

# **Developmental Guidelines to be an Educational Innovative Organization for the Basic Schools in the Education Sandbox of Thailand**

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## **Abstract**

This quantitative research was conducted with the purposes of studying 1) the readiness of the innovation in School-Based Management (SBM); 2) the effectiveness of being an innovative organization in education; 3) to propose guidelines of being an educational innovative organization for pilot schools in the Education Sandbox. The sample group consisted of pilot schools in 6 regions of the Education Sandbox program, totaling in 208 participants from the population of 432 schools. The research results showed that the readiness in innovative SBM ranking upwards were 1) human resources; 2) academic; 3) general administration; and 4) budget managements. The effectiveness in being an educational innovation organization ranking upwards were 1) to increase the cooperation among all parties in improving education; 2) to decentralize power to the educational agencies and the schools; 3) to increase the learner's achievement; and 4) to reduce the inequality in education. To develop the pilot schools into being an educational innovative organization, we needed to focus on aspects such as, Competency-Based Education (CBE), active learning, performance-based assessment for the learners, appropriate human resource management in planning and rewards systems, and to publicize the importance of the new way in education management to communities and all concerned.

**Keywords:** School-based management, Effectiveness, Education sandbox, Educational innovation, Innovative organization

## **Introduction**

Innovative organizations are essential for successful business operation and growth in a world where competition dominates the market. These ultimately result in competitive advantages and therefore long-term success and sustainability for organizations in both private and public sectors. The most recent competitiveness assessment for Thailand by the International Institute for Management Development (IMD) and World Economic Forum

(WEF) was ranked 40<sup>th</sup>, down from 38<sup>th</sup> of 141 countries around the world. The WEF points out that Thailand's biggest problem is that most of the country's population still lacks the necessary skills needed to work in this era. Most importantly, Thailand's innovation capability remains low (World Economic Forum, 2018). This is in line with the recent unsatisfactory result of the Program for International Student Assessment (PISA) by the Organization for Economic Co-operation and Development (OECD). Thai students have weaknesses in their reading skills, especially with respect to the level needed for the digital era; and the trend of reading scores has continued to decline which can lead to decreases in mathematical and scientific intelligence. The 2018 PISA results generated important observations for our educational outcome. The current educational system in Thailand has some qualities that holds merit in developing students' academic skills to a higher degree but for this to happen, students should be able to access the same level of education no matter their socio-economic status.

The education system in Thailand has faced many problems for a long time. For example, there is a lack of integration between organizations responsible for the curricula, method of assessment, teacher policies, finances, and general management, which are detrimental for the success of most schools. However, with that said, there are other schools that do have innovative programs and goals that are achieved, but these are not as widespread. Introducing innovation into the public sector, including the public education system, is thus challenging. OECD studies show that successful change is possible but requires some actions to be taken. These are: 1) building the culture and norms to facilitate new ways of working, 2) facilitating free flow of information across the public sector, 3) promoting new organizational structures and partnerships, and 4) adjusting rules and regulations that hinder innovation (Pittayapongsakorn, 2018).

### **The education innovation area act B.E. 2562 (2019)**

The Constitution of the Kingdom of Thailand B. E. 2560 (2017) appointed an Independent Committee for Education Reform, which generated a plan to reform public education in the country. One of these plans was to offer an Education Sandbox program, aiming to improve teaching and learning management within basic schools. The Education Sandbox program has goals of providing students in the field of educational innovation to receive quality education, appropriate and consistent with the identity of their communities and areas, all to be able to roll out these education innovations into the other areas in the future (Kongsanoh, 2019).

As a result, this led to the proposal and enactment of the Education Innovation Area Act B.E. 2562 (2019), effective from May 1, 2019, for a period of 7 years. The Act arises from two main concepts. These are 1) to decentralize and support educational innovation in order to solve problems and increase efficiency through the use of trial and error in both schools and related educational operators in the Education Sandbox program (Bottom-Up Solution), and 2) to create a space that encourages schools and related educational operators to experiment and be able to create innovation to ensure a high quality of education, while having mechanisms of educational innovation that can be widely applied throughout the educational system.

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The establishment of educational innovation zones has the following objectives: 1) develop innovations in education and learning to promote achievement of the learners in terms of their knowledge, skills and attitudes, including the expansion of the results to other basic education institutions; 2) reduce educational inequalities; 3) decentralize and give freedom to educational agencies and educational institutions in order to increase flexibility in the administration and management of higher education institutes; and 4) create and develop a mechanism for managing education jointly between government sectors, local government organizations, and private sectors to conduct education innovations in the pilot schools. (The Education Innovation Area Act B.E. 2562, 2019).

Currently, the Ministry of Education has announced the establishment of 6 pilot educational innovation zones, called the Education Sandbox, in 6 following regions (8 provinces): 1) Northeastern region (Sisaket province); 2) Eastern region (Rayong province); 3) Southern region (Satun province); 4) Northern region (Chiang Mai province); 5) Central region (Kanchanaburi province); 6) Southern border region (Pattani, Yala, Narathiwat provinces) with 432 pilot basic schools as of 3 December 2021. The pilot schools are mainly under the Office of the Basic Education Commission's (OBEC) 360 schools, Office of the Private Education Commission's (OPEC) 37 schools and the Department of Local Administration's (DLA) 35 schools. The pilot schools were classified into their sizes by provinces shown in Table 1.

**Table 1** School size by numbers of students by province in the Education sandbox

Province/ No. of Students	1-120	121-200	201-300	301-499	500-1499	1500-2499	> 2500	Total	Percentage
Chiang Mai	17	24	14	15	24	4	4	102	23.6%
Rayong	11	18	5	2	15	8	4	63	14.6%
Sisaket	36	38	19	10	11	2	2	118	27.3%
Satun	4	3	5	1	2	1	0	16	3.7%
Kanchanaburi	0	10	8	4	13	5	1	41	9.5%
Narathiwat	0	6	3	9	7	3	1	29	6.7%
Pattani	0	5	7	6	7	5	3	33	7.6%
Yala	4	7	5	7	5	2	0	30	6.9%
Total	72	111	66	54	84	30	15	432	100.0%
Percentage	16.7%	25.7%	15.3%	12.5%	19.4%	6.9%	3.5%	100.0%	

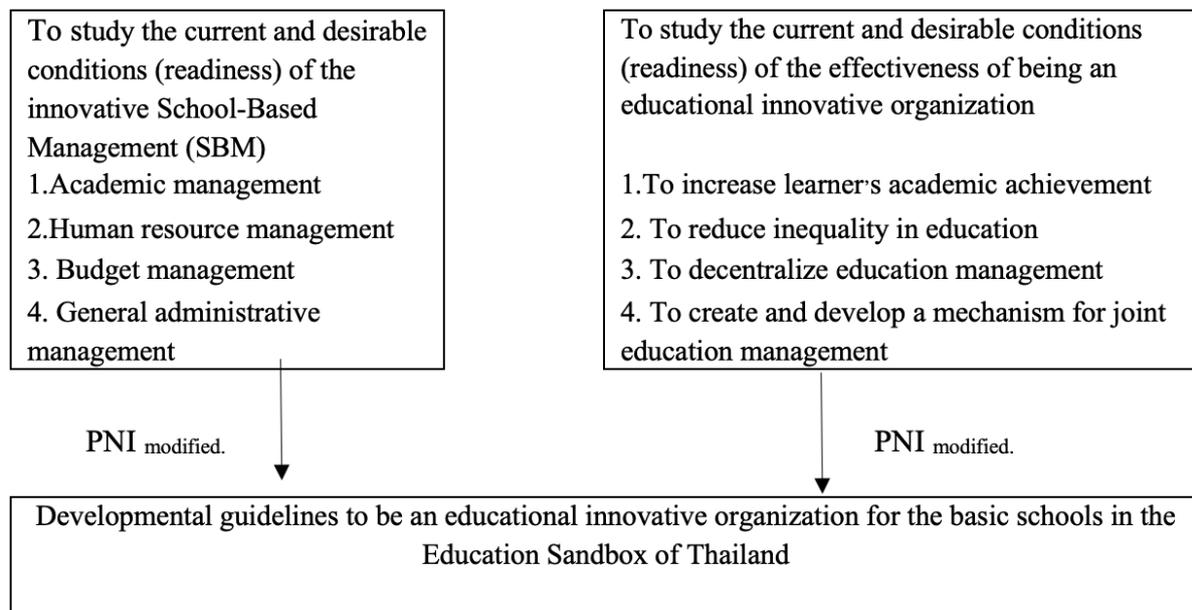
**Remark:** as of December 3, 2021

### Research objectives

1. To study the readiness of the innovative School-Based Management of the pilot schools.
2. To study the effectiveness of being an innovative organization in education.
3. To propose guidelines of being an educational innovative organization for the pilot schools in the Education Sandbox.

### Conceptual framework

The researcher reviewed documents and studies on the concepts and theories of School-Based Management, educational innovative organizations, and the effectiveness of organizational management including the Ministry of Education's general policies, related key developmental policies, and the Educational Innovation Area Act B.E. 2562. The following is a description of the research conceptual framework as shown in Figure 1.



**Figure 1** Research conceptual framework

### Literature reviews

#### Educational innovation

Innovation can be referred as something new or a change made to an existing product, idea, or field. Innovation is the core action for the development and productivity of any economic activity (Kogabayev & Maziliauskas, 2017). Educational innovation is thus an idea, practice, or invention that has been developed to be appropriate and consistent with the use of educational management, and thus can lead to maximum success for the learners. Educational innovations are relevant to people at all levels, both inside and outside the education organizations to maximize the benefits and effectiveness of the current education system (Earl & Timperley, 2015). The Innovative Education Area Act. B.E. 2562 Section 3 defines that educational innovation is the concept, method, and process of teaching materials or a new management model which has been tried and developed until it is reliable enough so that it can promote learners' learning and educational management, including the application of such orders in the Education Sandbox.

### **The effectiveness of being an innovative organization in education**

An effective organization refers to an organization that operates to meet the set goals, both short-term and long-term objectives to promote the organization's success and its long-term survival (Bowornwathana, 2009). Providing quality education for the Education Sandbox program is a challenge to the current Thai education system and operating model. The Innovative Education Area Act B.E. 2562 is therefore a tool to streamline operations for all relevant educational parties at all levels to fully support the pilot schools in the Education Sandbox program to be able to perform various tasks effectively to meet the Act's objectives. These include:

1. To increase academic achievement innovation in learning. This refers to innovations that enhance educational achievement, which spans from academic achievement to competency achievement. Competency is a skill that is essential for future work and life. UNESCO has set the objectives of 21st century education as follows: 1) learn to know; 2) learn to do; 3) learn to be and 4) learn to live together (Voogt & Roblin, 2010).

2. To reduce the inequality in education. The Farrell Concept of Education for Educational Equality identifies four elements of educational equality as follows: 1) equality in education 2) equality of school survival 3) equality in the education learning process and 4) equality in educational outcomes. The government agencies must help those in need to achieve equality in education as mentioned (Farrell, 1999, as cited in Arnove & Torres, 2007).

3. To decentralize and increase flexibility to local educational operators and schools. The Education Development Plan of the Ministry of Education, Vol. 12 (2017-2021) remains to focus on decentralizing, both by restructuring educational policy and limiting the role of the central government administration. It is, however, found that educational parties still face problems in supporting the decentralization in many areas, both in terms of operational and management factors that are inconsistent with the needs and the context of these educational institutions. In addition, the oversight, monitoring, and evaluation of these institutions are ineffective. These are all barriers to distributing the necessary educational administration authority to cover all educational areas and educational institutions (Siritharangsri, 2014).

4. To increase the cooperation between the government, the private sector, and civil society in the development of education. The community helps to support the affairs of educational institutions, which can mobilize human resources in the community to participate in educational management for the benefit of providing better education and increase cooperation in various fields. This is consistent with a study from Wonhsuwan and Intha (2017) whom saw the benefits of participatory education management to increase organizational efficiency and meet the organization's goal (Wonhsuwan & Intha, 2017).

### **School-based management**

School-Based Management (SBM) was originated in the United States in the 1970s in an effort in educational reform and decentralization of authority to schools to be able to improve the quality of the education implementation through a well-established managerial process. This was due to its lower education quality and the unsatisfactory education system. The SBM has been aimed at increasing enrollment, strengthening community participation,

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improving efficiency and improvement of education quality through increased responsiveness to local needs and interests (Gropello, 2006). It has thus allowed schools the freedom of self-management. The SBM system is therefore an educational administrative innovation, allowing educational institutions freedom in administration as well as management of teaching-learning activities. In Thailand, Section 39 of Chapter 5 of the 1999 National Education Act requires the Ministry of Education to decentralize powers in educational administration and management regarding academic matters, personnel, budget and general affairs administration directly to the Committees and Offices for Basic Education and the educational institutions in the areas (Nenyod, 2002). The SBM system in Thailand has thus aimed to decentralize the educational system in 4 areas, namely academic management, human resource management, budget management, and general administration management to the schools and education agencies. Innovation in SBM system is a form of innovation that will help foster or allow the development of better innovation learning and administrative management to boost the learner's knowledge, skills and attitudes in learning. Educational management using new innovations in schools of the 21st century should emphasize the use of educational management processes to be applied in the school management to benefit and support decision-making in the educational administration and create learning activities for maximum efficiency and effectiveness for learners (Dangphirom, 2019).

### **Needs assessment concept**

The definition of "needs assessment" has several meanings. Kafman states that needs assessment refers to a systematic analysis to demonstrate the difference between the current result and the desirable result (Wongwanich, 2015). Needs assessment is a systematic process used to differentiate between the status quo and the expected state. It emphasizes differences in outcomes (outcome gaps) and prioritizes and selects what needs to be addressed. It also explains more about the needs assessment process, that there are: 1) implementation planning; 2) surveying and analyzing data to determine needs; and 3) utilization of the need. Needs assessment is used to develop and improve the action plan of an agency to provide useful information for policy decisions and project or activity goals (Issac & Michael, 1985 as cited in Yurarach, 2011). The definition of needs assessment or the readiness presented in this article refers to the process of analyzing gaps or differences between the current situation and the desirable situation, then prioritizing needs is a prerequisite to use the results in planning activities that will occur in the future.

## **Research methodology**

### **Population and samples**

The research population consists of pilot schools under the Office of Basic Education Commission in the Education Sandbox program, totaling 432 schools (as of December 3, 2021) classified into 6 regions. Using Taro Yamane's formulation, it comes with a sample size of 208 schools at a confidence level of 95% (Yamane, 1970). The analytical unit is a pilot school with assigned school representatives namely 1) the principal or 2) the principal's deputy or the head

academic teacher. The samples were stratified according to the region proportion population and were randomly selected as shown in Table 2.

**Table 2** Populations and samples by region of pilot schools in the Education Sandbox

Region (Province)	Pilot schools	Sample size
1. Northern region (Chiang Mai)	102	49
2. East region (Rayong)	63	30
3. Northeast region (Sisaket)	118	57
4. South region (Satun)	16	8
5. Central region (Kanchanaburi)	41	20
6. Three southern border provinces region (Narathiwat, Pattani, Yala)	92	44
Total	432	208

**Remark:** as of December 3, 2021

### Methodology

The tool used for this research was a questionnaire related to the effectiveness of the innovative organizations. It was divided into 3 Parts. Part 1 was the general information of the respondents. Part 2 was a representative's opinion about the effectiveness of the innovative schools' ability to meet the objectives of the Innovative Education Act B.E. 2562, which are 1) to invent and develop educational and learning innovations to enhance learners' educational achievements; 2) to reduce inequality in education; 3) to decentralize education management to education agencies and pilot schools and; 4) to create and develop a mechanism for joint education management at all levels. The last part is a representative's opinion about the school management, which includes academic management, human resource management, budget management, and general administration management.

A questionnaire, which included a checklist form and a 5-level rating scale with 66 questions, was used to collect data. The consistency index (IOC) for all questionnaires was 0.90, and the overall questionnaire's reliability using Cronbach's Alpha was 0.976. Data was collected online through Google Forms. The collected data was then analyzed using descriptive statistics (frequency, percentage, means, and standard deviation) and a modified Priority Needs Index (PNI<sub>Modified</sub>). The interpretation is as follows:

- 1.00 – 1.49 means the lowest level of opinion.
- 1.50 – 2.49 means a low level of opinion.
- 2.50 – 3.49 means a moderate level of opinion.
- 3.50 – 4.49 means a high level of opinion.
- 4.50 – 5.00 means the highest level of opinion

The Modified Priority Needs Index (PNI<sub>Modified</sub>) uses the following calculation formula:

$$PNI_{\text{modified}} = \frac{I - D}{D}$$

Where: "I" refers to the mean of desirable condition, and

“D” refers to the mean of the current condition.

The criteria for the needs assessment or readiness level interpretation were applied from the study of Wongwanich (2015) in PNI<sub>modified</sub> value as follows.

Less than 0.10 means very high level of readiness.

0.10-0.20 means a moderate level of readiness.

Greater 0.20 means a low level of readiness.

## Results

### The innovative school-based management

The needs assessment or the readiness of School Based Management (SBM) in 1) academic management; 2) human resource management; 3) budget management; and 4) general administration management were analyzed using PNI<sub>modified</sub> as a method of comparison between the current and the desirable conditions of the mentioned goals. The result is shown in Table 3.

**Table 3** Needs assessment of the innovative School-Based Management (SBM) system for the pilot schools in the Education Sandbox

The innovative School-Based Management (SBM)	Current condition (D)			Desirable Condition (I)			PNI <sub>Modified</sub>		
	$\bar{x}$	S.D.	level	$\bar{x}$	S.D.	level	PNI	rank	The readiness
1. Academic management	3.53	0.810	High	4.32	0.679	High	0.22	2	Low
2. Human resource management	3.55	0.789	High	4.36	0.668	High	0.23	1	Low
3. Budget management	3.79	0.825	High	4.47	0.637	High	0.18	4	Low
4. General administration management	3.64	0.771	High	4.40	0.622	High	0.21	3	Low
<b>Total</b>	<b>3.63</b>	<b>0.799</b>	<b>High</b>	<b>4.39</b>	<b>0.651</b>	<b>High</b>	<b>0.21</b>		<b>Low</b>

From Table 3, it was found that the current condition and the desirable condition of the innovative School Based Management (SBM) were both at a high level ( $\bar{x} = 3.63$ ,  $SD = 0.799$ ) and ( $\bar{x} = 4.39$ ,  $SD = 0.651$ ) and the desirable condition has a higher value. The four areas of innovative SBM for both current and the desirable conditions are all at high level, as well.

When comparing the level of the readiness with PNI<sub>modified</sub>, innovative SBM was at a low readiness (PNI<sub>modified</sub> = 0.21). When ranking using the readiness scale, it was found that human resource management had the lowest readiness, followed by academic management, general administration management, and budget management.

### The effectiveness of the innovative organization in education

The analysis of readiness for the effectiveness of innovative organizations in 1) increasing the learners achievement, 2) reducing the inequality in education, 3) decentralizing power to the educational agency and the schools, and 4) increasing the cooperation among all concerns in improving education were analyzed by using a modified PNI analysis, comparing

the current and the desirable conditions of the mentioned objectives . The result was shown in Table 4.

**Table 4** Needs assessment of the effectiveness of an innovative organization in education for the pilot schools in the Education Sandbox

The effectiveness of an innovative organization in education	Current condition (D)			Desirable Condition (I)			PNI Modified		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level	PNI	Rank	The readiness
1. Increase the learners achievement	3.66	0.690	High	4.42	0.602	High	0.21	3	Low
2. Reduce the inequality in education	3.84	0.814	High	4.49	0.623	High	0.17	4	Moderate
3. Decentralize power to the educational agency and the schools	3.61	0.845	High	4.45	0.620	High	0.23	2	Low
Increase the cooperation among all concerns in improving education	3.52	0.834	High	4.40	0.632	High	0.25	1	Low
Total	3.66	0.796	High	4.44	0.619	High	0.21		Low

From Table 4, it was found that the current condition and the desirable condition of the effectiveness of the educational innovative organization were both at a high level ( $\bar{X} = 3.66$ , S.D.= 0.796) and ( $\bar{X}= 4.44$ , S.D.= 0.619) and the desirable condition has the higher value.

When comparing the readiness level with PNI<sub>modified</sub>, the effectiveness of the innovative organization was at low level of readiness (PNI<sub>modified</sub> 0.21). When ranking using the readiness scale, objective 4) increase the cooperation among all concerns in improving education had the lowest level of readiness, followed by objective 3) decentralize power to the educational agency and the schools, objective 1) increase the learner's achievement, and objective 2) reduce the inequality in education.

## Conclusion and discussion

### 1. School-Based Management (SBM)

As a result of the research, it found that the two lowest levels of readiness for School-Based Management (SBM) were human resource management and academic management. Human resources play a strategic role in any organization's development. To stay successful in an innovative environment, human resources must relate to material, financial, and information resources as well. The transformation of traditional to innovative production system in any organization requires the increase of overall employee intelligence and competence. Therefore, the management must realize that human resources and their human capital are key features affecting organizational success. The effective and efficient human resource management is critical to the success of any organization in both private and public sectors. The perceived high commitment in human resource management directly and positively affects individual performance (Alamooti et al., 2021).

Academic management is the first and most critical part for success in educational innovation. To develop educational innovations in the curriculum, teaching, and learning approaches, school administrators must understand their own schools' context, the conditions of their own communities, and the actual needs of the learners to define the visions and goals of the school correctly. To prepare the learners for readiness in 21<sup>st</sup> century, it is vital to lead education management using the four pillar of knowledge according to UNESCO's study, which are learning to know, learning to do, learning to be, and learning to live together (Rodrigues, 2021). In applying the Education Sandbox principles in educational institutions to conduct changes in teaching and learning, resulting in the development of critical thinking skills in learners, it is necessary to make changes to the entire system of educational institutions, which consist of 1) educational institute administrators; 2) teachers; and 3) the learners (Aree et al., 2021). The pilot schools in the Education Sandbox program whose new curriculum, which consisted mostly of a Competency-Based Curriculum, have more flexibility in adopting their teaching and learning approaches, including instruction medias to fulfill their academic goals. However, there are still some burdens in their academic operations such as the method of assessment for the learners' performance and the lack of on-going R&D for developing an innovative form of education. In addition, the principals should focus more on their role as academic leaders. The school principals are the key driving force, determining the direction of school policies which will contribute to how the school's educational goals can be achieved (Kartini et al., 2017).

## **2.The effectiveness of the innovative organization**

Considering the effectiveness of innovative organizations in the Education Sandbox program, the research result showed that the areas with the least readiness were 1) to increase the cooperation among all parties concerned in improving education and 2) to decentralize power to the educational agency and the school. In a fast-changing world, major corporations are creating their own small unit of innovation to get ahead of the curve and avoid being disrupted. Similarly, the government should create an Educational Sandbox program to answer the urgent demand for quality education with innovative and evidence-based policy. The Education Sandbox program is a special form of education that allows people from all sectors to work together to create innovations in education. This is consistent with Poonsub's research on the administrative components of the schools in the Education Sandbox. It was found that comprehensive data and context needs to be studied in order to create educational cooperation within the community so that the school administration can truly meet the needs of learners, parents, and the community, which can be used to increase the cooperation in the educational community (Poonsub, 2020).

The objective for the Education Sandbox program in decentralizing authorities to the local education operators and the pilot schools, must be done through a clear policy and action. This will let educational agencies to have flexibility and freedom within limits of powers and duties as prescribed by law and educational innovation zones. The Education Innovation Area Act B.E. 2562 states that in order to provide a better quality and innovate educations, a clear decentralized policy must reflect not only legal decentralization but also true decentralization to the operators. The role of central government agencies and policy makers should be then

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adjusted to support, supervise and follow up with the educational agencies instead. However, most of the decisions are still centralized to budget and personnel decision-making authorities. This is consistent with a study from Hunpayon which showed that Thai schools still lacked independence in terms of their educational administration, while schools in South Korea were fairly decentralized in most aspects of their school administrative management, ranging from the curriculum, educational technology, and human resource management under the school's respective committees (Hunpayon et al., 2019).

### **3.Guidelines to be an educational innovative organization**

Based on the data and content analysis, the researchers propose 2 approaches for developing the pilot schools to be considered as an innovation organization in education as follows:

Approach 1: Aims to increase effectiveness of educational organization in the Education Sandbox program.

1. To increase the cooperation in education by increasing the mobilization of resources and budgets in the community to support education innovation goals in each education sandbox area.

2. To promote decentralization by providing a level of authority and flexibility to the local education operators and the pilot schools to enable develop appropriate educational innovations and school management, especially in terms of human resource management.

3. To increase the academic and competent achievement of the learners by developing and improving schools' curricula to suit learners and the community with flexible teaching methods and classroom management.

4. To reduce the inequality in education by supporting and providing pilot schools with appropriate and sufficient educational resources and the budget for education innovation (Block Grant) to the pilot schools. All related budget administrative rules and regulations should be simplified and flexible.

Approach 2: Aims to develop an innovation organization through School- Based Management (SBM).

1. Human resource management: The local education operators and the pilot schools should be able to deploy their own manpower requirements to appropriately support their educational innovation goals. A suitable reward system should be in place for educators in the Education Sandbox program.

2. Academic management: The schools should focus on Competency-Based Education (CBE) and active learning, such as problem-based learning or research-based learning. Local education operators and the pilot schools should conduct R&D on their education innovation program to improve educational quality regularly and consistently. Assessment tools for evaluating innovative outcome for each learner should be invented by using Performance-Based Assessment (PBA).

3. General administrative management: The schools should develop an information system to support innovation in teaching and learning. The work of the innovation in education

of the pilot schools should be promoted and publicized throughout their communities and to those concerned.

4. Budget Management: The pilot schools should manage their budget (Block Grant) to support their innovations in education appropriately.

### Recommendations

1. The government sectors and educational agencies with a commitment to develop and promote the importance of the Innovative Education Area Act. B.E. 2562 and the Education Sandbox program have collaborated in developing effective policies and guidelines to expedite dissemination. They should empower the pilot schools and educational agencies in terms of their academic and human resource managements as soon as possible and to the extent permitted by law. The budget for educational innovation (Block Grant) should be sufficient for the needs and thoroughly allocated to all pilot schools.

2. Pilot schools and local education agencies must promote cooperation with all local sectors to encourage them to be involved in education management. The schools should emphasize Competency-Based Education and link it to the schools' innovation to inspire the learners to be creative for innovation, gain holistic knowledge, and be able to find their own future needs, all to achieve the goals of schools.

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