O2 (0.295)	O3 (0.310)	O6 (0.318)	O7 (0.325)	O5 (0.317)	O8 (0.328)	O4 (0.313)	O1 (0.266)	
Socio-cultural	Curriculum development (T1; 0.424)	T8 (0.393)	T5 (0.424)	T7 (0.421)	T2 (0.434)	T4 (0.429)	T1 (0.446)	T3 (0.431)	T6 (0.422)	T1 (0.361)
	Teaching and learning management (T2; 0.379)	T6 (0.424)	T1 (0.439)	T4 (0.431)	T2 (0.437)	T5 (0.426)	T3 (0.432)	O1 (0.248)	O2 (0.253)	
	Measurement and evaluation (O1; 0.289)	O1 (0.258)	O2 (0.281)	O4 (0.285)	O7 (0.301)	O2 (0.281)	O8 (0.305)	O5 (0.288)	O6 (0.290)	
Technological	Curriculum development (O2; 0.273)	O5 (0.278)	O6 (0.282)	O7 (0.284)	O8 (0.289)	O1 (0.249)	O4 (0.271)	O3 (0.269)	O2 (0.268)	O1 (0.304)
	Teaching and learning management (T1; 0.387)	T7 (0.379)	T5 (0.386)	T6 (0.383)	T2 (0.398)	T3 (0.391)	T1 (0.403)	T4 (0.387)	T8 (0.372)	
	Measurement and evaluation (O1; 0.264)	O1 (0.244)	O2 (0.257)	O3 (0.263)	O5 (0.265)	O4 (0.264)	O8 (0.282)	O7 (0.278)	O6 (0.269)	

Note: The SWOT analysis table was generated using the PNI_{Modified} index and divided into two groups: Opportunity and Threat. These were separate from the highest PNI_{Modified} index – the lowest PNI_{Modified} index of each item and divided by two. Each PNI was in the opportunity section if it exceeded half of the previous calculation; otherwise, it was in the threat section.

Table 5 shows how the technological factor presents a chance to build academic administration around the idea of developing skills for a green economy. It demonstrates how technology is being developed and applied in school academic administration, which will benefit students' learning in new ways through a range of technological media and fortify academic administration in terms of content management, methodical learning data collection, and an efficient system for quick and ongoing evaluation of student learning. However, socio-cultural, economic, and political and policy factors are threats. This is an indication of the absence of involvement in civic society. There is a failure to recognize the importance of teaching kids about the environment and providing them with the skills they need to succeed in the green economy and the changing, environmentally conscious labor market of the future. One such issue influencing school administration is the government's ambiguous position regarding the growth of environmental education.

On the other hand, one useful instrument for promoting sustainable environmental development is environmental education. Schools ought to offer stakeholders the chance to engage in instruction related to environmental development and the growth of skills for the green economy. This will foster the development of not just green attitudes and values but also green behaviors in students. However, societal trends must also be altered so that more ecologically friendly labor is valued.

Strategy Development

After reviewing the draft strategy in the focus group discussion, the experts concluded that it was appropriate and feasible. They also offered comments

and suggestions on how to create the complete strategy as follows: (1) Adjust keywords in the sub-strategies of the main strategy to reflect logical progression, urgent requirements, and well-defined approaches to mitigate weaknesses; (2) Review some procedures that are still unclear; and (3) Arrange the strategies clearly so that readers can understand them easily and can put them into practice step by step. Table 6 displays all of the strategy improvement findings.

Table 6 presents the academic administration strategy management, which consists of three main strategies and six sub-strategies, based on the concept of skills development for a green economy by using the SWOT matrix.

The first strategy consists of two sub-strategies that have been developed to be consistent in practice; that is, administrators must recognize the importance of and create a shared vision for school personnel to be environmentally friendly. Subsequently, educators should collaborate to create a curriculum that prepares students with the knowledge and abilities needed to succeed in the green economy.

According to the second strategy, the goal of teaching and learning should be to help students become independent learners. In order to emphasize learning through practice, teachers should plan integrated teaching and learning through academics and extracurricular activities. Students' experiences and participation in activities that push them to employ higher-order thinking skills will provide them with the knowledge that they need.

The third strategy calls for administrators to prioritize assessment and measurement. Administrators should support educators in utilizing a range of evaluation methods and evaluating them based on authentic assessments, which can reveal a student's actual practical abilities.

Table 6 Strategies for secondary school academic management based on the concept of skills development for a green economy

Strategy	Sub-strategy
1) Establish educational institutions in order to improve the Green Environment Curriculum.	1.1) Increase the goal of an integrated program by concentrating on three skills based on developing skills for the student's green economy.
	1.2) Develop an integrated school curriculum that is aligned with the aims and learning outcomes to build students' skills for the green economy by focusing on three skills.
2) Improve the standard of teaching and learning to develop students' skills for the green economy.	2.1) Transform the development of learning outcome-driven learning management strategies to create capabilities, with an emphasis on three strengths for the green economy of the student.
	2.2) Design comprehensive teaching and extracurricular experiences for the classroom to strengthen student competencies for the green economy based on three skills.
3) Modify the evaluation and appraisal of student learning capabilities for the green economy.	3.1) Develop a framework and guidance for evaluating and measuring student learning abilities for the green economy, highlighting three fields of skills with practical, all-round tests that reflect the skills of individual students.
	3.2) Create and develop criteria and tools used to assess and examine results that align with learning experiences to build students' expertise, with an emphasis on three skills for the green economy.

Conclusion and Recommendations

The findings of this study indicate that development of skills for the green economy—skills that will be essential in the future labor market—is not given sufficient consideration in existing educational strategies. In particular, the measurement and evaluation category with the highest requirements values shows that schools continue to mainly depend on exams to assess learning, and that they do not plan learning sufficiently effective activities for students. In order to develop the true abilities of the students, school administrators should support instructors in planning lessons and extracurricular activities that provide students with the chance to practice the skills they need. These activities should also be evaluated based on authentic assessments.

Strategies of secondary school academic management based on the concept of skills development for a green economy have been developed, covering operations in the areas of curriculum development, teaching and learning, and measurement and evaluation. By putting the strategies into practice, students will be able to acquire the skills they need for success in their future careers. Nonetheless, in order for teachers to take environmental education and student skills development seriously, schools need to create a shared vision.

Limitations of the Research

This academic administration research focuses on the operational conditions surrounding curriculum administration, curriculum implementation, assessment, and evaluation—both inside the classroom and through assembly, clubs, or other activities. The concepts of green skills and skills for green jobs proposed by Her Majesty's Government (2011), Martinez-Fernandez et al. (2010), DEFRA (2008 as cited in Cedefop, 2010), Strietska-Ilina et al. (2011), and Pavlova and Huang (2013) are the sources of the idea of skills for a green economy. The construction of the strategic plan then focuses mostly on creating tactics that address weaknesses.

Conflict of Interest

The authors declare that there is no conflict of interest.

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