



Innovative leadership of secondary school administrators: A case study of pilot schools of education sandbox

Ekkarin Sungtong, Anupap Thupaang*, Attapon Ponlawat

Prince of Songkla University, Thailand

*Corresponding Author: athupaang@gmail.com

ABSTRACT

The objectives of this research were to (1) study the innovative leadership of secondary school administrators and (2) examine the challenges in developing innovations within the pilot schools of the education sandbox in Krabi, Thailand. The key informants included six school administrators and six teachers responsible for innovation tasks, totalling 12 participants selected through purposive sampling. A semi-structured interview protocol was used, and data were analyzed using thematic network analysis, with trustworthiness established through rapport building with participants. The findings indicate that the innovative leadership of secondary school administrators in Krabi encompasses four main aspects: (1) Vision for change, which entails establishing a clear direction for innovation; (2) Innovative organization atmosphere, which centers on creating a supportive environment for innovation; (3) Utilizing information and communication technology, which underscores the use of modern tools to enhance communication; and (4) Fostering collaboration, which involves promoting teamwork and partnerships. The challenges in developing innovations include issues related to (1) personnel, such as communication problems, misunderstandings among staff, and frequent turnover; (2) students, including economic status, incomplete family situations, and academic achievement; (3) budget, with insufficient funds; and (4) community, involving community values and support.

Keywords: innovative leadership, education sandbox, challenges in innovative development

Article history

Received:
1 September 2024

Revised:
19 February 2025

Accepted:
19 March 2025

Published:
22 June 2025

Citation (APA Style): Sungtong, E., Thupaang, A., & Ponlawat, A. (2025). Innovative leadership of secondary school administrators: A case study of pilot schools of education sandbox. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, 44(2), pp. 346-357. DOI: <https://doi.org/10.21831/cp.v44i2.78814>

INTRODUCTION

Nowadays, advancements in technology and innovation have led to substantial transformations across different sectors, impacting both the economy and society (Nakkubua et al., 2022; Wolf, 2021). Therefore, several countries, including Thailand, must develop high-quality human resources with the knowledge, skills, and abilities to respond to these changes effectively. Particularly, education is essential for human resource development, as it helps to build and enhance skills suitable for each age group (Office of the Education Council, 2017). The National Education Plan 2017-2036 emphasizes creating a high-quality and efficient education system to support the transition to the innovation era. It aims to promote creativity, innovation, and analytical thinking skills to enhance the capabilities of Thai people and create a society of learning and innovation as well. This approach aligns with the trend of encouraging organizations to become innovative driven. The innovative leadership of administrators is crucial in driving organizations forward (Alammar, 2015; Sutiayatno et al., 2022). School administrators play a key role in setting policies, strategies, and innovations, using their innovative leadership to guide educational institutions towards innovation-driven organizations.

Generally, innovative leadership relates to the ability to drive significant impact by enhancing the system's innovation capacity and overall effectiveness, leveraging expertise to

foster innovation across various challenges (Banerjee et al., 2016). Moreover, innovative leadership is also a holistic approach that combines visionary thinking with practical application, fostering a culture of continuous improvement and inclusivity where every team member is encouraged to contribute ideas and take risks, ultimately driving sustained organizational growth and success (Campbell, 2024). Meanwhile, innovative leadership of school administrators refers to behaviors that demonstrate the introduction of new ideas and methods in educational management to improve quality and efficiency and involve motivating teachers and educational personnel to participate in the innovation process and utilize new knowledge and skills for the benefit of educational management (Nanthasri et al., 2020; Pothong et al., 2022). School administrators with innovative leadership that corresponds to the current world can successfully manage schools amidst rapidly changing situations (Bangkheaw & Karnjanapun, 2023; Khanthap, 2022; Mincu, 2022). It is especially crucial at the secondary education level, where the content is more in-depth than the primary level, necessitating engaging learning innovations to attract students' interest. The components of innovative leadership may include five aspects: (1) vision for change, (2) creative thinking, (3) collaboration building, (4) use of information and communication technology, and (5) creating an innovative organizational atmosphere (Lumlertwattana & Chatrupachewin, 2023; Yimraksa, 2022).

Due to the increasing importance of innovation, the Thai government launched a new policy, called the education sandbox. The sandbox refers to the educational innovation areas and originates from the Education Sandbox Act of 2019. The establishment of the Act is based on two main concepts: (1) supporting the creation of innovations to solve problems and improve efficiency through trial and error by practitioners in various areas, and (2) creating an environment that facilitates experimentation for innovation (Office of the Council of State, 2019). The education sandbox serves as a pilot area for educational operations to foster change and operates with flexibility in certain regulations and criteria to enhance agility and support the development of educational innovations, and specific boundaries are set for testing educational innovations (Pasuro et al., 2021). In 2022, 19 provinces across all regions of the country have been designated as education sandbox areas (Prime Minister's Office Announcement on the Designation of Innovation Areas, 2022, 20 December).

The Krabi province is one of the provinces established as an education sandbox area in 2023 according to the announcement of the Ministry of Education. This initiative aims to create a new model of educational management at the local level, fostering the development and innovation of education and learning to enhance academic achievement. This effort is intended to reduce educational inequality, decentralize power, and grant autonomy to educational institutions, thereby increasing management flexibility and improving education quality. The Steering Committee for the Krabi Education Sandbox has announced the pilot schools for the first phase of the fiscal year 2023. There are 27 schools, divided into 21 primary and 6 secondary schools, which are under the responsibilities of the Ministry of Education, local administrative organizations and the private sector.

Despite efforts to push the policy of Education Sandbox to create educational change, there are still several problems and obstacles in implementing the policy. For instance, educators and administrators often resist new methods and technologies due to comfort with traditional practices or fear of the unknown (Serdyukov, 2017). These, moreover, include the understanding of the policy by school administrators and teachers, the competence and readiness of school personnel, the increased workload of teachers, and the integration with the educational quality assurance system (Inbua & Suksom, 2022). Thus, school administrators, who are key leaders in driving this policy, need to have appropriate innovative leadership to establish visions, create an atmosphere and culture conducive to innovation, and face various challenges in developing innovations. To ensure leadership effectiveness, it is essential to have an innovative leadership skill set as the foundation. It is suggested that this skill set, which is more specific than typical leadership characteristics, is crucial for all educational administrators nowadays (Marron & Cunniff, 2014). The Education Sandbox Act of 2019 is set to remain in effect for a period of six years. During this time, feedback and relevant research studies on its implementation will be collected to determine whether the Act should be extended or discontinued. Although some studies have

examined the implementation of the Act (Limsuwannarot et al., 2024; Wannapiro, & Palachai, 2023), there is limited published data specifically addressing the innovative leadership of school administrators within sandbox schools.

For these reasons, the main objectives of this study were to (1) study the innovative leadership of secondary school administrators and (2) examine the challenges in developing innovations within the pilot schools of the Krabi education sandbox in Thailand. The findings could benefit the development of educational innovation and the professional growth of school administrators, as well as inform policy decisions effectively.

METHOD

A qualitative methodology is employed in this study and a case study approach is adopted. Due to, it seeks in-depth empirical knowledge and truth about phenomena or social units such as individuals, groups, institutions, or communities, and concentrates on a specific phenomenon, individual, or multiple events occurring within a specific area at a particular time (Cheawjindakarn, 2018; Podhisita, 2009).

The key participants for this study are six school administrators and six teachers responsible for the education sandbox in these pilot schools, 12 participants in total. This research project was approved by the Human Research Ethics Committee of Prince of Songkla University, approval number PSU.PN.2-038/67.

The purposive sampling was operated to select key participants with expertise and experience relevant to the research objectives, ensuring high-quality information (Bryman, 2008; Worakam, 2012). In case study research, there are no fixed numbers of key participants. The researcher can determine the number based on the depth and scope of the study. Yin (2014) states that the number of key participants in a case study can be adjusted according to the diversity of information and the scope of the study. Researchers should prioritize the depth and completeness of information over a particular number, which can range from 4-6 individuals, with some literature recommending 12-15 key participants (Denzin & Lincoln, 2005; Guest et al., 2006).

The research apparatuses include a semi-structured interview protocol, which is an open-ended interview format that emphasizes in-depth interviews with key participants. It consists of two parts: (1) preliminary information about the key participants and (2) information about the innovative leadership of administrators in pilot schools within the Krabi education sandbox. The researchers are also considered the key participants in this process. According to Podhisita (2009) and Pezalla et al. (2012), the researcher plays a crucial role in the research process as they directly interact with events or situations during data collection, data analysis, and the explanation or conclusion of the research.

The interviews took approximately 1.5-2 hours, which is considered an appropriate duration for qualitative research interviews (Seidman, 1998). The researcher chose to conduct face-to-face interviews with key participants at their educational institutions. In terms of the trustworthiness of the research, credibility, dependability, confirmability, and transferability are used to evaluate the research. Bryman (2008), for example, explains that credibility ensures the truth of the findings through techniques like triangulation and prolonged engagement; dependability involves the stability of data over time, maintained through detailed documentation; confirmability ensures findings are shaped by respondents, not researcher bias, using reflexivity; and transferability assesses the applicability of findings to other contexts, enhanced by providing detailed descriptions of the research setting and participants.

The study uses thematic network analysis to analyze the data, a technique that examines the connections between themes emerging from the qualitative data collected. This can be presented as a network (Attride-Stirling, 2001). Furthermore, the MAXQDA program was used to assist in data analysis.

FINDINGS AND DISCUSSION

Based on the literature reviews, data collection, and data analysis, the findings and discussion on the innovative leadership of school administrators and the challenges of innovation

development in pilot schools of the Krabi education sandbox can be presented according to the following research objectives.

Findings

Research objective 1: Innovative leadership of secondary school administrators in pilot schools within the Krabi education sandbox

The findings show that the innovative leadership of secondary school administrators consists of four aspects: (1) Vision for change, (2) Innovative organization's climate, (3) Utilizing information and communication technology (ICT), and (4) Fostering collaboration. The details of each aspect are as follows in Figure 1.

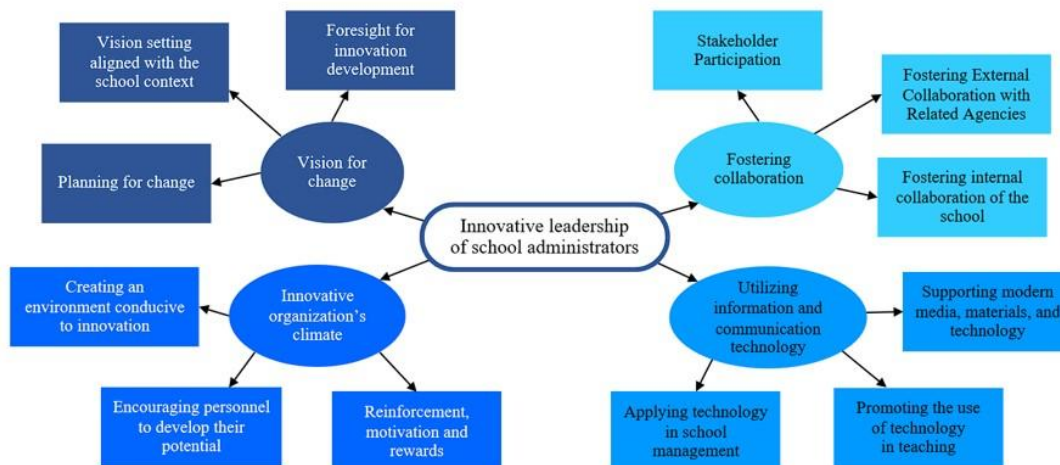


Figure 1. Components of Innovative Leadership for School Administrators

Vision for change

The vision for change of school administrators demonstrates the direction and development of schools that emphasize innovation as a basis for improving the quality of education. This study found that the vision for change of school administrators includes the following: First, foresight for innovation development. This involves promoting and encouraging teachers to invent and develop new learning management innovations. As Director 2 stated, “I have implemented policies and developed educational quality based on innovation, which is part of the strategic plan.” This corresponds to Director 3, who emphasized the importance of developing innovations in teachers’ learning management that impact students, stating, “In the future, teaching will also focus on innovation. Any subject that can delve into innovation... will be emphasized. The teaching style will be adjusted to focus on innovation.”

Second, vision setting aligned with the school context. For the vision setting, school administrators have studied the context and needs of the community to adjust the curriculum and educational management to align with the diverse social and cultural contexts. As Director 1 mentioned, “Ultimately, the school will be a leader in preserving culture, whether in performance or language... it will be called multiculturalism... the ultimate goal is to be a center for multiculturalism in language and cultural performance.”

Third, planning for change. School administrators also emphasize preparing for future changes by integrating technology into daily life. They have planned to develop infrastructure and use technological innovations in school management. As Director 3 stated, “Finally, we will use technology innovations in overall management. In the future, the school will have a card scanning system for entry and exit, creating a cashless society with electronic cards.”

Innovative organization's climate

An innovative organization's climate is a crucial factor contributing to the success of educational institutions, especially in the current era where innovation is key to driving organizations forward. The study found that school administrators have processes to create an

innovative organization's climate in their schools as follows: First, creating an environment conducive to innovation. Establishing clear guidelines for developing the organization towards becoming an innovative organization, school administrators play a significant role in creating an environment conducive to innovation by providing a good physical environment and modern facilities. As Teacher 3 mentioned the school administrator supported educational media and up-to-date materials and equipment, "There are improvements, like installing air conditioners... gradually improving things, or providing color printers. The principal pays attention and gives full support." This conforms to Teacher 6, who stated, "The Director additionally supports us for improvement like if we need a TV, they provide it or lend it to us." Besides the physical environment, school administrators also emphasize creating an atmosphere conducive to knowledge exchange among teachers. As Director 2 said, "We promote learning innovations for everyone to be aware of and participate in driving in the same direction. We also promote an environment and atmosphere leading to teachers' knowledge exchange."

Second, encouraging personnel to develop their potential. School administrators encourage teachers and staff to develop their potential in both academic and technological aspects. As Director 2 stated, "We support teachers in self-development, both academically and in using modern technology." Furthermore, school administrators give freedom for creative self-development through a non-interventionist management approach. As Director 4 mentioned, "We primarily use a non-interventionist management approach... teachers are like managers, managing their classrooms... they can choose, invent, and develop themselves as needed."

Third, reinforcement, motivation and rewards. Reinforcing and motivating personnel to seek knowledge to develop innovations and produce quality work for the institution is another crucial aspect of creating an innovative organization's climate. School administrators use principles of motivation, compliments, and rewards to inspire and encourage personnel. As Director 3 explained, "We use principles of persuasion and motivation to generate positive energy... then let them do their work, and we provide reinforcement." Similarly, Director 4 applying the same principles in school management stated, "In terms of school management in this school, we primarily use praise to empower teachers." Director 6 also confirmed the importance of reinforcement and giving rewards as encouragement on various occasions, stating, "Regarding encouragement, during our monthly meetings, we give small gifts for teachers' birthdays."

Utilizing Information and Communication Technology (ICT)

Emphasizing the use of modern ICT in school management and teaching is a crucial task for school administrators in the current era. This study highlights the innovative leadership of school administrators in using ICT in several aspects as follows: First, applying technology in school management. School administrators have applied technology in school management in both communication and several innovative management practices. As Director 1 stated, "We use technology for communication, driving, and managing with technology, which is an innovation we regularly use." Similarly, Director 4 has applied technology in school management to simplify and reduce the workload of staff, stating, "In our work, we must use modern tools and technology to reduce the workload and make management more worthwhile."

Second, promoting the use of technology in teaching. School administrators have encouraged teachers to apply technology in the teaching process. Director 2 confirmed this by saying, "There is encouragement for using technology in teaching." Also, Director 5 added the issue of technological innovations and computer networks supporting learning management, stating, "In the teaching process, we must use innovations to help, whether technological innovations or computer networks, to assist in teaching."

Third, supporting modern media, materials, and technology. School administrators have prioritized and provided modern media, materials, and technology to aid teachers in making teaching more interesting and up-to-date, thereby stimulating students' interest in lessons. As Director 2 mentioned, "Televisions in every classroom help students and teachers manage teaching more easily." Similarly, Director 6 emphasized this point, stating, "We bought some

projectors for teachers at first, then steadily increased them, and now almost every room has a projector, making teaching more interesting.”

Fostering collaboration

Fostering collaboration is another crucial aspect of innovative leadership for school administrators, leading to effective school development. This study indicates that school administrators have fostered collaboration in several areas as follows: First, fostering Internal Collaboration of the School: School administrators prioritize creating mutual understanding and awareness before operating by organizing briefing meetings to align the direction and goals among school staff. As Teacher 6 stated, “First, the Director ensures everyone is on the same page, then holds meetings to explain to teachers, allowing them to make joint decisions.” Similarly, Director 1 mentioned, “It’s a briefing meeting, and we proceed together... to move in the same direction.” Teacher 4 also confirmed this issue, stating, “It promotes awareness and participation to move in the same direction.” Additionally, school administrators encourage all staff to participate in operations to foster teamwork and achieve common goals. As Director 3 said about the teachers, “The highlight here is that teachers work as a team and are ready to change.”

Second, fostering external collaboration with related agencies. In terms of collaboration with external agencies, administrators prioritize mobilizing resources and cooperation from various organizations, including universities, private companies, and local government agencies. As Director 6 stated, “We have some projects where we go outside to learn, go to universities by making MOUs with them first.” Similarly, Teacher 1 mentioned external collaboration, “External agencies, such as the Thai Environment Institute... work together to drive innovation in our area.” Director 2 also discussed mobilizing resources from external agencies to develop the school, stating, “External agencies help in school management, including supportive network schools and mobilizing resources from parents... local administrative organizations, municipalities, administrative officials, village headmen, local health centers, police stations... both in terms of money and ensuring the safety of students.”

Third, stakeholder participation. School administrators have opened opportunities for all relevant parties, including school boards, parents, communities, and students, to participate in school activities and management, from vision setting to planning projects. As Director 2 stated, “For the vision, we do a SWOT analysis, inviting the community and students. During SWOT, everyone thinks together, and we consolidate it into a vision.” Teacher 3 similarly mentioned, “All stakeholders participate in setting the vision for school development, whether it’s teachers, community groups, parents, and the school board.” This also includes giving feedback on school regulations, where stakeholders reflect together. As Director 6 mentioned, “For example, school regulations... the school board, students, parents, teacher representatives, and community leaders come together to give feedback on school agreements.” Teacher 1 added, “In management, we involve network partners, including the community, community leaders, and parents, to reflect together.”

Research objective 2: Challenges in innovation development for secondary school administrators in pilot schools in the Krabi education sandbox

The findings revealed that the challenges in innovation development for secondary school administrators in pilot schools in the Krabi education sandbox consist of four aspects: (1) personnel, (2) students, (3) budget, and 4) community. The details of each aspect are as follows.

Personnel

The challenges in the personnel aspect for school administrators in innovation development are divided into two main points: First, communication and understanding discrepancies among personnel both inside and outside the organization. Creating understanding among school personnel is considered a significant challenge for school administrators, because sometimes personnel may disagree or not understand the reasons and importance of the implemented innovations. As Teacher 2 mentioned, “When we joined the education sandbox, there were people

who understood and agreed, and those who didn't... It's like having additional work... All teachers graduated aiming to teach children, not to do paperwork." Similarly, Teacher 3 stated, "It might be because the understanding wasn't fully conveyed. The intention of the policy had some impact... I've heard that when changes were made, there was pressure and impact."

Second frequent personnel rotation. The study also found that frequent personnel rotation is a significant problem for school administrators in developing innovations. Both administrators and teachers mentioned that frequent personnel rotation is a major challenge in organizational development. Director 1 highlighted this issue, stating, "Because our school is on an island... Most experienced personnel, like teachers, are not considered to transfer here... Most of those who come are newly appointed teachers who need to be trained... Once they are fully developed, they transfer out." Frequent personnel rotation, especially among newly appointed teachers, leads to a lack of continuity in work. As Teacher 1 mentioned, "Sometimes, those teachers responsible for particular projects stay for about 2-3 years and then transfer. The connection during that period might be disrupted, leading to a lack of coordination and continuity in work."

Students

Students are the core of education management, as they are a key factor in the learning process and innovation development. The study indicated that school administrators face three main challenges in the student aspect: First, economic status of students' families. Some students come from economically disadvantaged or poor families, requiring them to help their families by working or earning extra income, which sometimes affects their attendance and academic performance. As Director 1 mentioned, "Some students need extra income, such as the final year students. Sometimes they come to school late or not at all because they have to work." This economic hardship limits the school to collect extra fees for extracurricular activities. As Director 6 stated, "There are no additional activities because we can collect very little money from them. Some students can't afford to pay much."

Second, incomplete family status of students. The study found that almost half of the students have divorced parents. As Teacher 6 mentioned, "Most students here, nearly half, have divorced parents." Teacher 4 also stated, "Many families of students attending this school somewhat have problems, such as economic issues, divorced parents, or other issues."

Third, academic achievement. This may result from the two challenges mentioned above. School administrators and teachers consider academic performance a significant challenge in developing school innovations. As Teacher 6 mentioned, "From the teacher's perspective that the Director indicated, the students' achievements may still be low, which affects the development of the school. It's considered a challenge." Similarly, Teacher 2 explained, "The academic performance of students has fluctuated... If we compare it with the school's performance in previous years."

Budget

The budget challenge is crucial in successfully driving educational innovation for school administrators. According to this study, school administrators face challenges related to budget management. For instance, Director 4 directly identified, "One problem is the budget." Additionally, Teacher 3 emphasized the necessity of using funds for educational development, stating, "According to the sandbox policy, we need to allocate a significant amount of funds. It's all about the budget."

Community

Community is another important challenge that school administrators should pay enough attention to. Because the schools heavily rely on community cooperation and support. This study also revealed that school administrators encounter challenges related to community values. The school is in a community that is part of a multicultural society. For example, parents initially send their children to religious schools for their junior high school education before returning them to state schools for their senior high school later years. As Teacher 2 explained, "In this community, parents prioritize religious schools... students attend there for the first three years... then gradually

return to regular schools.” These community values affect the achievement of enrollment targets, as Director 2 pointed out: “Parents emphasize the religious school...resulting in the numbers of new students not meeting the goals.”

Discussion

Research objective 1: Innovative leadership of secondary school administrators in pilot schools within the Krabi education sandbox

From the findings, innovative leadership of school administrators consists of four dimensions: (1) vision for change, (2) innovative organization’s climate, (3) utilizing information and communications technology (ICT), and (4) fostering collaboration. These can be discussed as follows.

Vision for change

The research findings indicate that having a vision for change for school administrators comprises three key aspects: (1) foresight for innovation development, (2) vision setting aligned with the school context, and (3) planning for change. These dimensions correspond to the work of Yimraksa (2022), who emphasized that innovative leaders should have a modern vision and can also analyze educational trends and align their vision with the school context. Moreover, Şen and Eren (2012) highlighted that innovative leaders must have competitive advantage strategies by analyzing internal and external factors, assessing the innovation-friendly environment, and foreseeing future development in alignment with change.

Innovative organization’s climate

The study reveals that fostering an innovative organization’s climate within schools promotes creativity. School administrators can achieve this by creating an organization’s climate conducive to innovation development and encouraging personnel to continuously develop themselves according to their potential and interests. This includes rewarding and motivating personnel with outstanding innovative achievements to stimulate a continuous and sustainable innovation process. This approach is consistent with the work of Bangkheaw and Karnjanapun (2023), Starkey (2023), and Thummatasanano and Leesin (2021), who emphasize the importance of creating an innovative organization’s climate. They believe that it is a crucial factor in fostering creativity and development within the organization, leading to the creation of new things with modern technology, and building trust among staff to participate in the work. Additionally, Kunthin et al. (2017) suggest that school administrators should encourage and support teachers and staff to fully develop their potential and provide opportunities for teachers to create their work, leading to the creation of innovative learning. Recognizing and praising teachers who achieve success in their work is also pivotal for boosting morale and motivation.

Utilizing ICT

The study shows that school administrators have effectively integrated technology into educational management and have promoted technology use in teaching and learning. Furthermore, administrators provide support through media, materials, and up-to-date technology to make learning more engaging and relevant. This finding conforms to Dexter (2023), Müller and Wulf (2020), who emphasized that integrating technology in educational management enhances the efficiency of administrators and staff. Similarly, Boutelier and Ludwig (2021) highlighted that using technology in teaching and learning stimulates student interest and provides access to diverse learning resources.

Fostering collaboration

The findings indicate that collaboration is a crucial factor for school administrators in driving innovation and the success of educational institutions. School administrators engage in several collaborative efforts, including (1) creating an environment that fosters cooperation and collaboration within the school, (2) building partnerships with external organizations, including government agencies, private entities, and the local community, to pool resources, exchange

knowledge, and foster innovation, (3) collaborating with stakeholders such as parents, students, and the community to involve them in planning, policy-setting, and organizational improvement effectively. These insights align with the work of Nanthasri et al. (2020), who emphasized that school administrators should actively create a collaborative environment to translate their vision into practical actions. By fostering collaboration among members of the educational institution, positive changes can occur more effectively. Furthermore, Ariratana et al. (2019) underscored the importance of collaboration within organizations, emphasizing that innovative educational leaders should possess abilities related to creative and critical thinking, building innovative organizational culture, and creating effective teamwork.

Research objective 2: Challenges in developing innovations for secondary school administrators in pilot schools in Krabi education sandbox

The findings show that the challenges faced by school administrators in innovation development in the pilot schools in Krabi education sandbox can be categorized into four dimensions: (1) personnel, (2) students, (3) budget, and (4) community, and discussed in more detail as follows.

Personnel

The findings indicate that a significant challenge in the area of personnel is communication and understanding discrepancies among personnel inside and outside the school. Frequent staff turnover is also a critical issue. Personnel are considered the most important resource for driving the organization forward. A lack of communication and mutual understanding within and outside the organization can lead to conflicts and unmet goals. Brinia et al. (2022) state that educational institutions rely on effective communication as a crucial trait to achieve their objectives and goals. They also indicate that effective communication not only helps reduce misunderstandings, but also fosters a professional culture, enhances staff retention, and increases organizational satisfaction. Meanwhile, frequent staff turnover has had other impacts, such as the loss of experienced and skilled personnel, leading to a lack of continuity in work and the constant expenditure of resources on recruiting and developing new staff. This is consistent with Meier and Hicklin (2008), stating that high staff turnover is a significant issue affecting organizational efficiency. Correspondingly, Srichomphu and Vungsiriphisal (2020) mention that limitations in educational personnel and the lack of coordination with relevant agencies result in a lack of systematic operational connectivity for the organization.

Students

The findings highlight the challenges that school administrators face in innovation development regarding students. Key issues include the poor and difficult economic status of students' families, incomplete family structures, and students' academic achievement. This aligns with the research by Jariyarangsiroge and Seanyen (2021), which indicates that the economic conditions of students and their impoverished families can lead to a lack of concentration and motivation in learning. Additionally, it affects their ability to access modern technological tools, which in turn impacts their academic achievement. Sirin (2005) also notes that the students' economic and family conditions are related to their academic achievement. Furthermore, Jeynes (2005) studied and concluded that family factors, such as marital status and parental involvement, significantly affect students' academic achievement.

Budget

The study indicates that insufficient budget allocation is a significant obstacle in driving educational innovation. This limitation affects various aspects, including the procurement of modern equipment and technology, as well as organizing activities to promote different innovations. Drew (2010) mentions that budget allocation is a critical resource for supporting innovation development within an organization, and it also remains a concern for administrators in terms of funding, recruitment, and maintaining high-quality personnel. Moreover, effective budget planning and management are essential for organizational development, especially in the

context of innovation and educational technology adoption. Sincar (2013) similarly highlights the challenges faced by educational institutions due to budget constraints, which impact both innovation and technology application, leading to delays in operational processes.

Community

The finding reveals that community challenges are significant for school administrators in innovation development. These challenges are related to the cultural values of diverse communities within multicultural societies. Community values and norms can influence the perception and acceptance of innovations. School administrators must learn to understand the context of the community and use various communication methods to foster mutual awareness. Mulford (2008) indicates that educational leaders need to know and understand community contexts, including demographic changes, social diversity, civic engagement, and environmental factors. These abilities contribute to organizational strength, promote cultural diversity, and align educational institutions with community needs.

CONCLUSION

Even though schools in Krabi just participated in the education sandbox project in 2023, the study indicates that the administrators significantly possessed essential innovative leadership critical for successfully implementing the Education Sandbox Act. Notably, the Education Sandbox Act set high expectations that participating schools can transform their positions and bring positive outcomes; the administrators' leadership in building a vision for change based on school contexts, creating positive climates, utilizing good communications, and fostering collaboration at different levels will pave a positive way to drive schools to meet the goals of the policy. Since the school administrators are very new to implementing the Education Sandbox Act, they may need help with personnel, students, (3) budget, and (4) community issues. These challenges can reflect existing difficulties for other school administrators, educators, and policymakers at different levels to address and recognize the school's capabilities in dealing with such limitations. This research also indicates that implementing the Education Sandbox Policy in schools with limited experience requires substantial support and assistance. Stakeholders at all levels can utilize these findings to plan and review various practices, thereby enhancing the readiness of other schools participating in the implementation of the Education Sandbox Act. This approach aims to ensure a smooth operation in alignment with the Act's objectives.

ACKNOWLEDGEMENT

This research would not have been possible without the support of the Krabi Provincial Education Office, which, as the supervisory authority, kindly facilitated and coordinated with pilot schools within Krabi's Education Sandbox Area. The researchers wish to extend sincere gratitude for this invaluable assistance. Additionally, the researchers are deeply grateful to all school administrators and teachers in the pilot schools within the innovation education sandbox who generously dedicated their time to provide interview data contributing to this research.

REFERENCES

- Alammar, L. (2015). The effective school: The role of the leaders in school effectiveness. *Educational Research and Reviews, 10*(6), 695-721.
- Ariratana, W., Ngang, T. K., & Sirisooksilp, S. (2019). The effect of innovative leadership on competency of creating high performance organization. *Kasetsart Journal of Social Sciences, 40*(2), 311-318.
- Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research, 1*(3), 385-405.
- Banerjee, B., Ceri, S., & Leonardi, C. (2016). Innovation leadership: A new kind of leadership. In B. Banerjee & S. Ceri (Eds.), *Creating innovation leaders: A global perspective* (pp. 53-80). Springer International Publishing. https://doi.org/10.1007/978-3-319-20520-5_3

- Bangkheaw, K., & Karnjanapun, R. (2023). Innovative leadership of school administrators according to teacher perceptions in Ratchavipha Cluster under the Secondary Education Service Area Office Bangkok 2. *The New Viridian Journal of Arts, Humanities and Social Sciences*, 3(6), 17-31.
- Boutelier, S., & Ludwig, N. (2021). *Leveraging technology to support students' needs*. <https://www.edutopia.org/article/leveraging-technology-support-students-needs>
- Brinia, V., Selimi, P., Dimos, A., & Kondea, A. (2022). The impact of communication on the effectiveness of educational organizations. *Education Sciences*, 12(170), 1-16.
- Bryman, A. (2008). *Social research methods* (3rd ed.). Oxford University Press.
- Campbell, M. (2024). *Mastering innovative leadership: The skills you need to know*. Growth Tactics. <https://www.growthtactics.net/innovative-leadership/>
- Cheawjindakarn, B. (2018). Qualitative case study research techniques. *Liberal Arts Review*, 13(25), 103-118.
- Denzin, N., & Lincoln, Y. (2005). Introduction: The discipline and practice of qualitative research. In Norman Denzin & Y. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed.). SAGE.
- Dexter, E. (2023). The impact of technology integration on educational leadership practices and school improvement efforts. *Academy of Educational Leadership Journal*, 27(2), 1-3.
- Drew, G. (2010). Issues and challenges in higher education leadership: Engaging for change. *Australian Educational Researcher*, 37(3), 57-76.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.
- Inbua, C., & Suksom, S. (2022). Application of education sandbox policy in Pattani Educational Service Area. *Journal of MCU Buddhapanya Review*, 7(4), 30-41.
- Jariyarangsiroge, A., & Seanyen, T. (2021). Vocational institution management in the pandemic disruption: Challenges, successions and opportunities with "HACCP" model. *Rajapark Journal*, 15(43), 1-13.
- Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban elementary school student academic achievement. *Urban Education*, 40(3), 237-269. <https://doi.org/10.1177/0042085905274540>
- Khanthap, J. (2022). Innovative leadership factors and leader characteristics that affecting professional learning community of primary schools in Bangkok and its vicinity. *World Journal of Education* 12(4), 50-58.
- Kunthin, P., Manokarn, M., & Thongngok, T. (2017). Innovative leadership of civil-state school administrators in Chiang Mai Primary Educational Service Area 5. *Veridian E-Journal, Silpakorn University*, 10(3), 1833-1848.
- Limsuwannarot, O., Chanma, C., & Jarujittipan, P. (2024). Developmental guidelines to be an educational innovative organization for the basic schools in the education sandbox of Thailand. *Asia Social Issues*, 17(3), e254720. <https://so06.tci-thaijo.org/index.php/asi>
- Lumlertwattana, N., & Chatrupachewin, C. (2023). A study of the relationship between the innovative leadership of school administrators and the effectiveness of schools under the Secondary Educational Service Area Office Phrae. *Sikkha Journal of Education*, 10(1), 53-61.
- Marron, J. M., & Cunniff, D. (2014). What is an innovative educational leader? *Contemporary Issues In Education Research*, 7(2), 145-150.
- Meier, K. J., & Hicklin, A. (2008). Employee turnover and organizational performance: Testing a hypothesis from classical public administration. *Journal of Public Administration Research and Theory*, 18(4), 573-590. <https://doi.org/10.1093/jopart/mum028>
- Mincu, M. (2022). Why is school leadership key to transforming education? Structural and cultural assumptions for quality education in diverse contexts. *Prospects*, 2022(52), 231-242.
- Mulford, B. (2008). *The leadership challenge: Improving learning in schools*. Australian Council for Educational Research (ACER) Press.

- Müller, F. A., & Wulf, T. (2020). Technology-supported management education: a systematic review of antecedents of learning effectiveness. *International Journal of Educational Technology in Higher Education*, 17(1), 47. <https://doi.org/10.1186/s41239-020-00226-x>
- Nakkubua, L., Phutiariyawat, J., & Koolnaphadol, T. (2022). The development of innovative leadership indicators of the school administrators in the education sandboxes. *Journal of Research and Curriculum Development*, 12(1), 1-12.
- Nanthasri, T., Pengsawat, W., Chalakbang, W., & Satheannopakaow, P. (2020). Innovative leadership of school directors. *Journal of Graduate School*, 17(79), 11-20.
- Office of the Council of State. (2019). *The intent of the "Education Innovation Area Act, B.E. 2562 (2019)*. https://drive.google.com/file/d/1Jx_xV5wYFBBUnxrYsYQb8gUaMvvcd6g/view
- Office of the Education Council. (2017). *National Education Plan 2017-2036*. Prigwhan Graphic.
- Pasuro, C., Kerdtip, C., & Maitreephun, W. (2021). Reflection lessons for creating organizational core value in educational sandbox-pilot schools: Multiple-cases of selective private companies. *Educational Management and Innovation Journal*, 4(2), 115-133.
- Pezalla, A. E., Pettigrew, J., & Miller-Day, M. (2012). Researching the researcher as-instrument: an exercise in interviewer self-reflexivity. *Qualitative Research*, 12(2), 165-185.
- Podhisita, C. (2009). *The science and art of qualitative research*. Amarin Printing.
- Pothong, K., Phanujaree, S., & Markmit, P. (2022). Innovative leadership of school administrators in the 21st century *Journal of Educational Innovation and Research*, 7(3), 1012-1026.
- Prime Minister's Office Announcement on the Designation of Innovation Areas. (2022, 20 December). *National Gazette (No.139, Special Sec. 296, P. 5)*.
- Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (2nd ed.). Teachers College Press.
- Şen, A., & Eren, E. (2012). Innovative leadership for the twenty-first century. *Procedia - Social and Behavioral Sciences*, 41(2012), 1-14.
- Serdyukov, P. (2017). Innovation in education: what works, what doesn't, and what to do about it? *Journal of Research in Innovative Teaching & Learning*, 10(1), 4-33.
- Sincar, M. (2013). Challenges school principals facing in the context of technology leadership. *Educational Sciences: Theory and Practice*, 13(2), 1273-1284.
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453.
- Srichomphu, U., & Vungsiriphisal, P. (2020). The challenge of educational management for urban refugee children in Thai schools. *Journal of Education, Prince of Songkla University, Pattani Campus*, 31(2), 150-167.
- Starkey, J. (2023). Effective strategies for building and sustaining a positive school culture and climate. *Academy of Educational Leadership Journal*, 27(S2), 1-3.
- Sutiyatno, S., Santoso, K. I., & Susilo, G. (2022). The role of innovation leadership in teacher commitment: A study of organizational culture. *International Journal of Educational Methodology* 8(3), 595-607. <https://doi.org/10.12973/ijem.8.3.595>
- Thummatasanano, S., & Leesin, P. (2021). Program to strengthen an effective innovative leadership of basic school administrators. *Saeng-Isan Academic Journal*, 18(2), 59-72.
- Wolf, J. (2021). How is technology changing the world, and how should the world change technology? *Global Perspectives*, 2(1), 1-5. <https://doi.org/10.1525/gp.2021.27353>
- Wannapairo, S., & Palachai, S. (2023). Driving educational sandbox innovation by areas-based approaches. *Interdisciplinary Academic and Research Journal*, 3(6), 367-384. <https://doi.org/10.60027/iarj.2023.271503>
- Worakam, P. (2012). *Educational research*. Taxila Printing.
- Yimraksa, N. (2022). Innovative leadership of school administrators under the Prachuap Khiri Khan Secondary Educational Service Area District Office. *Journal of Educational Innovation and Research*, 6(3), 880-891.
- Yin, R. K. (2014). *Case study research: Design and methods*. Sage