

Assessing the Bangkok Metropolitan Administration Primary School Students' Sustainability Leadership Competencies (SSLC)*



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Abstract

The objective of this research aims to enable Thai education to achieve the global vision, SDG 4 Goal 4.7, by 2030 it is necessary to ensure that all Thai students have the knowledge and skills necessary to promote sustainable development and a more pronounced sustainable lifestyle. It is, therefore, necessary to first identify the current level of the students' sustainability competencies. This study has two research objectives: (1) to study the conceptual framework of Students' Sustainability Leadership Competencies (SSLC) and (2) to study the SSLC level of Grades 1-3 students under the Bangkok Metropolitan Administration (BMA). 431 BMA primary schools as the population and 723 Informants were Grade 1-3 teachers and school leaders (Principal, Vice-principal, and Heads of the learning subject groups) from 205 sample schools. The research instrument was the Grade 3 SSLC online assessment form.

The result of the research; the first research objective, turned out the most appropriate SSLC conceptual framework, comprising 5 essential competencies: (1) Sustainability literacy; (2) Proactive values; (3) Systems thinking; (4) External collaboration; (5) Social innovation, 15 general competencies, 33 enabling competencies, and 33 success descriptors, to develop 33 questions of the Grade 3 SSLC online assessment form, using 4 descriptive ratings: (1) students cannot do this yet; (2) students can do some; (3) students can do well; (4) students can teach others. The second research objective, found that the overall BMA Grades 1-3 SSLC level according to the perception of Grade 1-3 teachers and school leaders was in the "student can do some" level, but the arithmetic mean in each Grade was different. Grade 3 students had the highest mean while Grade 1 students had the lowest. This study highlights the need to transform academic management at both the macro and micro levels, in terms of educational policy, curriculum & textbooks, teaching and learning, and assessment for better empowering students to be sustainability leaders who lead the ways to achieve SDGs.

Keywords: Students' Sustainability Leadership Competencies (SSLC); Sustainable Lifestyle; Sustainability Change-maker

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Introduction

Sustainable Development is a significant agenda in any national policies, plans, and strategies in today's world. We believe that people in the Kingdom of Thailand have more or less absorbed sustainable development consciousness through the Sufficiency Economy Philosophy (SEP) development works of King Rama IX, His Majesty King Bhumibol Adulyadej, throughout his reign and is made clearer at the national level through the National Strategy (2018-2037), which is the country's first national long-term strategy pursued to ensure that the country achieves its vision of becoming a developed country with security, prosperity, and sustainability guided by SEP and the United Nations Sustainable Development Goals (SDGs) with the ultimate goal being all Thai people's happiness and well-being together with people around the world. (Charoenkul, and Tomioka, 2021; NESDC, 2018)

The Bangkok Metropolitan Administration (BMA) has aligned with the Thai National Strategy 2018-2037 becoming the revised edition of the 20-Year Bangkok Development Plan (2018-2037) (BMA Strategy and Evaluation Department, 2018) and has developed a BEMIS, Bangkok of Education Management Information System, a new web-based service tool, that collects big data and analyzes data which is very useful during this Coronavirus disease (Covid-19) epidemic. (Banno, 2020)

Ikeda (2002) as a global educator who actively promotes sustainable development stated that when the "top-down", such as legal and institutional measures have been reformed, it is the perfect time to create sustainable solutions with "bottom-up" reforms by raising sustainability consciousness and changing basic ways of thinking and living at the people's level. These are two interlinked prerequisites of global change. Based on the above principles, this would be a perfect time for the pioneer, BMA Education, to take a serious initiative to transform Thai local education into a new educational end result, cultivating Sustainability Leaders for the capital city of Bangkok and our beloved world.

Sustainability Leaders mean people who understand how their lifestyle choices impact the world, renew their mode of living toward sustainability, empower people to live better and lighter, and take concrete actions with courage and hope to the challenges we face (Ikeda, 2002; UNEP, 2022).

We, as educators think not aiming too high to cultivate Students' Sustainability Leadership Competencies (SSLC) in Thai young students. This is because apart from UNESCO (2017), the key organization has proposed key learning objectives for achieving SDGs, cross-cutting key competencies, and specific learning objectives for achieving SDGs for the UN member states to transform current educational management. We have also discovered a lot of evidence from many good educational practices in basic education, such as the Republic of Finland (Halinen, 2017) and MEXT Japan (2016), international educational organizations, such as The Institute for Global Environmental Strategies (IGES) (Ofei-Manu, and Didham, 2014), 56 member countries of The Commonwealth Secretariat (Osman, Ladhani, Findlater, and



McKay, 2017), and PISA (OECD, 2018), the Human Resource Development Institute (HRDI) (Russell Reynolds Associates, 2015; Strandberg, 2015), are now cultivating sustainability competencies, sustainable lifestyles, and sustainability leaders to participate in achieving SDGs. It can be preliminarily concluded that the review of sustainability leadership competencies in both education and the future workforce gives us a clearer picture of the Thai educational end result that should be designed.

Therefore, we first explored the SSLC conceptual framework and develop the SSLC assessment form in line with both Thai and contemporary global contexts, submit expert verifications and Research Ethics Committee, and then conducted BMA teachers and school leaders survey to identify the current levels of Grades 1-3 SSLC. The information from this survey will lead to the design of academic management innovation in the next step.

It is expected that the BMA as a special local administrative organization and the capital city with extremely diverse social, economic, and environmental crises will be developed into a good practice educational organization that encourages students to be Sustainability Leaders, as well as being good educational management prototype that can be scaled up to other local organizations across Thailand to create a systemic change in Thai education towards sustainable development shortly.

Objectives of the Research

1. to study the conceptual framework of Students' Sustainability Leadership Competencies (SSLC).
2. to study the SSLC level of Grades 1 - 3 students under Bangkok Metropolitan Administration (BMA).

Research Methodology

This research was designed to be descriptive research that was carried out in seven steps:

1st Step: Studied data and information in print media and online media in both Thai and foreign languages by considering the data and information's accuracy, clarity, and credibility in line with the 1st research objective. To thrive in a changing future workforce, we adopted HRDI sustainability leadership competencies (Strandberg, 2015) with slight modifications as this study's SSLC 5 essential competencies, then created interlinked competencies consisting of 15 general competencies, which derived from UNESCO (2017, 2019), the good practices above, and summarized as the SSLC conceptual framework.

2nd Step: Carried out six research phases in the following sequence to complete:

1. Verified the appropriateness of the SSLC conceptual framework by 9 experts responsible for the BMA education administration and education researchers. A purposive sampling technique was selected. The result is as follows:

Table 1: The appropriateness of the SSLC conceptual framework

Verify items	Verify results (n=9)
The SSLC conceptual framework	Average >0.50
1. 5 Essential competencies	5 (0.78-1.00)
2. 15 General competencies	15 (0.78-1.00)

Table 1 found that all competencies had an average value of >0.50 (0.78-1.00), which was appropriate to use in developing the research instrument.

2. Developed the SSLC assessment form as the research instrument. This step was divided into two parts of questions and measurements. (1) Questions: 33 questions corresponding to the SSLC conceptual framework and its extensions or operational definitions are 33 enabling competencies and 33 success descriptors which will be useful in the development of the research instrument, derived from the tables showing the key stage outcomes of education of Singapore Ministry of Education (Jamaludin, 2018), BMA educational context, including Thai students' child development and milieu were also highlighted, and point of view from 9 experts who verified the appropriateness of the SSLC conceptual framework. (2) The SSLC measurement criteria: we applied the Teacher Competency Assessment Guidelines (Seameo Innotech, 2018) and the PISA 2018 Global Competence Assessment Guidelines (OECD, 2018) to the SSLC 4 descriptive ratings: (1) students cannot do this yet; (2) students can do some; (3) students can do well; (4) students can teach others.

3. Verified the Content Validity of the research instrument by 9 experts responsible for the BMA education administration and education researchers. A purposive sampling technique was selected. The result is as follows:

Table 2: The content validity of the research instrument.

The research instrument Grade 3 SSLC assessment form	Verify results (n=9)		
	Number of questions	Number of questions with IOC less than 0.50	Number of questions with IOC of 0.50 or higher
1. The success descriptors questions	33	-	33

Table 2 found that the results of the content validity of the research instrument showed that the IOC index of the questions, without any question, was lower than 0.50. However, the point of view from experts recommended using simpler language and adding examples was taken and the guidelines of The Research Ethics Committee introduced on the website were studied. Therefore, an online assessment form was prepared.

4. Conducted a tryout to measure of internal consistency of the research instrument with 24 Informants (Grade 1-3 teachers and school leaders) and used the computer program SPSS version 28 to determine Cronbach's Alpha Coefficient.

Table 3: The measure of internal consistency of the research instrument.

The research instrument	Number of questions	Cronbach's alpha
1. Grade 3 Students' Sustainability Leadership Competencies (SSLC) online assessment form	44	.975

Table 3 found that the result of the measure of internal consistency of the research instrument was more than 0.70 or higher by Cronbach's Alpha Coefficient in social science research, which was acceptable.

5. Applied for a Certificate of Research Approval for the Grade 3 SSLC online assessment form and obtained the Certificate of Research Approval, COA No. 192/65, dated the 1st of August 2022, and proceed to the next phase.

6. Submitted a request for cooperation letter in doing research to the Director of the BMA Department of Education, obtained the letter of acceptance from the BMA Department of Education dated the 19th of August 2022, and proceed to conduct the survey.

3rd Step: Key informants were divided into two groups: Grade 1-3 teachers and school leaders (Principal, Vice-principal, and Heads of the learning subject groups) in 205 sample schools (Krejcie & Morgan, 1970). The systematic random sampling method was used.

4th Step: The research instrument was The SSLC online assessment form, which consists of 2 parts:

Part 1 General Information of Informant. (11 questions)

Part 2 Assessing the Level of Grade 1-3 Students' Sustainability Leadership Competencies. (33 questions)

The questions in Part 1 were checklist and fill-in-the-blank, while the questions in Part 2 were the SSLC 4 competency levels rating scale: (1) students cannot do this yet; (2) students can do some; (3) students can do well; (4) students can teach others.

5th Step: Data collection was from August 23 to October 2, 2022, a total of 41 days. Informants answered the questionnaire by scanning QR Code and received data through the system where the Grade 3 SSLC online assessment form is located.

6th Step: Data were analyzed by using The SPSS software platform. The statistics used were Frequency Distribution, Percentage, Arithmetic Mean, and Standard Deviation, the criteria for interpreting the data are as follows: 1.00-1.50 means students cannot do this yet; 1.51-2.50 means students can do some; 2.51-3.50 means students can do well; 3.51-4.00 means students can teach others.

7th Step: Summarized and presented the research results in the form of a tabular composition.

Research Results

The 1st objective of the research was to study the conceptual framework of Students' Sustainability Leadership Competencies (SSLC) and found that the most appropriate SSLC conceptual framework, comprising 5 essential competencies: (1) Sustainability literacy; (2) Proactive values; (3) Systems thinking; (4) External collaboration; (5) Social innovation and 15 general competencies which have been verified. 33 enabling competencies and 33 success descriptors were extended during research instrument development. The details of the SSLC conceptual framework and its extension as shown in Table 4 below:

Table 4: The interlinked structures of the SSLC conceptual framework table

1. Sustainability literacy		
General Competencies	Enabling Competencies	Success Descriptors for primary school student
1.1 P1: People	1.1.1 SDG1 No poverty	1. Financial planning
	1.1.2 SDG2 Zero hunger	2. Food waste reduction
	1.1.3 SDG3 Good health and well-being	3. Good health and well-being
	1.1.4 SDG4 Quality education	4. Education is the key to transforming yourself and your environment
	1.1.5 SDG5 Gender equality	5. Mutual appreciation
1.2 P2: Planet	1.2.1 SDG6 Clean water and sanitation	6. Water management and self-hygiene
	1.2.2 SDG12 Responsible consumption and production	7. Ecological footprints reduction and zero waste
	1.2.3 SDG13 Climate Action	8. Reducing the impact of climate change
	1.2.4 SDG14 Life below water	9. Conserving marine resources and reducing the impact on the oceans.
	1.2.5 SDG15 Life on land	10. Conservation and restoration of terrestrial ecosystems
1.3 P3: Prosperity	1.3.1 SDG7 Affordable and clean energy	11. Switching to renewable or clean energy
	1.3.2 SDG8 Decent work and economic growth	12. Social Enterprises: SE
	1.3.3 SDG9 Industry, innovation, and infrastructure	13. Sustainable industry, innovation, and infrastructure.
	1.3.4 SDG10 Reduced inequality	14. Reduce Inequalities and increase the dignity of life
	1.3.5 SDG11 Sustainable cities and communities	15. Respect for multiculturalism.
1.4 P4: Peace	1.4.1 SDG16 Peace, justice, and strong institutions	16. Diversity of religious and ethnic identity
1.5 P5: Partnership	1.5.1 SDG17 Partnerships for the goals	17. Creative and trustful teamwork



2. Proactive values		
General Competencies	Enabling Competencies	Success Descriptors for primary school student
2.1 Self-awareness	2.1.1 Diversity competency	18. Cope with and apply to develop from differences and diversity.
	2.1.2 Integrity competency	19. Honesty and dare to encounter dishonesty politely.
	2.1.3 Self-management competency	20. Disciplined life and emotion management.
2.2 Values alignment to sustainable development	2.2.1 Inclusive development	21. Leave no one behind by listening and encouraging suffering people to resolve or able move forward on their own.
	2.2.2 Universal development	22. Treasure differences and diversity of experience and learning method.
	2.2.3 Integrated development	23. Understandably, SD is a collaboration of multiple disciplines and stakeholders.
	2.2.4 Local-focused development	24. Always look at problems at the macro level first, but problem-solving always starts from the micro level.
	2.2.5 Technology-driven development	25. Able to present work using basic computer programs for greater understanding and storage for development.
3. Systems thinking		
General Competencies	Enabling Competencies	Success Descriptors for primary school student
3.1 Complex problem-solving competency	3.1.1 Complex problem-solving competency	26. Can apply a variety of conceptual frameworks to solve complex problems.
3.2 Synthetic thinking competency	3.2.1 Synthetic thinking competency	27. Distinguish, question, and fuse norms, practices, and options into a new framework that reflects sustainability.
3.3 Strategic planning and anticipatory competency	3.3.1 Strategic thinking competency	28. Can plan by understanding real needs, and evaluating the future as to what is possible and what is the likelihood.
4. External collaboration		
General Competencies	Enabling Competencies	Success Descriptors for primary school student
4.1 External communication competency	4.1.1 External communication competency	29. Able to persuade multiple stakeholders to jointly develop new solution options.
4.2 Relationship building competency	4.2.1 Relationship building competency	30. Able to connect and build positive relationships with others, and caring, admiring, and learning good qualities from others
4.3 Conflict resolution competency	4.3.1 Conflict resolution competency	31. Understands and respects the needs, views, actions of others, and can handle conflicts.
5. Social innovation		
General Competencies	Enabling Competencies	Success Descriptors for primary school student
5.1 Social change leadership competency	5.1.1 Social change leadership competency	32. Can shift from focusing on defensive solutions to innovating for a sustainable future together.
5.2 Creativity and innovation competency	5.2.1 Creativity and innovation competency	33. Able to present creative and diversified innovations to sustainable practices

The 2nd objective of the research was to study the SSLC level of Grades 1-3 students under the Bangkok Metropolitan Administration (BMA). The details are as follows:

Table 5 Grade 1-3 SSLC levels by 5 essential competencies according to the perception of Grade 1-3 teachers and school leaders

1.00-1.50 = students cannot do this yet; 1.51-2.50 = students can do some; 2.51-3.50 = students can do well; 3.51-4.00 = students can teach others.

Grade 1-3 SSLC Level (n=723)		Grade 1	Grade 2	Grade 3				Total (n=457)
		T.1 (n=143)	T.2 (n=123)	T.3 (n=149)	Head (n=148)	VP (n=87)	Prin. (n=73)	
1. Sustainability literacy	$\bar{X}$	2.55	2.79	2.83	2.90	2.95	3.00	2.81
	S.D.	.695	.653	.621	.620	.547	.620	.650
2. Proactive values	$\bar{X}$	2.36	2.61	2.69	2.79	2.90	2.87	2.67
	S.D.	.726	.674	.641	.626	.608	.615	.681
3. Systems thinking	$\bar{X}$	1.81	2.07	2.24	2.31	2.53	2.47	2.20
	S.D.	.783	.773	.723	.688	.632	.666	.757
4. External collaboration	$\bar{X}$	2.09	2.39	2.53	2.56	2.67	2.58	2.45
	S.D.	.744	.764	.673	.685	.632	.657	.726
5. Social innovation	$\bar{X}$	1.84	2.10	2.30	2.31	2.47	2.40	2.21
	S.D.	.811	.789	.796	.672	.627	.669	.770
Total average	$\bar{X}$	2.13	2.39	2.52	2.57	2.70	2.66	2.47
	S.D.	.752	.731	.691	.658	.609	.645	.717

Table 5 found that the overall SSLC level of the BMA students in Grades 1-3 according to the perception of 723 Informants was in the "student can do some" level as well, but the arithmetic mean in each Grade was different. Grade 3 students had the highest mean ($\bar{X}$ = 2.47, S.D.= .717) while Grade 1 students had the lowest mean ($\bar{X}$ = 2.17, S.D.= .752).

In addition, found that the highest level of the 5 essential competencies of Grade 1-3 students was Sustainability literacy at the same level as the "Student can do well" (Grade 1: $\bar{X}$ = 2.55, S.D.= .695; Grade 2: $\bar{X}$ = 2.79, S.D.= .653; Grade 3: $\bar{X}$ = 2.81, S.D.= .650). The lowest level was Systems thinking, which was also at the same level as the "Student can do some" (Grade 1: $\bar{X}$ = 1.81, S.D.= .783; Grade 2: $\bar{X}$ = 2.07, S.D.= .773; Grade 3: $\bar{X}$ = 2.20, S.D.= .757).

Table 6: Grade 1-3 SSLC levels by 15 general competencies according to the perception of Grade 1-3 teachers and school leaders

1.00-1.50 = students cannot do this yet; 1.51-2.50 = students can do some; 2.51-3.50 = students can do well; 3.51-4.00 = students can teach others.

Grade 1-3 SSLC Level (n=723)		Grade 1	Grade 2	Grade 3				Total (n=457)
		T.1	T.2	T.3	Head	VP	Prin.	
		(n=143)	(n=123)	(n=149)	(n=148)	(n=87)	(n=73)	
1. Sustainability literacy								
1.1 P1: People	$\bar{X}$	2.47	2.68	2.78	2.85	2.84	2.88	2.74
	S.D.	.712	.651	.606	.628	.549	.621	.653
1.2 P2: Planet	$\bar{X}$	2.63	2.87	2.89	2.96	2.92	3.06	2.87
	S.D.	.695	.637	.650	.609	.573	.622	.650
1.3 P3: Prosperity	$\bar{X}$	2.21	2.44	2.53	2.62	2.74	2.66	2.51
	S.D.	.710	.705	.655	.651	.580	.645	.687
1.4 P4: Peace	$\bar{X}$	2.83	3.03	3.04	3.08	3.14	3.27	3.04
	S.D.	.694	.645	.593	.607	.489	.607	.627
1.5 P5: Partnership	$\bar{X}$	2.60	2.92	2.93	3.01	3.09	3.10	2.91
	S.D.	.664	.627	.602	.607	.545	.605	.635
2. Proactive values								
2.1 Self-awareness	$\bar{X}$	2.60	2.84	2.85	2.93	3.00	3.07	2.86
	S.D.	.660	.604	.594	.602	.590	.583	.627
2.2 Values alignment to sustainable development	$\bar{X}$	2.13	2.38	2.53	2.64	2.79	2.67	2.49
	S.D.	.791	.744	.687	.650	.625	.647	.734
3. Systems thinking								
3.1 Complex problem-solving competency	$\bar{X}$	1.79	2.00	2.19	2.25	2.48	2.40	2.15
	S.D.	.797	.816	.722	.662	.608	.640	.755
3.2 Synthetic thinking competency	$\bar{X}$	1.79	2.07	2.24	2.34	2.53	2.52	2.20
	S.D.	.797	.750	.732	.689	.663	.709	.771
3.3 Strategic thinking competency	$\bar{X}$	1.87	2.13	2.30	2.35	2.57	2.48	2.25
	S.D.	.755	.752	.714	.712	.624	.648	.745
4. External collaboration								
4.1 External communication competency	$\bar{X}$	1.85	2.09	2.26	2.32	2.49	2.45	2.21
	S.D.	.793	.856	.720	.674	.664	.668	.768
4.2 Relationship building competency	$\bar{X}$	2.25	2.51	2.70	2.68	2.83	2.68	2.59
	S.D.	.716	.697	.646	.676	.617	.621	.694
4.3 Conflict resolution competency	$\bar{X}$	2.17	2.58	2.63	2.68	2.70	2.59	2.54
	S.D.	.724	.739	.652	.706	.615	.684	.715
5. Social innovation								
5.1 Social change leadership competency	$\bar{X}$	1.81	2.10	2.28	2.29	2.45	2.34	2.19
	S.D.	.816	.800	.783	.655	.626	.650	.765
5.2 Creativity and innovation competency	$\bar{X}$	1.87	2.10	2.32	2.33	2.49	2.45	2.23
	S.D.	.807	.779	.808	.688	.628	.688	.775

Table 6 found that Grade 1 students had the highest mean of general competencies in P4: Peace of Sustainability literacy ($\bar{X}$ = 2.83, S.D.= .694), and the lowest was Complex problem-solving competency ($\bar{X}$ = 1.79, S.D.= .797) and Synthetic thinking competency ($\bar{X}$ = 1.79, S.D.= .797) of Systems thinking; Grade 2 students had the highest mean of general competencies in P4: Peace of Sustainability literacy ($\bar{X}$ = 3.03, S.D.= .649), and the lowest was

Complex problem-solving competency of Systems thinking ($\bar{X}$ = 2.00, S.D.= .816); Grade 3 students had the highest mean of general competencies in P4: Peace of Sustainability literacy ($\bar{X}$ = 3.04, S.D.= .627), and the lowest was Complex problem-solving competency of Systems thinking ($\bar{X}$ = 2.15, S.D.= .755).

The New Body of Knowledge

The SSLC Framework infographic or data visualization below was designed to give an easy-to-understand for the interested educator as shown in Picture 1 below:



Picture 1: The Students' Sustainability Leadership Competencies (SSLC) Framework

Discussion of Research Results

From the research result of the 1st objective, found that the Table of the interlinked structures of the SSLC conceptual framework (Table 4) was developed to show interlinking, especially by adding a column of defensive success descriptors indicating the desired learning objective/outcome of each SDG. This is because the SDGs' content is very large. Therefore, the selection of important childhood-appropriate topics as defensive success descriptors is a very important research step and clarifies the picture in the higher-grade years. This is



consistent with The Commonwealth Secretariat's Curriculum Framework Mapping Guidelines (2017) and UNESCO's Tables of specific SDG learning objectives (2017).

From the research result of the 2nd objective, there are three points of interest:

1. The SSLC online assessment form has been created because ready-made assessment forms are rarely available. Our Thai assessment form contains Thai contextual questions that were consistent with universal success descriptors and set Grade 3 as key stage outcomes of SSLC and had undergone multi-stage verification. While teachers and school leaders who are informants are likely to gain a better understanding of SSLC, this may immediately be considered an in-service teacher education. This is because to truly transform Thai education into an Education for Sustainable Development that has Sustainability Leaders as the education end result, there should be current state-of-the-art tools to assess. This is consistent with UNESCO guidelines and suggestions for educators to adapt to fit concrete learning contexts of each locality and country (2017), and consistent with the development guidelines of King Rama IX that focus on differences in way of life, as well as cultural and traditions (ORDPB, 2017).

2. In addition, it was surprising that all Grade 1-3 SSLC levels by 5 essential competencies had the highest mean of Sustainability literacy at the "students can do well" level. Even though Sustainability literacy is directly related to the SDGs people generally say they don't understand the SDGs. This may be the researchers broke down the meaning of the SDGs into student behavioral questions; it appeared that teachers and school leaders also saw sustainable lifestyles in their students. This is consistent with the "House-Temple-School model" the heart of community development according to the royal initiative of King Rama IX (Siamrath online, 2021) that surrounds the BMA schools, community schools, then students naturally have a somewhat sustainable way of life.

3. It is found that 3 essential competencies of Systems thinking, External collaboration, and Social innovation, which are considered core competencies, are at the worrying level of "students can do some" in all students. This is worrisome because this indicates that since the National Education Act B.E. 2542 (1999) was enacted, we have still not been able to cultivate competency for students. This is consistent with Winichakul (2021) said that in the past 20 years, in teaching critical thinking which is a necessary skill for the future workforce, Thailand ranks near the bottom among ASEAN countries and since the start of the PISA test from 2000 to 2018, Thailand's PISA scores have always been relatively low and below the average score (using OECD countries as criteria), indicating that critical thinking skills, logic and the reasoning of Thai children is a serious problem and tends to get worse.

Conclusion

The synthesis of educators' work and scholars' work in sustainability leadership competencies, teacher and school leader surveys indicate that it is vital to cultivate Students' Sustainability Leadership Competencies (SSLC) from the young, leading them to create sustainable happiness for themselves and others as a true human being our world needs. Seeing the good evidence from Grade 1-3 students' Sustainability literacy level from teachers' and school leaders' perspectives provides a hopeful aspect for educators and researchers to use and extend the present study to the next higher-grade years and in the BMA academic and school management. The focus on cultivating SSLC in the curriculum is one of the qualities that make education alive and create value for each student and stakeholder in their contribution to our world. Hence, teachers, school leaders, community stakeholders, the BMA District Office, and concerned agencies in the Department of Education have a responsibility to cultivate the SSLC of each student, polishing them to be Sustainability Leaders together with increasing the proportion of Sustainability Leaders in Bangkok.

Suggestions

1. The suggestion for using the finding of the research

1.1 For school leaders and teachers are able to integrate the success descriptors topics from the Table of the interlinked structures of the SSLC conceptual framework (Table 4) into their current lesson plans. For example, SDG1 No Poverty focuses on the Financial Planning topic in the areas of money discipline; money-saving; making an income expense account; understanding basic investment and profit and loss, etc., which are the way to escape from "the cycle of poverty". School leaders and teachers can also integrate multiple subjects such as Mathematics, Career, Social study, etc. In addition, students should gain knowledge and understanding of how to explain the essence of each SDG (the principles, causes, effects, and solutions associated with other SDGs) to create sustainable living and lead to higher-grade years as well.

1.2 For school leaders and teachers, as BMA schools have the atmosphere of the "House-Temple-School model" we proposed the use of "Contextual learning" for young Grades 1-3 students to exercise competencies because the community is a portrait of a larger global society.

1.3 Both the District Office Director and the agencies in the BMA Department of Education such as the Educational Strategy office, BMA Teacher Development Division, and Education Supervisory Unit can apply this prototype to develop the SSLC curriculum grid and initiate to transform education in affiliation.

1.4 For all BMA educational stakeholders should try to study and use a "Sustainable economic and social innovation learning management" to enhance the organization's strengths to strengthen SSLC and for all.



2. The suggestion for the future research

Future research should involve the following issues:

2.1 The District Office Director, who is directly in charge of the schools in the district, is likely the one who initiates the sample schools of this study to try to integrate SSLC into current lesson plans and exchanges knowledge between schools within the district.

2.2 Both the school and BMA's education agency jointly study the Grade 4-6 SSLC level by setting the ability to design projects that cultivate sustainable living that is appropriate and feasible for people in their communities as a Grade 6 key stage outcome of SSLC.

2.3 A Study of Academic Management Guidelines for BMA primary schools is based on the concept of SSLC.

2.4 The SSLC concept can be integrated into 54 BMA Education Sandbox schools.

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