Mobilize Cooperation to Develop to Be the Classroom of the 21st Century

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Received: April 25, 2023 Accepted: May 31, 2023 Online Published: June 12, 2023

doi:10.5430/wje.v13n3p24 URL: https://doi.org/10.5430/wje.v13n3p24

Abstract

The aim of this study was to implement the project "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School ", which is one of the research projects that is related to education in the 21st Century, using the Participatory Action Research (PAR) methodology consisting of Planning, Acting, Observing, and Reflecting (PAOR) for two cycles. Each Cycle lasted one semester during the Academic Year of 2022. The expected outcome was to promote changes, learning, and the knowledge gained from practice. The research participants consisted of seven teachers and administrators, two community leaders, three parents of students, and three school supporters. A total of 50 students received benefit from the development. The results from the comparative practice of three periods (before the first cycle, after the first cycle, and after the second cycle) showed the following: (1) there had been improvements in the implementation of the work and in the quality of classrooms aligned with the ideas of the 21st Century; 2) the research team, the research participants, and the school gained various learning experiences, especially in: (a) building networks with communities and related organizations, (b) creating sustainable relationships, and (c) achieving successful work outcomes; and 3) knowledge gained from practice demonstrated the causal relationship between the driving force used to promote change, the resistance to change, the methods used to overcome the resistance to change, and the resulting outcomes, which is the prototype model called "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School."

Keywords: 21st-century classroom, participatory action research, Sarakulnawitaya School

1. Introduction

Reflects (2013) presented comparative data on the characteristics of 20th-century classrooms and 21st-century classrooms that had undergone changes in various dimensions. The following are the key changes that were identified: 1) A shift from time-based to outcome-based learning. 2) A move from the memorization of discrete facts to a focus on what students know, can do, and are like after all the details have been forgotten. 3) A change in lesson design from focusing on the lower levels of Bloom's Taxonomy (knowledge, comprehension, and application) to focusing on the upper levels (synthesis, analysis, and evaluation), with the lower levels being incorporated into curriculum design from the top. 4) A transition from textbook-driven content to research-driven content from student research. 5) A shift from passive learning to active learning. 6) A move from learners working in isolation within four walls to working collaboratively with classmates and others from around the world in the global classroom. 7) A shift from teacher-centered to student-centered learning, in which teachers are the facilitators and coaches. 8) An increase in student freedom. 9) A shift from a situation of having "discipline problems" in which the educators do not trust students and vice versa to a situation in which there are no "discipline problems" and students and teachers have a mutually respectful relationship as co-learners, in which the students are highly motivated. 10) A move from a fragmented curriculum to an integrated and interdisciplinary curriculum. 11) A shift from averaged grades to grades that are based on what was learned. 12) An increase in expectations from low to high levels, with an emphasis on ensuring that all students succeed in learning at high levels, and ensuring that some may go even higher. 13) A change from the teacher as the judge of student work, in which no one else sees the work, to self-assessments, peer assessments, and other assessments with a public audience and authentic assessments. 14) A shift from a

curriculum/school that is irrelevant and meaningless to students to a curriculum that is connected to their interests, experiences, talents, and to the real world. 15) A change in the primary vehicle of learning and assessment from print to performances, projects, and multiple forms of media. 16) A shift from ignoring diversity in students to addressing it in the curriculum and instruction. 17) A move from literacy being limited to the 3 R's (reading, writing, and math) to having multiple literacies that are aligned with living and working in a globalized new millennium. 18) A change from the factory model based on the needs of employers for the industrial age of the 19th century and scientific management to a global model based on the needs of a globalized, high-tech society. 19) A shift from placing emphasis on the NCLB and standardized testing mania to the fact that standardized testing has its place.

Likewise, there were some scholars, who discussed the characteristics of 21st-century classroom in a broader sense. For instance, Samuel (2019) stated that the 21st century is not a future concept, but a reality that we must adapt to in order to prepare students for the world that they will encounter after graduation and in the workforce. Similarly, Classroom (n.d.) commented that a 21st-century classroom should incorporate modern technology into lessons in order to enhance the students' learning and to prepare them for a future in our technology-driven world. These classrooms extensively cover STEM topics and apply technology in all disciplines. This is consistent with Goertz's (2015) perspective on STEM schools, which highlighted that STEM concepts are not limited to science or math classes, but they can be applied across all subjects. Goertz outlined ten signs of a 21st-century classroom, which included technological integration, a collaborative environment, opportunities for creative expression, an inquiry-based approach, justification for answers, writing for reflection, the use of a problem-solving methodology, hands-on learning, the teacher as a facilitator, and transparent assessments.

According to WorldStrides (2017), educators and administrators have only recently begun to seriously consider redesigning their classrooms in order to facilitate learning experiences and to support student-directed learning. This redesigned classroom is intended to successfully foster 21st-century skills, including communication, collaboration, problem-solving, critical thinking, creativity, and leadership. WorldStrides (2017) identified six key elements of this new classroom design, which consisted of furniture and space flexibility, areas for collaborative and independent learning, facilitation of movement, the fostering of inspiration and creativity, technological integration, and the use of light and bright colours.

These ideas are consistent with The Council of British International Schools (COBIS) (n.d.), which highlighted the following five key points to consider for modern classroom environments: innovative design with student appeal, flexibility, pupil-centred learning, efficient storage solutions, and quality. Additionally, Krueger (2018) discussed six top design considerations for a 21st-century classroom, which consisted of collaborative spaces, flexible furnishings, natural lighting, bright colours, tech integration, and hands-on learning.

Furthermore, there are individuals, who have provided interesting ideas for managing 21st-century classrooms, such as Mace (n.d.), who suggested 8 strategies to manage the 21st-century classroom: (1) starting with the classroom setup, (2) prioritizing digital citizenship, (3) teaching mini-lessons before using devices, (4) using the power of choice, (5) placing emphasis on the importance of sharing, (6) conducting teacher check-ins, 7) building in 'taking breaks from devices,' and 8) utilizing software tools. Additionally, there are those who provide recommendations on the role of the teacher in the 21st-century classroom. They have stated that the focus of a 21st-century teacher should be on student development in the areas of higher-order thinking skills, effective communication, collaboration, and other skills necessary in the 21st century. Moreover, these teachers must develop new teaching strategies that are markedly different (Jan, 2017).

Based on the mentioned characteristics of 21st-century classrooms, it is apparent that 21st -century classrooms have undergone changes in principles and ideas that differ from those of 20th -century classrooms in multiple dimensions, as explained by experts, who described the design concepts of classrooms, recommendations for classroom management, and the role of teachers in the 21st Century. This has led the researchers to develop ideas to study and to acquire knowledge that can be further used to develop 21st -century classrooms and thereby, make them broader and more profound. They drew from various internet articles presented by leaders in several countries, which the researchers saw as global perspectives, and which pointed out the issues that should be utilized during challenging thinking and practice. The language used to describe the approaches to those issues is easy to understand, and those images and examples that clearly demonstrate them were included. Therefore, the researchers studied the literature related to managing classrooms for the 21st Century by covering various topics and perspectives, which would be beneficial for the practice in the project "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School." The researcher (Number 1), who is the school administrator of Sarakulnawitaya School, used the Participatory Action Research (PAR) methodology, because the researchers believed that it would lead to

successful results. PAR is a research method that places emphasis upon the importance of participation and democracy in actions and outcomes that bring about changes, learning, and knowledge from practice. This represents a type of research in which both researchers and co-researchers equally collaborate on and begins with the process of Planning, Acting, Observing, and Reflecting (PAOR), in two spiral cycles that continue endlessly. The goal was to achieve sustainable development through expected changes, as a result of the binding responsibility of participation in each step (Sanrattana, 2018).

1.1 Research Objectives

The aim of this study was to carry out the project, "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School," which is one of the research plans or a set of research projects related to education in the 21st Century in the Doctoral Program in Educational Administration at the Isan Campus of Mahamakut Buddhist University by using the PAR methodology. This research emphasized the importance of studying the academic literature related to classroom management for the 21st Century, in order to obtain explicit knowledge about the diverse issues and perspectives that needed to be addressed. The explicit knowledge, which was obtained, would be integrated with tacit knowledge from the previous experiences of the research participants, which is based on the following principle: "theory and practice should be interwoven, and for this reason it is useful to think of the process as braiding a rope where the two aspects are continually connected together" (Flinders University, 2022). The research participants involved in this study also included school personnel and stakeholders outside the school, consisting of seven teachers and administrators, two community leaders, three parents of students, and three school donors (a total of 15 individuals). The target group of 50 students was expected to benefit from the developmental outcomes. The expected outcomes of the development consisted of the following: (1) improved changes at the level of the research participants' practice and in the characteristics that demonstrate a 21st- century classroom; (2) learning from actions at the individual, group, and school levels; and (3) grounded theory, which can be used as a prototype for the continuous development of this school in the future.

1.2 The Study of the Literature

The research team conducted an academic exploration of classroom management in the 21st Century, which encompassed a diverse range of issues and perspectives beyond the preliminary studies that had been conducted previously. The investigation focused on three main areas: (1) the characteristics of the classrooms of the 21st Century, based on the views of Education Rickshaw (n.d.), Envision (2017), Garner (2017), Goertz (2015), Heick (n.d.), Krueger (2018), Matthews (2019), School Jotter (n.d.), Saxena (2013), and Wierman (2016); (2) the approaches to classroom management in the 21st Century, based on the perspectives of Beach (2015), Harajli (2017), Harvey (2019), Kolk (n.d.), Krueger (2018), Mace (n.d.), Matthews (2019), Mugabi (2019), Tolley (2013), and Wierman (2016); and (3) the evaluation of classroom management in the 21st Century, based on the views of the Joplin High School (n.d.).

The results of the academic exploration of classroom management in the 21st-century across these three areas provided important recommendations for the research team and the research participants by enabling them to gain insights into a diverse range of approaches and perspectives. Therefore, it can be concluded that there are 44 development paths as follows: 1) Spaces are clean and inviting. 2) Furnishings are flexible. 3) Colors are bright. 4) Natural sunlight is a key feature. 5) Technology is integrated. 6) Smart boards provide an easy exchange of information. 7) Desk grouping allows for social learning. 8) There are collaborative spaces. 9) There is flexible seating. 10) Desks and chairs encourage students to design their own workspace. 11) Storage cabinets allow for free space to move around. 12) Makerspaces encourage active project-based learning. 13) The teacher promotes students to learn from hands-on projects. 14) The 3 r's and the 4 c's are combined. 15) There are team work and team management. 16) There is professional learning and development. 17) Inspiration and creativity are fostered. 18) Digital citizenship is made a priority. 19) Positive learning environments are created. 20) Project-based learning is utilized. 21) Focus is placed on process, not content. 22) The teacher acts as a coach. 23) Students are understood. 24) Understanding is differentiated. 25) Students understand and follow the rules and procedures. 26) There are flexible lessons. 27) The curriculum is diversified. 28) Students are aware of the world around them. 29) There are enquiry-based lessons. 30) There is the seamless use of technology. 31) Mini-lessons are given before using devices. 32) There are performance-based assessments. 33) There are continual learners. 34) Looking ahead 35) Be willing to change. 36) A shift is made from standards to habits. 37) Laptops allow for independent research. 38) There is hands-on learning. 39) There is the power of talk. 40) There is student engagement. 41) Creativity of technology is shown. 42) There is collaborative learning. 43) There is Re-thinking reading. 44) There is Self-directed learning & play.

2. Research Methodology

2.1 The Chosen Research Methodology for This Study: Participatory Action Research (PAR) methodology

Carr and Kemmis (1992) classified action research into three levels: (1) Technical Action Research, in which the researcher serves as an outside expert, who provides ideas, plans, or projects for the participants to execute; (2) Practical Action Research, in which the researcher collaborates with the participants, acting as a consultant, who stimulates, raises issues, and guides the process of mutual thinking, action, observation, and reflection; and (3) Emancipatory Action Research, also known as Participatory Action Research, in which the researcher equally participates with the participants as collaborators in the research process.

Sanrattana (2018) reviewed the literature from the studies from Arhar, Holly and Kasten (2001), Coghlan and Brannick (2007), Creswell (2008), James et al. (2008), Kemmis and McTaggart (1992), McTaggart (1991), McTaggart (2010), and Mills (2007) on PAR methodology. It was found that PAR methodology is a process of critical social science or pragmatism that uses some parts of scientific methods, and also employs a participatory action approach between the researchers and participants, who have equal status. This approach follows a spiral cycle of Planning, Acting, Observing, and Reflecting (PAOR) in a continuous manner to improve and change the ways of practice and to change life situations for the better.

2.2 Principles, Ethics, and Roles

The PAR methodology, employed in this study, adheres to 10 principles, which consist of: 1) having specific contexts, 2) having diverse skills, 3) being change-oriented, 4) being action-oriented, 5) listening to all research participants, 6) performing self-analysis and self-reflection, 7) having an awareness of potential, expertise, and stakeholder status within the community, 8) learning from both successful and unsuccessful actions, and creating a systemic learning process, 9) having all research participants engage in documentation, and 10) participating in ways that lead to sustainable practices and development.

Furthermore, the methodology adheres to the following 10 ethical principles: 1) responsibility for maintaining confidentiality, 2) equal access to information for all researchers, 3) collective decision-making regarding research directions and the expected outcomes, 4) maximum involvement of all researchers in designing the research processes, 5) consultation and approval of proposals and recommendations by all parties, 6) obtaining prior authorization for any observations or document verifications for other purposes, 7) continuing to show and open opportunities for others to provide feedback on work progress, 8) making certain that there are no infringements on the copyright or viewpoints of others, 9) informing all researchers of the nature of the research processes from the beginning, and 10) acknowledging and respecting the personal rights of those, who choose not to participate in the research.

The researcher should embrace the following ten roles: 1) being a teacher, 2) being a leader, 3) being a good listener, 4) being a planner, 5) being a designer, 6) being an analyzer, 7) being a synthesizer, 8) being an observer, 9) being a reporter of the findings, and 10) being a promoter and facilitator.

2.3 Cycles, Steps, and Activities

The aforementioned text discusses the PAR methodology, which is a research approach that involves equal participatory action and collaboration among the researchers and research participants. The methodology consisted of a spiral cycle that included the Planning, Acting, Observing, and Reflecting (PAOR) stages, and was characterized by continuous iterative progress. However, due to the time constraints imposed by the curriculum, the research team established two cycles for this study, each consisting of one academic term, in the Academic Year of 2022. The research process for each cycle involved the following steps:

Cycle 1

The first step, Preparation, consisted of three activities. Firstly, the research process was explained to the research participants to ensure that their decision to participate had been based on informed consent: "The researcher must inform the research participants of the nature of the research process and the benefits from the outset. Individuals who choose not to participate must be respected and their personal rights recognized." Secondly, the work process was co-designed in accordance with ethical principles: "Research participants must be involved in designing the research process and there must be consultation and agreement from all parties." Thirdly, the lessons learned were extracted based on the principles of "analysis, interpretation, self-evaluation, and learning from both successful and unsuccessful actions to promote a systemic learning process."

The second step of the planning process was comprised of four activities. Firstly, the research participants

brainstormed to determine the tacit knowledge required for the development plan, in accordance with the principles of "acknowledging the potential, expertise, and involvement of the research participants." They aimed at answering the question: "Based on past experiences, what should this school do to promote 21st-century classrooms?" Secondly, the research team presented explicit knowledge related to relevant literature and studies in order that all research participants could have access to and understand the information. This was based on the principle of granting "equal access to information for all research participants." Thirdly, an action plan was developed through the collaborative efforts of all research participants, using the "Tacit knowledge + Explicit knowledge" approach, as guided by the principles of: "listening to feedback from all research participants" and "consensus building through consultation and mutual proposal acceptance." The results from the action plan were grounded in principles, concepts, techniques, methods, and activities, consisting of 50 different approaches, as presented in Table 1. Finally, the lessons learned were extracted in accordance with the aforementioned principles.

The third step of the process involved four activities related to Acting. The first activity was to prepare two sets of assessment forms, which were: 1) a self-assessment form for the research participants regarding their level of compliance with the Action Plan, and 2) an assessment form indicating the state of the 21st-century classroom, which was to be used for assessment at three different stages (i.e., before implementation in Cycle 1, after implementation in Cycle 1, and after implementation in Cycle 2). These assessments were in line with the ethical principles of "research directions and expected outcomes result from joint decision-making". The second activity involved evaluating the participants before implementing Cycle 1 using the self-assessment form and the assessment form indicating the characteristics of the 21st-century classroom. The third activity followed the operational plan according to the principle of "diverse skills in specific contexts, aiming for transformation and action to achieve sustainable development," and in accordance with the ethical standard of "research participants have an influence on the work." The fourth activity involved extracting the lessons learned based on the aforementioned principles.

The fourth step, Observation, involved the collection of data from various activities and practices using an observation form, in-depth interviews, group discussions, and the examination and recording of various materials, such as journals, maps, audiotapes, videotapes, artifacts, and field notes. This was carried out in accordance with the principle that "everyone involved in the research should keep a record of the activities and practices", and by considering the ethical principle of "observation or examination of documents for other purposes must be authorized beforehand."

The fifth step, Reflecting, consisted of three activities. The first activity was evaluating the performance in Cycle 1 using two self-assessment forms completed by the research participants: one form assessed their level of adherence to the Action Plan, while the other assessed the characteristics of the classrooms of the 21st Century. The second activity involved reflecting on the work done in Cycle 1. This was achieved by brainstorming together to reflect on the outcomes of each step in Cycle 1 and was based on the principles of "listening to feedback from all research participants, analyzing and discussing it, and self-evaluating, learning from both successful and unsuccessful actions, and promoting systemic learning." Additionally, in accordance with ethical considerations, the results of the work should remain visible, and the researchers should be open to receiving feedback from others. The third and final activity was summarizing the lessons learned, which was carried out in accordance with the previously mentioned principles.

In reflecting on the work, the research team utilized Kurt Lewin's Force-Field Analysis technique (Lunenburg & Ornstein, 2000) to identify the driving forces behind the changes that had occurred, as well as the degree to which these forces had contributed to the changes. The analysis also revealed the factors that had acted as a resistance to change. Based on these factors, the team sought recommendations to strengthen the driving forces and minimize or eliminate the resistance to change. The purpose of this analysis was to inform the planning of the next step (Step 6), which may have involved the process of improving the existing driving forces or seeking newer and more effective ones.

Cycle 2 consisted of four steps: Planning, Acting, Observing, and Reflecting

The sixth step, Planning, was comprised of two activities: 1) Developing an action plan and 2) Extracting lessons learned.

The seventh step, Acting, consisted of two activities: 1) Executing the action plan and 2) Extracting lessons learned.

The eighth step, Observing, consisted of collecting data from various activities by using observations, in-depth interviews, or group interviews, as well as checking or recording, which was carried out in Cycle 1.

The nineth step, Reflecting, consisted of three activities: 1) Evaluating the Cycle 2 performance using a

self-evaluation form completed by the research participants on the level of implementation according to the Action Plan, and an evaluation form indicating the characteristics of 21st-century classrooms, 2) Reflecting on the results of the work by brainstorming together to reflect on the results of all steps in Cycle 2, and 3) Extracting lessons learned.

The tenth step, summarizing the research results, was conducted through a practical seminar to present the results from the observations, the lessons learned, and the three evaluations: before and after implementing Cycle 1 and after implementing Cycle 2, as well as the results of the reflection process from Step 5 and Step 9. The results of the research were summarized according to the principles of the following: "1) specific context, 2) listening to feedback from all research participants, 3) analyzing and evaluating one's self, and 4) learning from actions, which are both successful and unsuccessful and which lead to a systematic learning process." The research also adheres to the ethical principles of "consultation and consensus among all parties" and "the results of the work will be visible and open to opportunities for others to provide feedback."

2.4 The Research Area and Research Participants

The research area was specifically defined with consideration given to convenience, the potential of the research team, and the voluntary cooperation of research participants. In accordance with these criteria, **Sarakulnawitaya School** was chosen as the site to conduct the research. The research participants consisted of the personnel within the school and the stakeholders outside the school as follows: seven school administrators and teachers, two community leaders, three parents of students, and three school supporters (a total of 15 people). The target group for the research was 50 students, who benefitted from the development.

2.5 The Research Tools Used in This Study Consisted of the Following

- Qualitative data collection tools were used to gather data on various stages of activities. The research team considered the suitability of the tools in accordance with the conceptual framework proposed by Mills (2007), which consisted of: (1) an observation form, (2) in-depth interviews and group discussions, and (3) examination/records or journals, maps, audiotapes & videotapes, artifacts, and field notes, etc.

- For the research participants, a self-assessment questionnaire was utilized to evaluate their level of compliance with the action plan. The research team and participants created this questionnaire in order to assess compliance with the action plan across the three phases: (1) before the first cycle, (2) after the first cycle, and (3) after the second cycle. The questionnaire utilized a 5-point rating scale, which gauged compliance from "the most" to "the least." However, this assessment was not subjected to Content Validity testing or a try-out with a sample group to determine the Alpha Coefficient of Reliability because the questions were developed based on the concept that the research team and the participants shared "tacit knowledge + explicit knowledge", which was derived from the brainstorming process in the planning phase of the first cycle.

- The present study involved the development of a survey assessing the classrooms of the 21st Century. The survey was constructed based on the characteristics of the 21st - century classrooms as described by various sources, consisting of Education Rickshaw (n.d.), Envision (2017), Garner (2017), Goertz (2015), Heick (n.d.), Krueger (2018), Matthews (2019), School Jotter (n.d.), Saxena (2013), and Wierman (2016), as well as the ideas of assessing the 21st-century classrooms from the Joplin High School (n.d.). The survey consisted of 34 questions and used a 5-point rating scale (the most, very, neutral, a little, and the least).

To ensure content validity, the survey was examined using the Indices of Item-Objective Congruence (IOC) method, based on the perspectives of Rovinelli and Hambleton (1977). Five experts in Educational Administration and Educational Measurement & Assessment evaluated the survey and found that all questions had exceeded the minimum standard IOC value of 0.50, indicating that the questions in the survey had been consistent with the objective of developing the 21st-century classrooms as defined by Chaichanawirote and Vantum (2017).

The assessment tool described in the text was subjected to a trial with 30 students in a school that was not the research site. The purpose of the trial was to determine the Cronbach's alpha or coefficient alpha, which is a measure of the internal consistency of a test. The overall reliability coefficient of the tool was found to be 0.96. After the reliability coefficient had been examined by dimensions, the dimensions of a flexible classroom environment, technological integration in the classroom, the teachers' usage of technology, and the use of the classroom to develop students' active learning skills, had shown reliability coefficients of 0.84, 0.86, 0.88, and 0.83, respectively. When compared to the recommended criterion of 0.70 or higher for reliability coefficients by the UCLA Statistical Consulting Group (2016), the reliability coefficients for each dimension had been higher than the recommended criterion. This indicated that the items within the assessment tool had shown a relatively high internal consistency.

2.6 Data Collection and Analysis

The process of data collection and analysis was the responsibility of both the researchers and researcher participants at every stage. The aforementioned tools were used in accordance with the principle of "recording of all activities and practices by all researcher participants." **The quantitative data** from the two self-assessment questionnaires was analyzed using Descriptive Statistics, specifically Means ($\bar{x}$) and Standard Deviations (S.D.). Regarding **the qualitative data**, which had been derived from observations, interviews, and recordings, the data analysis process consisted of: 1) checking the completeness of the data in relation to the research objectives; 2) verifying the credibility of the data to ensure that it reflected the actual situation by comparing the recorded results from each individual and by comparing the results from the different data collection methods; and 3) presenting the data in the form of thick, critical descriptions through storytelling in a factual and neutral manner, which could be supported by evidence, such as numerical data, statistical values, tables, graphics, photographs, and direct quotes or verbatim transcripts of the conversations with the participants, in which the goal was to demonstrate the various perspectives and opinions on the same issue, which may support or contradict each other.

3. Research Results

3.1 The Expected Changes

Expectations for the researchers was to implement alternative proposals that had been improved from 3 stages: before implementing in Cycle 1, after implementing in Cycle 1, and after implementing in Cycle 2. It was found that there had been an improvement which could be observed from the increased Mean values, ranging from 2.39 to 2.58 and then to 3.05, with low Standard Deviations of 0.12, 0.06, and 0.06 respectively, as analyzed in Table 1.

Table 1. Compares the Self-evaluation Results of the Research Participants on the Level of Implementing Alternative proposals to Develop a 21st-century Classroom in 3 Stages: before Implementation in Cycle 1, after Implementation in Cycle 1, and after Implementation in Cycle 2

The expected alternatives for the research participants to implement	Before Cycle 1		After Cycle 1		After Cycle 2	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
• Providing classroom space that allows for collaborative work.	2.25	0.44	2.50	0.51	3.00	0.53
• Providing appropriate bright lighting and fresh colors conducive to learning.	2.15	0.37	2.30	0.47	2.93	0.59
• Providing a classroom that stimulates creativity.	2.15	0.37	2.35	0.49	2.93	0.59
• Arranging tables in groups to promote social learning.	2.30	0.47	2.50	0.51	2.93	0.59
• Providing tables and chairs that can be moved for different activities.	2.30	0.47	2.55	0.51	2.93	0.59
• Providing equipment that is ready for learning.	2.30	0.80	2.60	0.50	3.00	0.38
• Encouraging small group learning.	2.50	0.69	2.75	0.44	3.00	0.38
• Organizing activities for groups and individual expression of opinions.	2.45	0.83	2.55	0.51	2.87	0.35
• Spaces are clean and inviting.	2.50	0.83	2.65	0.49	2.93	0.26
• There are flexible furnishings.	2.30	0.47	2.60	0.50	2.93	0.26
• Colors are bright.	2.30	0.47	2.50	0.51	2.87	0.35
• Natural sunlight is a key feature.	2.10	0.31	2.35	0.49	2.93	0.26
• There is integration of Technology.	2.30	0.47	2.50	0.51	3.07	0.26
• Smart Boards provide an easy exchange of information	2.30	0.47	2.55	0.51	2.87	0.35
• Desk groupings allow for social learning.	2.80	0.41	2.85	0.37	3.07	0.26
• There is Flexible Seating.	2.70	0.47	3.00	0.56	3.33	0.49
• Storage cabinets allow for free space to move around.	2.70	0.47	2.90	0.55	3.27	0.46
• Makerspaces encourage active Project Based Learning.	2.40	0.50	2.60	0.68	3.13	0.35
• The teacher promotes the students to learn from hands-on projects.	2.10	0.31	2.30	0.47	2.87	0.35
• The 3 Rs and the 4 Cs are combined.	2.30	0.47	2.50	0.51	2.80	0.41
• There is team work and team management.	2.30	0.47	2.50	0.51	3.07	0.46
• There is professional Learning and Development.	2.10	0.31	2.25	0.44	3.00	0.38
• Inspiration and creativity are fostered.	2.10	0.31	2.30	0.47	2.93	0.46
• Digital citizenship is made a priority.	2.70	0.47	3.00	0.56	3.20	0.41
• Positive Learning Environments are created.	2.70	0.47	2.95	0.51	3.07	0.26

The expected alternatives for the research participants to implement	Before Cycle 1		After Cycle 1		After Cycle 2	
	x̄	S.D.	x̄	S.D.	x̄	S.D.
• There is Project-Based Learning.	2.90	0.31	2.95	0.22	3.07	0.26
• Process, not content, is focused upon.	2.80	0.41	2.80	0.41	3.13	0.35
• The Teacher acts as a Coach.	2.30	0.47	2.50	0.51	2.93	0.26
• Students are understood.	2.10	0.55	2.40	0.50	2.87	0.35
• Differentiation is understood.	2.10	0.45	2.35	0.49	3.07	0.26
• Students understand and follow the rules and procedures.	2.20	0.41	2.35	0.49	2.93	0.26
• There are flexible lessons.	2.60	0.50	2.80	0.41	3.13	0.35
• There is a diversified Curriculum.	2.65	0.67	2.85	0.37	2.93	0.26
• There is an awareness of the world around them.	2.70	0.47	2.70	0.47	3.07	0.26
• There are Inquiry-based lessons.	2.40	0.50	2.40	0.50	2.93	0.26
• There is the seamless use of technology.	2.20	0.41	2.40	0.50	2.80	0.41
• There are mini-lessons are taught before using devices.	2.15	0.37	2.35	0.49	2.93	0.26
• There are performance-based assessments.	2.30	0.47	2.55	0.51	2.80	0.41
• Students are continuous learners.	2.30	0.47	2.50	0.51	2.80	0.41
• Students look ahead.	2.10	0.31	2.35	0.49	2.87	0.35
• Students are willing to change.	2.70	0.47	2.70	0.47	3.27	0.46
• There is a shift from Standards to Habits.	2.70	0.47	2.70	0.47	3.13	0.35
• Laptops are allowed for independent research.	2.30	0.47	2.50	0.51	2.87	0.35
• There is Hands-on Learning.	2.60	0.50	2.90	0.45	2.93	0.26
• There is The Power of Talk	2.60	0.50	3.00	0.46	2.87	0.35
• There is Student Engagement.	2.10	0.31	2.35	0.49	3.13	0.35
• Their creativity of technology is shown.	2.40	0.50	2.60	0.50	2.93	0.26
• There is Collaborative learning	2.40	0.50	2.45	0.51	3.20	0.41
• There is Re-thinking Reading	2.30	0.47	2.50	0.51	2.87	0.35
• There is Self-directed learning & play	2.60	0.50	2.80	0.41	3.13	0.35
Totals	2.39	0.12	2.58	0.06	3.05	0.06

- Expectations for more advanced 21st-century classrooms, which were based on the results of three evaluation phases, indicated a significant improvement. The mean values showed a steady increase from 2.33 prior to the implementation of Cycle 1, to 2.63 after Cycle 1, and then to 3.01 after Cycle 2. The standard deviations for each of these evaluations had been relatively low, at 0.14, 0.11, and 0.18, respectively. This analysis was based on the overall data and on specific items, as presented in Table 2.

Table 2. Compares the Results of Evaluations of the 21st-century Classrooms over Three Periods: before the Implementation of Cycle 1, after the Implementation of Cycle 1, and after the Implementation of Cycle 2

The conditions reflecting the expectations for the development of the 21st-century classrooms	Before Cycle 1		After Cycle 1		After Cycle 2	
	x̄	S.D.	x̄	S.D.	x̄	S.D.
A Flexible Classroom Environment	**2.40**	**0.17**	**2.65**	**0.10**	**3.18**	**0.09**
• The classroom has a clean and livable environment.	2.40	0.64	2.78	0.58	3.14	0.40
• The classroom has space for collaborative work.	2.28	0.45	2.66	0.48	3.28	0.50
• The classroom has appropriately bright lighting and colors that promote learning.	2.36	0.56	2.68	0.47	3.14	0.40
• The physical environment of the classroom promotes creativity.	2.44	0.73	2.50	0.74	3.16	0.37
• The classroom has grouped tables that facilitate social learning.	2.58	0.76	2.84	0.51	3.16	0.37
• The classroom has storage space to allow for movement and space.	2.14	0.76	2.38	0.57	3.24	0.62
• The classroom has areas that promote learning in accordance with projects.	2.84	0.42	2.86	0.40	3.22	0.55
• The classroom has movable tables and chairs that encourage students to design their own workspace.	2.12	0.33	2.46	0.50	3.12	0.44

The conditions reflecting the expectations for the development of the 21st-century classrooms	Before Cycle 1		After Cycle 1		After Cycle 2	
	x̄	S.D.	x̄	S.D.	x̄	S.D.
Technological Integration in Classroom	**2.21**	**0.14**	**2.76**	**0.13**	**2.98**	**0.08**
• The classroom is equipped with a variety of technological tools for learning purposes.	2.18	0.56	2.50	0.51	3.00	0.61
• The classroom has technology equipment for delivering efficient work presentations.	2.20	0.57	2.72	0.45	2.88	0.59
• The classroom has LCD screens, televisions, or projectors for delivering work presentations.	2.24	0.56	2.90	0.30	2.98	0.71
• The classroom has sets of audio equipment for students to present their work.	2.12	0.33	2.86	0.35	2.94	0.62
• The classroom provides public access to computers or laptops.	2.28	0.76	2.62	0.53	2.92	0.60
• The classroom provides wireless internet access.	2.26	0.44	2.96	0.20	3.16	0.47
The use of technology by teachers	**2.42**	**0.12**	**2.58**	**0.10**	**2.89**	**0.09**
• The teachers use technology in a professional manner.	2.30	0.46	2.32	0.47	2.92	0.53
• Online learning activities are organized.	2.30	0.46	2.50	0.51	3.04	0.35
• Students are encouraged to demonstrate their creativity through various technology-enabled presentations.	2.32	0.59	2.48	0.54	2.72	0.61
• Effective transmission of knowledge to students is facilitated through the use of technology.	2.36	0.53	2.58	0.54	2.90	0.51
• Media, information, and communication technology are employed in the learning process.	2.54	0.73	2.68	0.65	2.90	0.51
• Teachers use technology to inspire their students to appreciate the value of learning.	2.58	0.78	2.66	0.77	2.80	0.57
• Different technology-based approaches are recommended for knowledge discovery.	2.36	0.56	2.54	0.54	3.06	0.31
• Students are encouraged to engage in independent research by using their laptops or mobile devices.	2.34	0.52	2.52	0.54	2.88	0.52
• Assignments are given to students through classroom apps, such as Google Classroom or Class Craft.	2.80	0.40	2.98	0.43	2.84	0.55
• Assessment of skills and the recording of learning outcomes are conducted using technology.	2.30	0.46	2.50	0.51	2.86	0.53
Using the Classroom to Develop Students' Active Learning Skills	**2.31**	**0.14**	**2.55**	**0.09**	**2.97**	**0.07**
• Providing opportunities for students to seek knowledge from sources that interest them.	2.30	0.68	2.58	0.54	3.00	0.61
• Encouraging students to experiment and engage in hands-on activities and promoting teamwork skills through group activities.	2.34	0.48	2.66	0.48	3.12	0.39
• Providing guidance and support so that students can learn on their own.	2.40	0.83	2.58	0.76	2.96	0.57
• Stimulating students to ask questions and search for answers to their questions.	2.34	0.48	2.56	0.50	3.06	0.42
• Using simulations to test the students' problem-solving skills.	2.22	0.46	2.54	0.50	2.92	0.57
• Placing focus on teaching the learning process rather than on the content itself.	2.62	0.70	2.76	0.43	2.92	0.57
• Encouraging student participation in the teaching and learning process and fostering the creation of knowledge.	2.24	0.43	2.48	0.50	2.92	0.57
• Encouraging students to collaborate and share their creative ideas in the classroom.	2.04	0.70	2.36	0.48	2.92	0.57
• Providing opportunities for students to analyze, exchange opinions, or solve problems in groups.	2.32	0.51	2.42	0.50	2.92	0.57
• Providing opportunities for students to seek knowledge from sources that interest them.	2.26	0.53	2.56	0.50	2.92	0.57
Totals	2.33	0.14	2.63	0.11	3.01	0.18

3.2 Unexpected Changes

The results of this research have also caused some unexpected changes for the better: 1) During the joint operation The research participants expressed their opinions, eager to learn, viewed as a challenge, and would like to work with more fullness. 2) Fundraising from community, leaders, educational sponsors, and parents through the “Charity for

Education Project" have received cooperation beyond expectations. 3) Create an atmosphere of good interaction, building a shared vision, as well as learning together and applying what they have learned creatively together. 4) Create opportunities for students to work together, analyze, exchange ideas. Have used the initiative to create works which directly affects the learning of students.

3.3 Learning from Practice

The research team learned how to effectively manage their time despite having multiple responsibilities. The use of electronic media for document preparation was able to improve their professional presentation skills. In order to allow the research to proceed, they also prepared themselves to adapt to changes and to address any unforeseen events. Furthermore, they respected and listened to the ideas of others, utilized language skills for effective communication with fellow researchers, and monitored the results of their work.

The research participants learned the following: (1) how to create conducive environments for discussions, (2) how to coordinate with others to build good relationships, and (3) how to effectively express themselves in conversations in order to maximize their potential. They became open to new ideas and developed creative thinking skills. Success in research requires teamwork, with each member contributing equally.

At Sarakulnawitaya School, the exchange of knowledge and participation had resulted in a better quality of work than if individuals had worked independently. Working in teams had helped to foster harmony and create strong bonds. Building networks with communities or other relevant organizations can help to establish sustainable relationships, while openness and trust can lead to greater success.

3.4 Knowledge Gained from the Practice

The theoretical foundation for this research was based on the practice of Force-Field Analysis, a framework, which was developed by Kurt Lewin. In this study, the framework was used to demonstrate a model of the causal relationships between driving forces, resistance to change, the methods employed to overcome the resistance to change, and the outcomes of the developmental process. The knowledge, which was generated in this research, is context-specific to the case of Sarakulnawitaya School. While there are limitations to its generalizability and citation, the issues and significant events presented in this study can serve as recommendations for similar or other situations related to the orientation of making changes according to Coghlan and Brannick (2007) and James et al. (2008).

The aforementioned causal relationship model consisted of the following components. The primary driving force in Cycle **1** was composed of: (1) a diverse range of 50 alternative proposals, mostly based on academic research by the researchers, while some were derived from the brainstorming sessions of the research participants; (2) the application of and adherence to 5 collaborative working principles (i.e., setting clear goals and providing feedback, effective and efficient communication, the exchange of ideas, providing choices to improve productivity, and a flexible workspace that boosts agility; (3) the use of strategies to enhance efficient teamwork, consisted of simplifying complex processes, planning for continuity, using the appropriate tools and equipment, rewarding performance-based achievements, and reshaping teamwork; and (4) the implementation of processes to guide the collaborative work, which was comprised of Deep Understanding, Putting into Practice, Practice Review, Workshops, and a Performance Summary.

The driving force in Cycle **2** was comprised of: (1) promoting networking by inviting communities, local agencies, or organizations to become involved, (2) placing emphasis on the use of technology in teaching by teachers and providing more activities for learners, (3) promoting the monitoring and evaluation of work performance, (4) fostering and supporting a collaborative work environment, and (5) integrating fundamental ethical principles in research operations by placing emphasis on a persistent and continuous approach.

The resistance to change consisted of the following: (1) Researchers, including teachers, community leaders, and government officials, have a limited understanding of the deep content of participatory action research, (2) some researchers are hesitant to express their opinions when brainstorming potential solutions, (3) the physical development to create a 21st-century classroom was limited due to budgetary constraints, (4) most teachers lacked expertise in using technology, (5) the teachers were not accustomed to organizing activities that involved student participation in teaching and learning, and 6) the differences in skill levels among the students.

The Driving Forces Utilized

The driving forces utilized in Cycle 1 were as follows: 1) a diverse range of 50 proposed alternative options for development, some of which were based on the experiences of the collaborating researchers (as shown in Table 1); 2) the establishment of efficient principles for the collaborative work; 3) the development of strategies aimed at promoting efficient collaborative work; and 4) the establishment of pre-implementation processes that were mutually understood and agreed upon. The driving force used to reinforce the second cycle involved the following five strategies: 1) promoting network creation by inviting community, local, or relevant organizational involvement; 2) placing emphasis on the importance of utilizing technology in teacher instruction and in activity organization to better serve learners; 3) fostering follow-up and performance evaluation of work practices; 4) promoting and supporting collaborative work environments; and 5) integrating fundamental ethical principles into research operations with a focus on perseverance and continuity.

The Resistance to Change & How to Overcome Resistance to Change

Resistance to change: Firstly, the research participants, comprising teachers, community leaders, and parents, demonstrated a limited grasp of the participatory action research content. Secondly, some participants show reluctance to express their views during brainstorming sessions. Thirdly, the physical transformation required to establish a modern classroom environment in line with 21st-century standards still remains incomplete due to budgetary limitations. Fourthly, the majority of the teachers lacked the proficiency to truly utilize technology. Fifthly, teachers have yet to become accustomed to organizing activities that involve active student participation in the learning process. Finally, the students' skills and abilities varied significantly. To overcome resistance to change, the following actions were taken: 1. Additional academic content was included in the research materials, along with illustrative examples to facilitate understanding. 2. Brainstorming sessions were conducted with the research team to draw on their experiences and encourage diverse opinions. This resulted in more varied perspectives being shared among the team members. 3. The researchers and research participants collaborated to raise funds for developing a 21st-century classroom and provided teachers with the necessary tools to maximize benefits. 4 In their spare time, the researchers taught technological skills to the research participants, who lacked expertise to increase their proficiency. 5. Examples of the successful implementation of the developmental guidelines were presented as a model for the research participants to follow. 6. The research participants were encouraged to conduct individualized analyses of the learners and to design the appropriate learning approaches to encourage student engagement. As a result, students were rewarded and recognized when they performed well.

The Changes that had Occurred

The expected changes were observed in addition to the physical arrangement of the classroom. The research participants implemented a diverse range of 50 options in the classroom across three phases, namely, before the implementation of Cycle 1, after the implementation of Cycle 1, and after the implementation of Cycle 2. The mean values increased progressively from 2.39 to 2.58 and then to 3.05. The classroom also exhibited characteristics that reflected a 21st-century learning environment, with mean values increasing progressively from 2.33 before the implementation of Cycle 1 to 2.63, and 3.01 after the implementation of Cycles 1 and 2, respectively. **The study underwent unforeseen changes**, which included the following: Firstly, over fifty percent of the research participants exhibited an interest in participating in the research project. Secondly, the research participants communicated their eagerness to learn during each activity that was organized. Thirdly, the amount of funding received from teachers, administrators, community leaders, school supporters, and parents surpassed expectations, although not in a significant manner. Fourthly, teachers, administrators, community leaders, school supporters, and parents collaborated together in guiding the decision-making processes. Finally, students acquired the skills to utilize technology, engage in collaborative work, analyze data, share ideas, and create original work, which led to more successful learning outcomes.

Figure 1. The Prototype Model of the Project Entitled 'Mobilize Cooperation to Develop 21st- century Classrooms at Sarakulnawitaya School

The following actions were taken in order to overcome these obstacles: (1) to simplify the content, additional academic materials were developed, including practical examples of research; (2) brainstorming sessions were conducted to encourage researchers to express their opinions, with practical examples to inspire them to think more creatively; (3) researchers and research participants collaborated to raise funds to develop a 21st-century classroom, and teachers were encouraged to make the best use of the available resources; (4) researchers had taught the non-expert researchers how to use technology in their free time in order to enhance their expertise; (5) the researchers presented the work of the research participants, who had successfully implemented the developmental guidelines as examples; and 6) the researchers prompted the research participants to conduct individual-level analyses of the students to address differences in skill levels and advocated for the adoption of lesson plans that could facilitate the enhancement of the students' self-esteem, as well as recommended the implementation of a system of rewards to acknowledge the students' outstanding performance.

In this study, unforeseen changes were observed alongside expected changes. These changes involved alterations to the physical layout of the classroom, as well as the introduction of various options recommended by the researchers. These options were implemented during three phases: before the first cycle, after the first cycle, and after the second cycle. The results showed a consistent upward trend in average scores, with scores of 2.39, 2.58, and 3.05, respectively, which indicated that the classroom was now in alignment with modern learning environments. Additionally, there was a significant increase in the average scores ranging from 2.33 prior to the implementation of Cycle 1 to 2.63 after the implementation of Cycle 1, and a significant increase to 3.01 after the implementation of Cycle 2. Unexpected changes also emerged. More than half of the research participants expressed a desire to participate, the research participants were willing to engage in activities, the expectations in funds raised by teachers, administrators, community leaders, and parents were exceeded, and there was cooperation among these groups in guiding the implementation of alternative proposals. In addition, the students learned how to use technology, work collaboratively, analyze, exchange ideas, and innovate, which led to more effective learning outcomes.

The knowledge gained from the aforementioned practice is referred to as the "Practical Model for Developing 21st Century Classrooms in Sarakulnawitaya School", as shown in Figure 1.

4. Discussion, Conclusion, and Suggestions

The aim of this study was to implement the project "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School ", which is one of the research projects that is related to education in the 21st Century, using the Participatory Action Research (PAR) methodology consisting of Planning, Acting, Observing, and Reflecting (PAOR) for two cycles. Each Cycle lasted one semester during the Academic Year of 2022.

The expected outcome was to promote changes, learning, and the knowledge gained from practice. The research participants consisted of seven teachers and administrators, two community leaders, three parents of students, and three school supporters. A total of 50 students received benefit from the development.

The results from the comparative practice of three periods (before the first cycle, after the first cycle, and after the second cycle) showed the following: (1) there had been improvements in the implementation of the work and in the quality of classrooms aligned with the ideas of the 21st Century; 2) the research team, the research participants, and the school gained various learning experiences, especially in: (a) building networks with communities and related organizations, (b) creating sustainable relationships, and (c) achieving successful work outcomes; and 3) knowledge gained from practice demonstrated the causal relationship between the driving force used to promote change, the resistance to change, the methods used to overcome the resistance to change, and the resulting outcomes, which is the prototype model called "Mobilize Cooperation to Develop to Be the Classroom of the 21st Century in Sarakulnawitaya School."

The results of such research demonstrates the effectiveness of this research from the use of principles, concepts and procedures of the PAR methodology used in this research as detailed in the section “Research Methodology”.#There was one important issue that the research team specifically addressed as follows:

Sarakulnawitaya School is one of 408 schools of Buddhist ethics (Phrapariyattidham School) across the country. The school's objective is to provide education to both monks and novices in both religious studies and general education, and to cultivate good successors by passing on a genuine understanding of the principles of Buddhism to those, who are able to maintain and perpetuate the religion for future generations. The school offers education at the lower secondary and upper secondary levels in accordance with the basic curriculum of the Ministry of Education, in

conjunction with the teachings based on the curriculum for monks and novices, and in accordance with the policies of the Sangha Supreme Council (SSC).

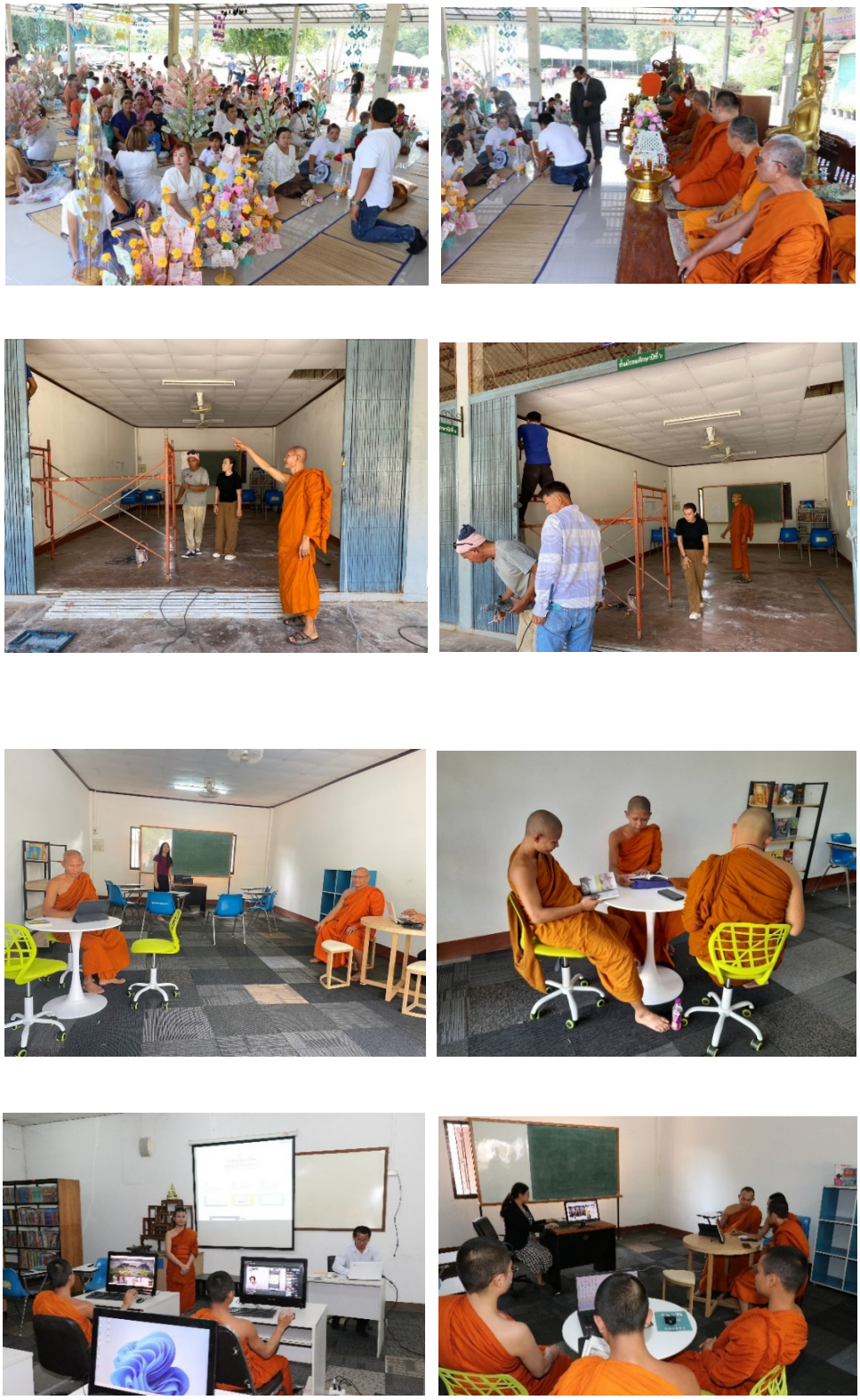

Figure 2. The Photos Show the "Charity for Education Project," Which Aims at Raising Funds for the Development of Classrooms and the Utilization of Resources within Those Classrooms

Sarakulnawitaya School resembles the Phrapariyatidham School in terms of General Education. In other words, as compared to other layman schools, it provides educational support for underprivileged children or for those lacking financial resources. Although the school has its strengths, such as the ability to mentally polish students, to provide vocational training, and to impart knowledge to the best of its abilities, as well as the fact that many students have succeeded in both moral and worldly paths, there are still weaknesses. For example, there is a lack of adequate learning equipment as well as digital teaching technologies, that are not yet up to par with the digital age. This weakness is a crucial reason for implementing the "21st -century classroom development project" in the school, which aims at improving both the physical and educational aspects of the classroom, as detailed in the research summary above.

In the effort to mobilize cooperation to develop 21st-century classrooms, there are issues that the research team wishes to discuss as lessons learned for future development opportunities, particularly for schools like the Phrapariyatidham School and other similar departments of General Education. They can use the approaches taken by this school as a model for their own development, specifically in terms of mobilizing the necessary resources to fund classroom development. The “Wat Boon Ban Pradit” Temple, which is a charitable temple supporting this school, hosted the “Charity for Education Project” to raise funds for the construction of 21st- century classrooms. Although it is not fully completed, it is still satisfactory to some extent, as depicted in Figure 2.

In short, the fundraising of the " Charity for Education Project " is a method that is used to raise resources (funds) from the stakeholders associated with the educational institution so that funds can be raised for developmental projects in the school (beyond the normal support received from the governmental sector), such as building fences, toilets, libraries, dining halls, and classrooms, as well as purchasing computers and teaching equipment, etc. This type of money is considered as school income, and receipts are issued to the individuals/organizations/associations, who make donations. However, receipts are not given for some of the money and some money may be or may not be recorded in the school's income account, which is kept outside the system as a reserve for some educational purposes and which is subject to approval from the school committee (Anantasuk, 2017). Therefore, the fundraising for the " Charity for Education Project " in this study represents a way of making use of the existing cooperation among "the community, the temple, and the school," which offers benefits to school development with transparency and democracy and which represents an approach that is not only commonly used in Buddhist schools like the Phrapariyattidham School, but it is also used in secular schools under the office of the Basic Education Commission.

The majority of Thai people respect Buddhism and believe in the practice of making merit. They have faith, trust, and confidence in any activity that is hosted by temples or monks. This is especially true for activities that have an impact on the educational development of schools, which lack resources and have students from disadvantaged families or have students with limited educational opportunities, including those, who wish to become monks. Therefore, there is the “Charity for Education Project" at "Wat Boon Ban Pradit," which is a temple and a school that provides charitable education and receives sufficient donations to make full use of the project. The donors trust that the money received by the temple will be used for the benefit of the school.

However, based on the experience of developing classrooms in the 21st century at this school, it is suggested that any developmental plan should clearly define its direction with the aim of avoiding being stuck in the outdated educational processes of the 20th century. Instead, the new educational processes of the 21st century should be incorporated. This applies to any issue that may need to be developed, such as the learning environment, teacher skills, student skills, management skills, learning methods, curriculum, special programs or activities, teaching techniques, and assessment methods, since these various dimensions undergo significant changes in the developmental process. If one is still stuck in the old processes, it will waste money, time, and resources, which will not be worthwhile. Currently, there are many authors, who are writing about the new educational paradigm of the 21st century, which is being widely disseminated through the Internet. For example, Delaney (2019), Chief of Education at UNICEF Thailand, discussed "Education for the 21st Century: Placing skills development at the heart of education." Driscoll (n.d.), the Founder and Visionary at Think Strategic & Think Leadership, explored the topic of "Education in the 21st century". Additionally, Hallerman, Lewis, and Dresbach (2019) examined the topic of: "What is a 21st- century education?".

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