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Qualitative Article

## Recovery of the Pandemic Learning Loss among Thai Students: Lessons Learned and Practical Guidelines

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### Abstract

**Background/problem:** The COVID-19 pandemic disruption to education across the globe led to student learning loss and inequalities. Therefore, it has been suggested that learning loss recovery policies and practices should be formulated and implemented to resolve, recover, and revive the quality education.

**Objective/purpose:** This research explored the empirical findings from lessons learned of actual implementations in schools to recover the learning loss of students, and synthesized the good practices and key success factors that could be proposed for practical guidelines regarding learning loss recovery.

**Design and Methodology:** This qualitative multiple-case study collected data from twelve schools in Thailand with interesting practices in learning loss recovery. Data was collected through in-depth interviews, observations, and school document reviews to gain a deeper understanding of the actual practices and contexts for learning loss recovery. The collected data was analyzed through inductive content analysis.

**Findings:** The results show that the selected schools had developed similar practices to recover students' learning loss. The key themes in learning loss recovery policies were: the school administrators having a clear and practical vision; strong decision-making skills among school administrators; proactive school strategies; strong skills among instructors to design and organize an effective learning environment; efficient usage of educational technology, teacher's mentoring systems; and cooperation between relevant sectors for the benefit of schools and students.

**Conclusion and Implications:** These findings also suggested that the policies and practices driving to recovery of learning loss requires the cooperation of both internal and external school stakeholders for an effective and efficient implementation.

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The COVID-19 pandemic has led to various developments around the world, especially the development of education and learning management policies to deal with the effects of COVID-19 on the learning of students. This is because the pandemic caused schools to temporarily pause teaching and learning to prevent the infection among students and educational personnel (Ceasay, 2021; Pal et al., 2022). As a consequence of this, the teaching method was changed to online learning in Thailand too, which was the context of this research (Office of the Education Council, 2022a). Nonetheless, it cannot be denied that the disruption of learning has led to significant losses and inequalities with regards to learning opportunities.

A survey on the impact of the COVID-19 situation showed that an increased amount of assistance had to be provided to learners and educational personnel (World Bank et al., 2022). Moreover, some literature also shows the inequality in education quality across the regions of Thailand because of the low performance in the poorer and remote areas of secondary school students (Durongkaverroj, 2023). Although efforts were made during the pandemic to organize learning in various forms in schools, which included on-site, on-air through the distance learning television (DLTV) under the Royal Patronage, on-demand, online, and on-hand, these methods were found not be a good substitute for traditional learning (World Bank et al., 2022). A further worrying issue was that only 17 percent of poor children had access to technology or computers for learning at home. In addition, even though schools eventually reopened fully or partly, sudden school closures and disruptions caused by the pandemic still affected school attendance and learning (World Bank et al., 2022).

Moreover, learning loss among many students was noted. This can be defined as the deterioration or reduction of knowledge and learning experiences due to a reduction in the opportunities for the students' memory gain over time or a loss of learning opportunities, which students should have obtained during the pandemic if their study situation has not been altered (Angrist et al., 2021; Engzell et al., 2021). Therefore, learning loss is a key issue in education. Moreover, it is difficult to find appropriately and effectively formulated measures, and guidelines to help recover the learning loss suffered among students during the pandemic. When looking specifically on the learning during the pandemic, the COVID-19 outbreak had both positive and negative impacts on the education, such as the increasing of using educational technology and sudden school closures. The pandemic also had a strong impact on the physical and mental health, and the well-being of students, parents, and teachers (Suwathanpornkul et al., 2023; Watts & Pattnaik, 2023). For this reason, it is necessary that educational sectors and others involved in supporting the learning management of students set guidelines and policies to restore learning loss so that the severity and its impacts can be reduced to revive the learning among students (Office of the Education Council, 2022b).

This research focused on studying the learning loss recovery across schools that fall under the Office of the Basic Education Commission, Thailand which had attempted learning loss recovery and had yielded positive results with regards to the learning of the students and the quality of learning they had received. Some of these schools had been identified as special cases regarding the learning loss recovery of basic education students after the reopening in the first semester of the 2022 academic year. These schools implemented multiple guidelines for learning loss recovery among learners according to the concepts offered by the Office of the Education Council (2022a), which were identified as the "RECOVERY measures". These measures included, redesign of the new teaching and learning processes, empowering the teachers and administrators, collaborating with stakeholders for effective learning management, opening resources available for education, valuing positive attitudes and the well-being of others, elevating the teaching and learning by applying educational technology, and improving the safety and welfare. Thus, the objectives of this research were to explore the empirical findings from lessons learned of actual implementations of schools to recover the learning loss of students during the COVID-19 pandemic and to synthesize the results to offer good practices and key success factors that could be proposed for practical guidelines regarding learning loss recovery.

## Literature Review

In this section, the concepts of the learning loss, the relevant literatures, and the underpinning theory of this research are presented.

### **Impact of the COVID-19 on Thailand's Education**

In Thailand, the basic education system enrollment normally begins at six years old by beginning with primary school enrollment for six years (prathomsuksa 1-6), three years for lower secondary school

enrollment (mattayomsuksa 1-3), and three years for upper secondary school enrollment (mattayomsuksa 4-6). For the compulsory education in Thailand has covered the primary and lower secondary school enrollment or nine years (Durongkaveroj, 2023). During the COVID-19 situation, the policies related to learning loss recovery in basic education in Thailand were formulated by the Ministry of Education for basic educational institutions to cope with, resolve, and revive the learning loss by the Ministry of Education (2022). The policies of the Ministry of Education are aimed at the big educational picture so that they can reverse the learning loss suffered during the COVID-19 situation by offering a safe education, improving the quality of education, and offering more opportunities and equality in education for people of all ages. In addition, the Office of the Basic Education Commission of Thailand (2022) also announced policies focused on accelerating the resolution of problems among students by offering growing opportunities to access education, provide learning loss recovery and reduce the stress among students, and strengthening systems and mechanisms for the learners' safety so that the schools under the jurisdiction of the Office of the Basic Education Commission could implement them when organizing the learning for learners.

### **Learning Loss**

Learning loss is an interesting issue in education especially the learning of students during the COVID-19 pandemic which affected the educational systems and students worldwide. Learning loss can be defined as the decline or recession in the forgetting of knowledge over time among students at all educational levels and the learning loss can be divided into two main types: the learning loss of academic achievement and the learning loss of desirable learning characteristics (Engzell et al., 2021; Glossary of Education Reform, 2013; Harmey & Moss, 2023). From the literature review, the learning loss of students is caused by missing out on the learning opportunities during a school year that should have occurred as the normal circumstances in the education system. Including, the long school breaks or semester breaks during the academic year also can be the cause of learning loss among students losing either general and specific knowledge, or the skills of students (Angrist et al., 2021; Coe et al., 2020). Moreover, when it comes to the summer break, schools are typically closed for two or two and a half months. To minimize learner loss, summer classes can be offered or students can be encouraged to review the content covered during the semester (Glossary of Education Reform, 2013). Other events and circumstances, such as natural disasters or social phenomena, might also result in learning loss.

Natural disasters and social phenomena include excessive rain, floods, tsunamis, teacher strikes, poor instruction, pandemics, and disruptions in formal education brought on by social upheaval like riots and revolutions that can prevent students from attending classes (Harmey & Moss, 2023; Kaffenberger, 2021; Kuhfeld et al., 2020; Zhdanov et al., 2022). The learning loss also affected the academic performance of students, physical and mental health, psychosocial issues, and the well-being of students and teachers (Suwathanpornkul et al., 2023). Students who are returning to school after taking an academic leave or who had previously dropped out for an extended length of time may also exhibit a learning gap or loss of information. If this happens, the school could make the students take extra lessons or repeat the prior lesson. It is possible for students to experience this learning loss in high-, middle-, or low-income nations; in other words, it is a global phenomenon (Angrist et al., 2021). Therefore, the severity of this issue and its effects can be lessened and learning can be revived for students who suffered during the COVID-19 outbreak, educational agencies or sectors and others involved in supporting the teaching and learning management of students both domestically and internationally must study the learning loss recovery of the students and set guidelines and policies to restore learning loss.

### **Social Cognitive Theory**

Learning loss is a current interesting educational and behavioral science issue amid the COVID-19 pandemic related to various aspects of behavioral science theory especially the social cognitive theory of Bandura (1986). In this study, the social cognitive theory of Bandura (1986) has been used as a tentative theoretical framework to study the interaction and internal shift of human behavior, which is not only caused by environmental factors, but also by internal factors based on reciprocal determinism, such as the person,

the person, and the environment. In the context of the COVID-19 pandemic, this phenomenon has been seen as one of the reasons why the learning behavior of students has changed and learning loss has occurred among students. Consequently, it is important to note that learning relies on intrinsic factors such as personality, behaviors, and the environment among the students (Bandura, 1986). Moreover, the social cognitive theory also related to the learning achievement among students, especially in the self-regulated learning and learning environment management of the students which can improve or enhance the learning performance and engagement of students.

## Method

### Design

For this research, a qualitative research approach was utilized based on multiple case studies approach of Gerring (2007) that were used to acquire a deeper understanding so that the research results could be applied after looking at the lessons learned and synthesis of good practice guidelines regarding the learning loss recovery of educational institutions after conducting in-depth interviews and study visits to schools (Gerring, 2007). Also, other related data sources were studied, such as school documents and class observations. This obtained data was used to analyze the data from the interviews through a qualitative content analysis.

### Setting

The schools and key informants chosen for the multiple case studies in this research included 12 basic education schools in Northern Thailand were selected regarding learning disruption during the COVID-19 pandemic across regional schools, affiliations, sizes, and locations. There are four dimensional criteria regarding the diversity of schools as: 1) five regional schools in the northern Thailand were selected represented of two schools, the central region with three schools, the northeastern region with two schools, the southern region with two schools, and the Bangkok Metropolitan region with three schools, 2) four affiliations of Thai basic education schools as: (i) the Office of the Basic Education Commission (OBEC) under which eight schools fall under the Primary Educational Service Area Office, including five primary schools and opportunity expansion schools (School A, D, E, I, and J), the Secondary Educational Service Area Office with three schools (School G, H, and K), (ii), the Provincial Administrative Organization (PAO) with two schools (School B and F), (iii) the Bangkok Metropolitan Administration (BMA) with one school (School C), and (iv) the Office of the Private Education Commission (OPEC) with one school (School L), 3) three sizes of school dividing into large, medium, and small schools, and 4) two locations of school which across urban and rural areas.

### Participants

The selection of the participants in this research was based on purposive sampling. The case study schools and key informants in this research included 12 basic education schools with had been found to have interesting practices regarding learning loss recovery across different contexts and the aforementioned four dimensions of setting. The inclusion criteria when selecting the participants included: (i) schools with interesting cases of learning loss recovery among students in basic educational institutions after the first semester of the 2022 academic year while focusing on aspects, such as the learning loss recovery of students in terms of their academic performance, the learners' characteristics, the academic management, or the development of innovative learning media; (ii) schools with traces or examples of learning loss recovery of students in basic educational institutions; and (iii) schools that were willing to give consent for and cooperation with the research data collection.

Based on the inclusion criteria, 12 schools were selected as multiple case studies in this research. Key informants consisted of school administrators, teacher representatives, student representatives, and relevant educational personnel. The information of the case study schools is summarized in Table 1.

**Table 1***Characteristics of Case Studies*

No.	School	Region	Province	Size*	Level	Affiliation**	Context
1	A	Central	Chachoengsao	Small	Primary	OBEC	Rural
2	B	Central	Ayutthaya	Small	Primary	PAO	Urban
3	C	Bangkok	Bangkok	Small	Primary	BMA	Urban
4	D	South	Trang	Medium	Primary	OBEC	Rural
5	E	South	Trang	Medium	Primary	OBEC	Rural
6	F	Northeast	Nakhon Ratchasima	Medium	Secondary	PAO	Rural
7	G	North	Chiang Mai	Large	Secondary	OBEC	Rural
8	H	North	Chiang Mai	Large	Secondary	OBEC	Urban
9	I	Bangkok	Bangkok	Large	Primary & Secondary	OBEC	Urban
10	J	Northeast	Nakhon Ratchasima	Large	Primary & Secondary	OBEC	Rural
11	K	Bangkok	Nonthaburi	Large	Secondary	OBEC	Urban
12	L	Central	Rayong	Large	Primary & Secondary	OPEC	Urban

*Note.* \*Size: small < 499 students; medium = 500-1,499 students; large > 1,500 students

\*\*Affiliation: OBEC = Office of the Basic Education Commission; PAO = Provincial Administrative Organization; BMA = Bangkok Metropolitan Administration; OPEC = Office of the Private Education Commission

**Procedure**

The researchers collected data through in-depth interviews together with observations and document reviews. Prior to collecting the data, the researchers coordinated with the case study schools to set up interviews and study visits. Then, the research team went to the schools on the specified dates and times and conducted the interviews to discover the schools' policies with regards to learning loss recovery. Other sources of information were also studied, including school documents and class observations. The quality of the data was also checked through the triangulation method to check the consistency of data obtained from various sources, including related documents, such as the school curriculum and self-assessment report (SAR). Additional school information was investigated from the school website, school Facebook page, etc. The research instrument included an interview which covered several topics. Questions were created from definitions of terms obtained from a review of related documents and research. The interview was initiated with general questions and was followed up with specific probing questions depending on the topics or the informants.

Open-ended questions were used for the interview, such as (1) Based on the COVID-19 situation, has your educational institution experienced a learning loss among students? How? (subjects, operations in specific subject related learning departments, grade levels, etc.) and what are the characteristics of the learning loss? (2) Does your educational institution have a process for learning loss recovery? Who is involved? Are there any people that offer support or not? What are the influences on students and teachers using the RECOVERY framework (Office of the Education Council, 2022a). For the interview questions, the research team held a discussion to review the questions for the group discussion to be consistent with the research objectives and performed a quality check by asking five experts in teaching, learning, and educational fields, such as university professors, basic educational supervisor, professional teacher, and school administrators, to perform a content validity check. In addition, the interview topics and questions were improved according to the experts' feedback before data collection.

**Data Analysis**

For the data analysis, the researchers utilized qualitative data from the interview to conduct a content analysis by interpreting the collected information and coming to inductive conclusions based on that date (Vears & Gillam, 2022). The data was then presented in a descriptive and analytical manner.

## Data Rigor

The data rigor of this study was established to ensure the trustworthiness of the findings by applying the Guba and Lincoln approach (Guba & Lincoln, 1994) which consists of the following aspects: (i) Credibility, the triangulation performed by the researchers using multi-method for collecting the data collection to assure the reliable collected data, sources, and methods. The member checking was performed by reaching an agreement on the emerging themes and checking the accuracy of the themes from the participants. (ii) Dependability and confirmability, the research team applied various tools and instruments to collect the data by systematically performing the data collection and analysis to demonstrate the audit trails throughout this research. (iii) Transferability, the research team dedicated to providing detailed and reliable information on these insightful phenomena, the lessons learned from actual implementations of case study schools to recover the learning loss among the students during the COVID-19 pandemic, and also provide the various coverage issues at the same moment.

## Results

### Lessons Learned, Synthesis of Good Practices and Success Factors in Learning Loss Recovery of Basic Education Schools

Seven issues were found within the context of school sizes, such as small, medium, and large schools:

#### *Theme 1: Redesign of the New Teaching and Learning Processes*

Small, medium, and large educational institutions were found to have similar operations when planning for the learning loss recovery of their students in terms of learning outcomes and their learners' characteristics. Various learning management arrangements were designed based on the concepts of learning integration and active learning management. Media and learning innovations have been developed both with and without technology to focus on individual differences among learners. It also included the supervision, monitoring, and reflection on the learning management to find the causes for the learning loss and solve the problems through the offering of extra learning opportunities to aid the development of the learners. Furthermore, some large schools were found to have substitute teachers since they had insufficient teachers. This was different from medium and small schools which were found to have no solutions to their problem of having an insufficient number of teachers among all grades. Large schools also had more opportunities to cooperate with external agencies to jointly provide education in various ways than small and medium schools.

“... First of all, the school has planned to share an evaluation form after the break to check what level of basic knowledge the learners have so that we can determine appropriate guidelines and ways of how we can teach or provide...” (School A; Central; Small)

“... Teachers also need to adjust their teaching methods and use additional media tools. ... In the first few hours, we must focus on expanding the knowledge of learners before going to activities. After COVID-19, if they are overwhelmed with too much content, they might feel bored and discouraged. We need techniques or media innovations to attract their attention...” (School D; South; Medium)

“... In the past, students could handle 6 exercises at a time. Now, they can only do 3 or half and then gradually increase it. They cannot perform as many exercises as before, so it must be reduced. We also stimulate them through an activity learning-based approach to draw them back to the class...” (School G; North; Large)

#### *Theme 2: Empowering the Teachers and Administrators*

Small, medium, and large educational institutions had similar operations regarding the training and development of their teachers, and the knowledge transfer between administrators and teachers through meetings, supervision, and the monitoring of the teachers' learning management with the emphasis on

providing a positive and friendly environment, and the offering of encouragement and reinforcement to achieve an effective work performance.

“We are working on PLC, and proposing who should be delegated to perform which specific task to make it happen. A teacher supervising PLC is providing several suggestions to other teachers. Afterwards this concept was brought up in a meeting for the skill improvement of gaining the students' attention along with additional recommendations from the group.” (School B; Central; Small)

“... They learned by themselves and (Name) the university to send a speaker to provide knowledge about active learning and PLC as well as learning innovations and various types of lessons that can be provided. There was support for various integrated innovative media types... Our teachers were very good. Everyone did research for their own department, so, they have their own data relevant to them.” (School E; South; Medium)

“... Our school had training for teachers focused on using the application so that we would all use the same program. All of them had to use these totals of 3 applications, namely Google forms, Quizizz, and Socrative...” (School H; North; Large)

### ***Theme 3: Collaboration between Stakeholders for Effective Learning Management***

Small, medium, and large educational institutions provided similar operations when cooperating with their networks or external agencies to provide advice regarding learning management, supporting media sources, and learning resources. This included cooperation between educational institutions, parents, communities, and educational institution committees with the aim of jointly managing the effective learning management for the students.

“During a meeting, the director talked to parents. We also had a homeroom teacher. Sometimes, parents got ideas to help their children by talking to the teachers. Moreover, if a student needed extra help, we could then talk to the parents directly and help them immediately.” (School C; Bangkok; Small)

“... The director will prioritize students. Also, he often talks to the village headman and parents. He will make an agreement with the parents related to hairstyles or anything else. This involves finding an agreement with students and finding the best way to work together. I can say that he pays attention to every detail of his students...” (School F; Northeast; Medium)

“... We received cooperation in every activity at a certain level. For example, every Friday, students could prepare themselves to give alms to the monks. This included small activities in the classroom or cheering for sports, or dressing up on important days. If I told them in advance, they would cooperate well...” (School I; Bangkok; Large)

### ***Theme 4: Opening Educational Resources Available***

Small, medium, and large educational institutions were found to have similar operations with regards to the application of ready-made digital media to the learning management of students and the development of new digital media for teaching management. For large schools, information systems and digital media libraries within the educational institutions had been developed to be used to aid with managing of academic work through various platforms as they had a large number of students to take care of. They also had to manage the readiness of teachers and personnel along with an adequate budget for operations so that this large number of students could be helped thoroughly.

“For math, a media type for students to review was a video clip. For the first lessons, the teachers created them themselves. However, due to the teachers having many classes and levels to take care of, video clips on YouTube were used instead. The teacher would choose videos that suited the lesson and that students would easily understand. If a student didn't understand certain content,

the teacher would find a video with more explanation and send the link of the prepared video to the students as well.” (School C; Bangkok; Small)

“... Grade 3 students studied in the old school building with a TV ready for use. DLTV media was also used along with videos to watch or games to play so that they could learn without feeling stressed. In fact, this learning in a different way made them feel more relaxed. feel relaxed and learn in a different way.” (School E; South; Medium)

“The best and proudest idea was the creation of the learning cyber, but it could only meet parts of the learning needs of all students. Some teachers were YouTubers. I also had a channel...Because of the creation of this cyber content, students can now rerun videos of assignments to understand what students had done in previous years at our school. Through the context of their seniors’ work, we were able to collect and present the work of the children and the teacher as planned to aid in their learning.” (School K; Bangkok; Large)

### ***Theme 5: Valuing the Positive Attitudes and Well-Being of the Students***

Small, medium, and large educational institutions had similar operations when creating a positive environment in the classroom, providing reinforcement and encouragement, and offering care and assistance to students as well as academic and life advice. Activities were also organized to promote hygiene, physical health, and a good mental health among learners. They also created a system to keep track of problems the students might be facing so that they could assist with their learning and contribute to a better physical health, and mental health among learners.

“...For example, in the math class, I think the teacher applied good teaching logic. I could feel I could understand the content more. When I understood how to do math, I felt very proud of myself that I was able to do it... The teacher did not teach strictly at all. The teacher taught at a slow pace, and I felt comfortable when I studied with that teacher. I felt like I wanted to come to school.” (School B; Central; Small)

“Our strength might be our student support system... All student support staff members are like their god mothers and fathers. They visit all students' houses through this project. After that certain problems among the students are recognized which leads to a change in our perspective as well as the methods on how the students should be taught.” (School F; Northeast; Medium)

“There is a guidance group called YC, which gives advice to people who experience problems as support in the form of a gathering... There will be people to give advice to others who come in.” (School J; Northeast; Large)

### ***Theme 6: Elevating the Teaching and Learning by Utilizing the Educational Technology***

Small, medium, and large educational institutions showed similar operations in the application of technology to manage the learning of students in various ways, such as by promoting the development of digital technology media for teachers and developing a system for storing and distributing media and learning resources for students so that they could learn anywhere and at any time. The school administrators of large educational institutions were able to develop information systems for learning management through digital platforms as well. This included the development of digital media and learning resources for learners with the help of the large number of people they had to help, such as teachers, and students. Thus, it can be argued that many education institutions deemed the development of information systems necessary for the management of educational institutions.

“... To enhance the learning management through the use of technology in a systematic and efficient manner, fellow instructors and I were encouraged to use Zoom or other programs and encouraged to attend training sessions with other agencies. I myself am a lecturer and asked teachers to do activities and helped them use technology to provide the most effective learning

management for their students. With regards to other electronic systems, teachers trained themselves although sometimes we also provided training...” (School A; Central; Small)

“... There is a school website. We will present our work here, but it has not been updated yet as new examples of work and activities have not been posted here yet. One example that has been posted includes the Father's Day activity. They organized an activity for the children and the provincial staff members and showed pictures of this. We try to post all the various school activities... There are LINE groups for the school and every classroom and they include the director, teachers, parents, and children. For example, during the COVID-19 pandemic, the communication teacher would keep everyone updated via a LINE application group, such as when a British strain of the disease was discovered.” (School E; South; Medium)

“... We have a School Ride system that continuously sends information to parents. For example, in the morning when students arrive at the school, parents will receive information about the time the students arrived or left and their measured temperature at the gate. Parents would feel relieved since they would know what time their children would leave the school... For the learning management, we also have developed a website that teachers visit to check their learning plans, which is an innovation created by an affiliated school. Furthermore, we have a MAS School system for all students from kindergarten to grade 6 and there will be various information filled in by the teachers here after they have agreed upon which information is needed to be filled out.” (School L; Central; Large)

### ***Theme 7: Regard for Safety and Welfare***

Small, medium, and large educational institutions have taken similar steps to improve the physical landscape to facilitate learning and maintain safety through measures regarding the spread of the epidemic within schools and the provision of health assistance for students and educational personnel suffering from COVID-19. This included welfare provision to students through scholarships and the availability of a budget for teachers to purchase media and equipment to improve the learning management of the students. In addition, morale was built through the celebrating of the achievement of the learning outcomes by the students and professional advancement for teachers was promoted to celebrate their successes.

“The executives always asked if we had a sufficient budget since a lot of on-hand work was demanded. Despite having to learn online, there were still particular exercises for which we had to get sheets copied. The cost of photocopying would be about a thousand Baht. They supported us with all costs. This encouraged teachers to do more as they had support and a sufficient budget at all times.” (School B; Central; Small)

“... Regarding eye examinations for students, the school had the students' eyes measured. They had recently taken them to have their eyes checked. This included Kindergarten and Grade 1 to Grade 6 students in the Grade two Room. Moreover, the teachers would warn them that if they used their phones too much, some would have too much blue light affect their eyes ...” (School D; South; Medium)

“... We are still sponsoring 16 students who study for free... We had a policy during the COVID-19 pandemic to help those who really it. We knew the situation in our area. The whole school was struggling including the parents in terms of the economy. Therefore, the school divided the tuition fee payments into installments. Parents were satisfied with the installment payment... We had divided payments into three installments to lighten their burden...” (School L; Central; Large)

### **The Proposed Good Practices for Learning Loss Recovery for Basic Education Schools**

The proposed good practices, success factors, and practical guidelines for learning loss recovery of basic education schools consisted of the seven aspects which in turn covered 32 issues which are summarized in Table 2.

**Table 2**  
*Proposed Practical Guidelines for The Learning Loss Recovery of Basic Education Schools*

Learning loss recovery	Practical guidelines
1. Redesign of the new teaching and learning processes	<ul style="list-style-type: none"> <li>- meetings to develop learning and recover students' learning loss</li> <li>- designing integrated active learning management</li> <li>- adjusting the time for effective learning management</li> <li>- evaluating students' readiness, potential, and learning capabilities before class</li> <li>- laying the knowledge foundation, extra class and a review on lessons both inside and outside of the class</li> <li>- setting up a system for substitute teachers and monitoring students' learning in emergencies</li> <li>- using of media and learning resources in learning,</li> <li>- modifying the assessment on students' learning</li> <li>- reflecting on teachers' learning management and monitoring students' learning</li> </ul>
2. Empower the teachers and administrators	<ul style="list-style-type: none"> <li>- creating awareness of teachers' self-development</li> <li>- developing and transferring experiences in learning management, media, and innovation for teachers and administrators</li> <li>- facilitating a learning environment at work</li> <li>- supervising learning management in a friendly manner with various methods.</li> </ul>
3. Collaborate the stakeholders for effective learning management	<ul style="list-style-type: none"> <li>- creating academic cooperation with the network of basic educational institutions and affiliated agencies</li> <li>- creating cooperation with the parents and communities in developing learning and students' characteristics</li> <li>- creating cooperation with educational institutions and external agencies to promote students' learning.</li> </ul>
4. Open the resources of education	<ul style="list-style-type: none"> <li>- applying digital learning media based on students' learning context</li> <li>- developing innovative media and digital databases to promote students' learning</li> <li>- developing of the innovative media library system and learning resources for teachers and students.</li> </ul>
5. Value the positive attitudes and well-being	<ul style="list-style-type: none"> <li>- creating an environment that facilitates students' learning</li> <li>- taking care of learners with positive reinforcement and inspiration</li> <li>- managing extra-curricular activities to promote learning, the physical and mental health of learners</li> <li>- promoting desired characteristics and learners' behaviors</li> <li>- creating a system for taking care of physical and mental health for learners</li> </ul>
6. Elevate the teaching and learning by utilizing the educational technology	<ul style="list-style-type: none"> <li>- encouraging teachers to apply technology in classroom and learning management</li> <li>- developing systems of media and learning resources by digital technology with continuous improvement</li> <li>- disseminating media, innovations, and digital learning resources for students' learning</li> <li>- using of technology to transfer educational information between teachers, students, and parents.</li> </ul>
7. Regard to safety and welfare	<ul style="list-style-type: none"> <li>- rewarding or congratulating the success of students and teachers</li> <li>- allocating budget to support teachers' learning management</li> <li>- supporting scholarships, media, and learning equipment for students</li> <li>- implementing preventive measures and health assistance services for personnel in educational institutions.</li> </ul>

## Discussion and Conclusion

### Discussion of Main Results

The results from the lessons learned, the synthesis of good practices, and the success factors for learning loss recovery of basic education schools, that were derived from multiple case study approach, provided a framework consisting of seven aspects that could encourage the implementation of successful guidelines of learning loss recovery across basic educational institutions (Office of the Education Council, 2022a). However, educational institutions might have different practices depending on their size that explain the findings for aspect 1, redesign of the new teaching and learning processes; aspect 4, open the resources of education; and aspect 6, elevate the teaching and learning by applying the educational technology. Medium or large educational institutions performed additional actions in some different areas with clear and concrete actions. This may be due to larger educational institutions having sufficient personnel numbers and resources, such as substitute teachers (Li & Li, 2021). Therefore, large educational institutions could achieve it while smaller educational institutions had limited teachers and may have had to teach in a mixed-class setting. This includes the opportunity to build cooperation with external agencies in jointly organizing learning. Large educational institutions could create more diverse networks than small and medium schools (Barrett et al., 2019).

In addition, regarding issues related to the development of information systems and digital media libraries within educational institutions, including the development of digital media and learning resources for students, large educational institutions could operate more efficiently as they had adequate personnel numbers and resources to take care of a large number of students thoroughly as well as higher quality teachers in their educational institutions. Therefore, they were able to put emphasis on the development of information systems as they were deemed necessary for the management of educational institutions. This was different from small educational institutions that had to perform flexible operations due to the low number of staff members, and which therefore used supervision and monitoring in an informal manner (Barrett et al., 2019; Li & Li, 2021). Regarding aspect 2, empower the teachers and administrators; aspect 3, collaborate the stakeholders for effective learning management; aspect 5, value the positive attitudes and well-being; and aspect 7, regard to safety and welfare, the explanation can be due to the effect of the small size of the educational and the implementation with regards to restoring the quality of the students' learning was carried out in a similar manner and in the same direction. Therefore, the differences were mainly based on the characteristics of the management and the specific objectives of each educational institution.

In addition, the impact of the region and location of the educational institutes, such as those in urban and rural areas, on each educational institution's ability to implement policies to encourage learning loss recovery was found to be minimal. To clarify, all educational institutions had been affected by learning loss and they were all forced to close the schools and use online learning (Mukhari & Sanders, 2023). Moreover, the heterogeneity among students from different socio-economic classes is also a factor in the learning among students from economically disadvantaged backgrounds (Agasisti et al., 2021). As a result, the recovery process for each region or location was the same in terms of the models, techniques, and learning media used, and the common problems they had to face. Therefore, the differences again were more related to the specific characteristics of each educational institution. Moreover, considering the educational institutions' affiliations, their learning loss recovery measures were discovered to also not be that different across institutions of different sizes due to them following similar concepts of learning management, trends, directions, and core curricula. Thus, the development of policies to encourage learning loss recovery were focused on the same end goals. Any differences were again caused by characteristics of the policies of each educational institution. For example, the policies of schools under the Bangkok Administration were based on the guidelines and rules set by the Office of Education while schools under the Office of the Basic Education Commission accepted policies from educational area offices. This causes a variance in how the policies were implemented based on their affiliations but the goals restoring and developing the quality of the students' learning remained similar (Office of the Education Council, 2022b). Regarding the success

factors, found with regards to learning loss recovery of basic educational institutions, similar practices in each educational institution were found to be used to solve problems and develop the quality of learning for students due to their executives' clear and practical visions, and their ability to make decisions and solve immediate problems with passive and proactive strategies when managing their educational institutions, including their teachers, educational personnel, academic work, development activities, welfare management, morale among staff members and learners, and their communication with parents and the community (Office of the Education Council, 2022b). In addition, teachers should have the ability to adapt and keep up with change at all times along with the ability to design and organize effective learning practices by using digital technology in learning management, developing media, coming up with innovations, creating learning resources, and playing their part in the development of the desired characteristics of their learners (Office of the Education Council, 2022b). They should take care of learners through mentoring, reinforcement, and inspiration. Another success factor was the cooperation between all sectors, including that between personnel from both inside and outside of the educational institutions, who worked together to achieve the aim of learning loss recovery. This was thought crucial when wanting to drive operations efficiently and effectively. The results of the lessons learned, good practices, and success factors in learning loss recovery of basic educational institutions mentioned above led to the development of the practical guidelines for learning loss recovery at basic education schools which covered 7 main aspects while focusing on 32 issues.

When considering the practical guidelines for learning loss recovery of basic educational institutions in each area, aspect 1, redesign of the new teaching and learning processes, with 9 issues was consistent with the UNICEF's RAPID policy of the United Nations Children's Fund (2022) with reaching every learner and information system for learning management (R); assessing learning levels for better learning loss recovery (A); prioritization of the teaching of fundamentals, including the content, skills, and basic knowledge that was deemed necessary for learners and future learning (P), and increasing the chance of effective learning based on the needs of the learners rather than their age or scores (I), which prioritized reaching out to students, assessing students, designing effective learning activities and prioritizing learning management. Moreover, this issue is also consistent with the Molato-Gayares et al. (2022) in consolidating the curriculum by focusing on the essential skills, matching the teaching to the level of learning, and extending the time of instruction for recovery of the learning loss. This was also in line with the suggestions from Asian Development Bank (2021), and Kaffenberger (2021) stating that it is possible to design a structured and clear learning management system by assessing some content, that should have been covered but was not due to the COVID-19 pandemic, in the next academic grade level. This was consistent with Hanover Research (2020) who discussed academic recovery strategies that required extra time to study a topic again to deal with learning loss. It was suggested this could be done in the form of additional school days, additional classes, or an extension of summer school time as well as extra study time before or after class and organizing programs to assist learners with special needs or those who were at risk of failure or experiencing academic problems. This was consistent with Office of the Education Council (2022b) who studied ways to reduce learning loss focused on enhancing the quality of learning in basic education at both the primary and secondary levels and discovered that teacher techniques for learning management should be developed along with the promotion of integrated learning management, which could be done by improving the students' daily experiences, decreasing students' workload and assignments, advocating an environment that facilitates learning, and making equipment, media, and technology available for learning.

Aspect 2, empower the teachers and administrators, with 4 issues was in line with increasing the chance of effective learning based on the needs of the learners rather than their age or scores (I), of UNICEF's RAPID policy of the United Nations Children's Fund (2022), concerning the development of necessary skills for teachers and digital skills to support learning through various models to enhance learning loss recovery. This included the ideas of Asian Development Bank (2021), and Kaffenberger (2021) that proposed training on digital technology literacy for learners and parents and training to increase the teaching efficiency so that teachers could provide the most effective teaching as soon as schools returned

to normal conditions. Moreover, Kuhfeld et al. (2020) proposed ideas for working together to find effective teaching methods and for management to examine solutions to minimize the risk of students dropping out of the education system as a guideline for students' learning loss recovery. While, the aspect 3, collaborate the stakeholders for effective learning management, with 3 issues was in line with reaching every learner and information system for learning management (R), of UNICEF's RAPID policy of the United Nations Children's Fund (2022), concerning the communication with learners, who were the target group at risk, and their parents. This involved the creation of measures and strategies to solve the economic and social problems of students while Saliccioli (2021) presented the concept of academic assistance in subjects with learning loss which could be done through enhanced communication with the students, cooperation between the teachers, additional care for learners with special needs and strengthening the family involvement in the learning process. This is in line with Carvalho et al. (2020) who recommended that opening schools after COVID-19 may require community participation, communication between teacher and students, and ensuring the health and safety of students. Furthermore, Asian Development Bank (2021), Kaffenberger (2021), and Cho et al. (2021) encouraged mutual interactions between students, teachers, and parents. They felt communication and clarifications should be made to make everyone know how the learning process will be managed so that there would be mutual understanding. Moreover, the aspect 4, open the resources of education, with 3 issues was in line with reaching every learner and information system for learning management (R); assessing learning levels for better learning loss recovery (A); and prioritization of the teaching of fundamentals, including the content, skills, and basic knowledge that was deemed necessary for learners and future learning (P) of UNICEF's RAPID policy of the United Nations Children's Fund (2022) which looked at the prioritization of access for all learners to information systems so that the learning management could be made easier, learning activities could be created, and learners could be developed appropriately and systematically based on their needs and potential. Moreover, this is consistent with Kasradze and Zarnadze (2021) who proposed the idea that the public sector should support the creation of technology to enhance the teaching and learning experience, especially for online learning.

In addition, aspect 5, value the positive attitudes and well-being, with 5 issues was in line with developing the psychosocial health and well-being of learners as well as ensuring their safety (D), of UNICEF's RAPID policy of the United Nations Children's Fund (2022), which was focused on improving the psychosocial health and the well-being of students as well as the betterment of the safety and social mental health training for teachers to provide assistance and care to learners and promote an appropriate environment for learners to recover from learning loss. Several pieces of empirical evidence support this, including Raymond (2021) who proposed guidelines for long-term recovery planning to meet the educational and socio-emotional learners' needs while also offering recommendations for the preparation of strategies to support learners affected by COVID-19. This is in line with the concept of Cardinal (2020) who emphasized the importance of the learners' development through a holistic learning approach while putting a reduced importance on academic performance and grades. It was suggested that, instead, socio-emotional activities should be prioritized to motivate and encourage students to participate in learning and take part in academic activities through the provision of a positive environment, an honest assessment of their abilities, and learning activities that match their ability level in order to enhance learning loss recovery among the students. Moreover, the promotion of the learners' development related to their well-being and mental health was mentioned, including the learning management for vulnerable groups of students at risk of dropping out of education. Fitzpatrick et al. (2020) presented a guideline for the learners' learning loss recovery with a focus on the learners' well-being and mental health and this is consistent with the concepts of Dorn et al. (2020) and Saliccioli (2021) that described the establishment of a mental and social health assistance system for learners to reduce the stress and mental health impacts associated with learning during the COVID-19 outbreak and strengthen the family support system. This is consistent with Office of the Education Council (2022b) who stated that the study environment should be suitable for learning and for the students contribute to the enhancement of the physical and mental health, motivation, goal setting, self-directed learning, promotion of relaxing activities, nutritious diets, exercise for good health, and the relationships between students, parents, and teachers. For the aspect 6, elevate the teaching and learning by utilizing the educational technology, with 4 issues was in line with Saliccioli (2021) as it presented a clear

concept of planning access to technology, which is similar to Daniela et al. (2021) who expressed the idea of prioritizing the learners' continuous learning and their digital technology literacy. To enable this, Kurniawan and Budiyo (2021) proposed a synchronous and asynchronous learning approach through technological platforms to further organize online learning. In addition, the details of elevating learning with Edtech were mentioned in the learning loss recovery measures of Office of the Education Council (2022a) which were consistent with the sub-guidelines on the issue of providing modern equipment, tools, and programs for educational institutions and teachers along with the development of various learning platforms. However, the aspect 7, regard to safety and welfare, with 4 issues was in line with the idea of DiPietro et al. (2020) who proposed guidelines for the students' learning loss recovery with regards to the issues related to the provision of equipment and technology for learning adequately and thoroughly while also encouraging support from parents to make sure that the students would have the adequate technology and equipment. This was consistent with Office of the Education Council (2022b), and Suwathanpornkul et al. (2023) who suggested that a budget should be allocated for technical and financial assistance with regards to internet signals, equipment, media access, and other technology.

### **Limitations**

There were a few limitations that emerged in this research regarding this research that should be declared and considered when performing data analysis. First, this research collected the data during the second semester of the 2022 academic year, when the school had just reopened for teaching and learning after the COVID-19 pandemic school closure only one semester. Further study should be conducted by monitoring and following up on the learning loss recovery measures implementation and their results after the school reopens more than one academic year to gain a deeper understanding of each case study. Second, some participants in this research were recruited through video conference for interviews due to the COVID-19 pandemic which could have led to some limitations when performing data interpretation. However, the researchers attempted to perform and record the video conferencing interviews for validating and reviewing the data interpretation due to the research team could not directly observe the expressions, moods, emotions, and non-verbal actions of the research informants as the face-to-face interview. Third, the small number of participants in this research may have influenced the generalizability which may be some kind of limitation of the qualitative research approach. However, this research notwithstanding provides captivating findings that can help to gain an insightful understanding and practical guidelines for learning loss recovery among the students amidst the COVID-19 pandemic in Thailand, which may contribute to the enhancement or improvement of the teaching and learning practice, school management, and the quality of education.

### **Implications for Behavioral Science**

This study applied the interdisciplinary perspectives and framework between educational science and behavioral science by using the *RECOVERY* measure to recover the learning loss from the pandemic by the Office of the Education Council (2021) and the social cognitive theory of Bandura (1986). Furthermore, this study also has broad theoretical and practical implications in either education or behavioral science fields by providing a deep understanding of the lesson learned from learning loss recovery practices of each school as the selected interesting case studies and lead to the proposed practical guidelines for the resolving, recovering, and reviving of quality of learning and education after the COVID-19 pandemic from the policy formulation and implementation. Including, it is important to note that the practical guidelines for learning loss recovery in the school under the basic educational level require the interaction and cooperation of entire sectors either inside or outside the schools to recover the learning loss of students and enhance the effectiveness and efficiency of educational policy implementation, teaching and learning practices, and learning equality among the students.

### **Conclusion**

The seven interesting similar practices of learning loss recovery were found through a variety of case studies regardless of the schools' affiliations, region, and location. The success factors of the learning loss recovery in similar basic educational institutions provided by each case study included a clear and practical

vision of administrators, the ability to make decisions and solve immediate problems, passive and proactive strategies for educational institution management, the ability to design and organize learning, the use of digital technology in learning management, the adaptation of this digital technology to the learning management, educational media development, innovations to improve the learning management, the development of learning resources, a mentoring program, reinforcement of the learning outcomes by the instructors, inspiration from teachers for students to perform well, and the cooperation of all relevant sectors. Encouraging practical guidelines for learning loss recovery in basic educational institutions to be efficient and effective required the cooperation of all sectors, including personnel members both inside and outside of the educational institutions in order to restore the learners' learning loss. Consequently, it is believed the findings from this research could lead to the development of a model to promote learning management in various ways, which may integrate parts of the guidelines for learning loss recovery to improve the quality of student learning. This is a guideline for implementation at the district, educational institution, class, or individual levels. Additionally, policy research or institutional research using practical approaches could be carried out to determine the amount of learning loss recovery in basic educational institutions based on the findings from this research, leading to clearer practices according to the context of the educational institution.

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