

Academic Management Strategies of Primary Schools Based on the Concept of Thais 4.0

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Abstract

This research aims to (1) study the current and desirable state of academic management of primary schools based on the concept of Thais 4.0 (2) develop academic management strategies of primary schools based on the concept of Thais 4.0 to above frameworks through a Multi-Phase mixed method approach. The sample groups were 395 primary schools by multi-stage random sampling. A total of 589 providers including school directors, teachers. The instrument was a 5-level rating scaled questionnaire. The data were analyzed by frequency distribution, percentage, mean, standard deviation, PNI_{modified}, content analysis and TOWS matrix analysis. Research findings were the current state of overall academic management was at a high level, the highest level among all was on curriculum development. The desired state was at the highest level in overall, the highest level among all was on development of media, learning resources, innovation and educational technology. Academic management strategies of primary schools based on the concept of Thais 4.0 comprised (1) to develop school curriculum aimed at enhancing Thais 4.0 features in innovative behavior and digital entrepreneurship (2) to develop learning management aimed at enhancing Thais 4.0 features in innovative behavior and digital entrepreneurship. (3) to increase measurement and evaluation of Thais 4.0 features in innovative behavior and digital entrepreneurship (4) to accelerate development, supply and use media, learning resources, innovation and educational technology to enhance Thais 4.0 features in innovative behavior and digital entrepreneurship.

Keywords: Academic Management, Thais 4.0, Digital Entrepreneur

Introduction

In the 21st century is an era of social, economic and technological changes that affect the way of life and work. Enabling human resources to adapt and upgrade their features in order to keep up with changes. As well as being an important force in the development of the country to be transformed from an economy driven by efficiency into an economy driven by innovation. Reforming Thailand to keep up with changes the government has therefore formulated a national strategy for 20 years by defining the direction of development of Thailand 4.0 model which is a policy that laid the foundation for long-term national

development is the starting point to drive towards a country that is prosperous, stable and sustainable. Sae-Lim, P. & Jermstittiparsert, K. (2019). Apart from the contributions of advanced technologies, there are also societal and economic risks to be considered. The major concerns with regards to the adoption of the fourth industrial revolution in the Thai economy would be the potential high rate of unemployment as a result of disruptive technology and social inequality, closely followed by cybersecurity risks. Haseeb, Hussain, Slusarczyk, & Jermstittiparsert (2019) Industry 4.0 is a key to the growth of sustainable business performance among SMEs. Elements of Industry 4.0 such as big data, Internet of Things and smart factory have a positive role in promoting information technology (IT) implementation, which contributes to sustainable business performance. Preparing Thais 4.0 to step into the first world is like preparing a new seed by cultivating Thais into completed human beings in the 21st century, coupled with the development of Thai people into Thais 4.0.

The development of learners to have the characteristics of Thais 4.0 should start from learning at the primary level which is important for the development of learner's potential (Saifah, 2014). The main goal of learning at the primary level is to create a foundation for children in academic, literacy and numeracy as a moral and ethical is to have virtue and desirable values and being a good citizen. In addition, the information of The Office of the Education Council (2015) also stated that primary education management has a population of about 4.9 million students at the school age and has educational institutions spread across the country. Therefore, the primary education is an important foundation for the stability and progress of the nation. Academic management is an important role of administrators in learning management to achieve the goal and achieve maximum efficiency. (Wayhachat, 2007) The important task for school administrators is improvement of teaching quality which is the main aim and indicator of success in management. An important factor that makes the school have administrative intensity to improve the quality of local community students with quality. In accordance with Sotarot, Buasuwan, Sarnswang, and Lapanachokdee (2018) also stated that instructional leadership of school administrators affects students' achievement indirectly and positively by having school climate, classroom instruction, and students' trust as mediators and instructional leadership of school administrators has the most direct and positive influence on classroom instruction, followed by school climate and students' trust respectively Therefore students' trust has the most direct and positive influence on students' achievement, followed by classroom instruction while the school climate has direct and negative influence on student achievement. On the other hand, if the relationship is mediated by classroom instruction, the school climate will directly and positively effect on student achievement. According to Puncreobutr (2016), many of 21th Century Skills is essential to search a new approach and ways in learning styles. It seems many people who related to education system are poor of 21th Century Skills such as 3R, 3I and 3P. This kind of skill will allow people have the ability to seeking the possibilities in innovative design, selection of the best way to produce, and leading the most worthy way that help to gain benefits from the innovation. In addition, Wittayasin (2017) states that with many educational problems such as poor quality and inequality, Thailand needs education reform. It needs to give greater and more serious attention to the inequality spanning the education system. If reform is not undertaken to better educate the Thai workforce from a young age, Thailand may well enter a period of long-term decline and economic stagnation. There is no shortcut for Thailand 4.0. If Thailand is committed to achieving Thailand 4.0, it needs to get the basics right.

From the 2015 annual report of the Office of the Basic Education Commission (2015) in the results of primary education found that teaching at the primary level is not as good as it should be that primary school students will have life skills. In accordance with the World Economic Forum 2017-2018 (2017) academic competency rating, based on the basic

requirement, health pillars and basic education, the quality of primary education management Thailand ranked 89th out of 137 countries.

Based on the above results, the researcher interested in studying the academic management strategies of primary schools based on the concept of Thais 4.0. The concept of Thais 4.0 for primary schools under the Office of the Basic Education Commission has been implemented and can also be a basic information for the organization agencies related to the development of the nation according to the concept of Thailand 4.0.

Research Objectives

1. To study the current and desirable state of academic management of primary schools based on the concept of Thais 4.0.
2. To develop academic management strategies of primary schools based on the concept of Thais 4.0.

Literature Review

Theoretical concepts applied in this research and related research are as follows:

Concept of Thais 4.0

The researcher studied the concepts and theories related to and synthesized from the concepts of the World Economic Forum (2016), Maysinsee (2016), Sakworavit (2017), Somdej Phra Buddha Kosa Chan (2017), Sinlarat (2017), Norasing (2017), Numnonda (2017). The concept of Thais 4.0 consists of 9 characteristics as follows: 1) Proactive behavior is an act of commitment, initiative, change of thinking, change of situation by analyzing and planning from experience and knowledge implementation of ideas as planned, without discouraging obstacles that will benefit the work and organization. 2) Creative thinking is a process of thinking that is concealed in a variety of ideas, with the view that the relationships of various things can be extended to various ideas as new ideas. By using the knowledge and imagination able to create new things resulting from ideas that are different from the original 3) Critical thinking is an advanced thinking process consisting of analytical thinking, synthesis, and decision making to solve problems when faced with a situation. There are reasons for reflecting credible information that can lead to appropriate solutions. 4) Public Mind is an awareness of problems occurring in society. Desire to help and solve the crisis by recognizing rights, duties and responsibilities. Participate in solving problems and acting in various ways by learning and solving problems together with people in society. Siripattarawit, Wichitputchraporn, Niyamabha, and Koedsuwan (2018) also suggested that the level of enabling school structure, school mindfulness and academic optimism was high 5) Collaboration is an effective collaboration of two or more parties. The exchange of information to each other to integrate to set goals, plan decisions or find solutions to problems together. 6) Innovative behavior is a new idea in the work process new service or create a new product to solve problems or improve existing things with new methods by considering the ability to think of ways to develop by showing leadership or innovator until the application of what has been developed. 7) Emotional intelligence is the ability to live life creatively and be happy to recognize and understand the emotions of oneself and others including the ability to manage emotions to be a way to create relationships with others effectively. 8) Information seeking behavior is an act that is expressed with the objective of seeking the information that is needed through processing, analysis, for use or to meet their own needs. 9) Digital entrepreneurship is the ability to combine various factors of production with management principles, creating a new product, seek marketing or online sales channels follow news, situations, and new technologies that can be applied and developed to progress to maximize business benefits.

Concept of primary school academic management

The researcher studied the concepts and theories relating to academic management of primary schools, was synthesized concept from Miller's (1965), Utaranan (1987), Preedeedilok (1989), Bunprasert (1997), Phuprasert (2001), Wayhachat (2007), Asawapoom (2008), Ministry of Education (2009), Jammuang (2009), Wonganutaraj (2010). The concept of academic management of primary schools consists of 4 areas: 1) Curriculum Development is the standard of learning to be suitable in accordance with the needs of the social state and meet the needs of the learners. 2) Learning Management is a learning management plan and organizing learning activities allow learners to learn according to the needs of the learners and achieve the objectives of the instructors in the curriculum. 3) Measurement and Evaluation is the determination of learners measurement and evaluation policies and the development of measurement and evaluation tools. 4) Development of learning resources, innovation and educational technology is the production, development and use of media learning center technological innovation in academic management or work related to education in order to carry out quality education benefit students.

Research Methodology

Research on academic management strategies of primary schools based on the concept of Thais 4.0 is a multi-phase mixed method research that uses qualitative and quantitative data collection methods. The population is 27,598 primary schools under the Office of the Basic Education Commission. The sample group used in this research is 395 primary schools under the Office of the Basic Education Commission, which were obtained by Multi-Stage Random Sampling. The informant were the school directors and the teachers. The research instruments were a rating scale questionnaire. Data collection by sending the questionnaire by mail in 790 copies, collecting the questionnaires that were returned by mail in the amount of 589. Data analysis by percentage, \bar{X} , S.D., and PNI_{modified} . Using TOWS matrix analysis to develop academic management strategies of primary schools based on the concept of Thais 4.0

Research Results

1. The current state of academic administration of primary schools based on the concept of Thais 4.0 has an average of academic administration at a high level ($\bar{X} = 3.51$), when considering in each aspect found that the most elementary schools have academic administration on curriculum development was at a high level ($\bar{X} = 3.55$). The desirable state in academic administration of primary schools according to the concept of Thai people 4.0 found that was at the highest level ($\bar{X} = 4.37$), when considering in each aspect, it was found that the most desirable administration is the development of media, learning sources, innovation and educational technology ($\bar{X} = 4.40$), the next was measurement and evaluation ($\bar{X} = 4.36$), curriculum development ($\bar{X} = 4.36$) and learning management ($\bar{X} = 4.34$) respectively.

The results of the priority need for the development of academic administration of primary schools based on the concept of Thais 4.0, the need index of $PNI_{\text{modified}} = 0.245$, representing 24.50 percent. The tasks that need to be developed the first was media development, learning resources, innovation and educational technology ($PNI_{\text{modified}} = 0.261$), followed by measurement and evaluation ($PNI_{\text{modified}} = 0.257$), learning management ($PNI_{\text{modified}} = 0.230$) and development. Course ($PNI_{\text{modified}} = 0.228$) respectively.

Considering the strengths and weaknesses of academic administration of primary schools based on the concept of Thais 4.0, from the internal environment, it was found that the most strengths were curriculum development, and the weakest was media development, learning resources, innovation and educational technology.

2. Academic management strategies of primary schools based on the concept of Thais 4.0, consist of 4 strategies, as (1) to develop school curriculum aimed at enhancing Thais 4.0 features in innovative behavior and digital entrepreneurship (2) to develop learning management aimed at enhancing Thais 4.0 features in innovative behavior and digital entrepreneurship. (3) to increase measurement and evaluation of Thais 4.0 features in innovative behavior and digital entrepreneurship (4) to accelerate develop, supply and use media, learning resources, innovation and educational technology to enhance Thais 4.0 features in innovative behavior and digital entrepreneurship.

Discussion and Conclusion

From the results, there are issues to discuss as follows:

1. The current state and desirable state of academic management of primary schools based on the concept of Thais 4.0 in curriculum development and learning management. It can be discussed that the educational management according to the curriculum must produce manpower in accordance with the development direction according to the Thailand 4.0 policy which focuses on education innovation to develop Thais 4.0. The learning management program will respond the development context. Contents in the curriculum should add new theories such as marketing 4.0, online marketing. The changing of the era of 4.0 of disruptive technological change will be affected to the curriculum to the standard of the educational in Thailand. Ever though the curriculum development according to the government policy of the educational reform must be participated by national educators, parents and the industrial users must be called to discuss the really problems and how to focus for raised up the standard for the future excellence of the young generations must be used opinions and talent of those said people to form a smart policy for the nation. At present it seems that the top down policy has destroyed the good policy for the sake of standard and national human capital development. (Suyaprom & Manmee, 2018) Although, Jermstittiparsert, Sriyakul, Pamornmast, Rodboonsong, Boonprong, Sangperm, Pakvichai, Vipaporn, and Maneechote (2016) had studied A Comparative Study of the Efficiency and the Effectiveness of Primary Education Management between the Provincial Administrative Organization and the Office of the Basic Education Commission: A Service User Satisfaction Survey indicated that the level of user satisfaction, in general, towards the primary education management of the PAO schools is lower than those listed under the supervision of the OBEC.

The desirable state of academic management of primary schools based on the concept of Thais 4.0 in media development, learning resources, innovation and educational technology. It implied that in order to develop students to have an analytical process must allow the learner to apply the knowledge everywhere in this world to create and integrate for develop various innovations to meet the needs of society (Boonkrong, 2017)

The priority needs for the development of academic management of primary schools based on the concept of Thais 4.0 that need to be the first developed is the development of learning resources, innovation and educational technology. It can be discussed that may be important due to the important factors of learning in the 4.0 era. Teaching and learning are not limited to being in the classroom. Planning for teaching and learning development using media Technology is a tool for reforming teaching and learning in the digital age. The introduction of technology media in transferring knowledge from teachers to learners has resulted in learners becoming interested in pursuing. Learn more fun and enthusiasm for learning.

Strengths, weaknesses, opportunities and threats of academic management of primary schools based on the concept of Thais 4.0. It shows that the strengths are curriculum development and learning management. May be the result of the Ministry of Education (2015) has accelerated the learning reform for Thai children to step into Thailand 4.0 in concrete ways in many areas, such as developing English language skills which is the key to communication with

international. In the past, the Ministry of Education has conducted the upgrading of English language through various important projects, such as the development of English teachers through the Boot Camp process, creating Echo Hybrid applications, Echo English, etc. In addition, in promoting education, teaching mathematics and science which is part of the STEM Education for children to understand the science of the world and various objects. At the same time, Thai children in the future must maintain a good Thai culture with learning new science that is modern as well that will eventually lead to innovation. The weaknesses are the development of media, learning resources, innovation and educational technology and measurement and evaluation. Which corresponds to say that from the operational state, the use of information and communication technology for education for past schools, it was found that the most important problems were not at the budget. Get allocated or the performance of the computer and internet network but important issues arise from the shortage of knowledgeable personnel in the operation supports the mission and goals set by the Office of the Basic Education Commission.

Opportunity is a social condition, showing that social aspects of Thailand at present, the participation of the public sector and private sector is driven in the same direction. People in society can contact or send various news to people more and more conveniently. Making it more open and creative as for politics and government policy is a threat to the academic management of primary schools. May be due to unstable government policies. During the past 20 years, Thai education policies have changed according to each minister. Which has no clear purpose and the political sector often chooses to use short-term policies, such as projects that focus more on results. Implementation of policies aimed at short-term success may have political benefits. But not enough to drive the country to achieve educational reform goals because the development of people takes a long time to see results. In addition, there is a lack of empirical data to assess which policies are effective. Causing past failures does not lead to lessons for the future.

2. Based on the research finding, academic management strategies of primary schools based on the concept of Thai 4.0 to develop a school curriculum aimed at enhancing the Thais 4.0 characteristics in creative behavior, innovation and digital entrepreneurship. It shows that schools are responsible for preparing students for public and private development. Therefore has adapted to be in line with the current situation that has changed the behavior of new generation students in order to respond to the modern business sector in accordance with the Office of the Basic Education Commission (2018) curriculum to be modern in order to prepare for the development of the country to become Thailand 4.0, while also meeting the needs of the learners by exploring what children want to learn what is the future career. Considering how to study and place basic subjects including how to add additional courses to answer both government policy the needs of learners and communities

Based on the research finding, academic management strategies of primary schools based on the concept of Thai 4.0 to development of learning management aimed at enhancing Thai 4.0 characteristics in creative behavior, innovation and digital entrepreneurship. It shows that education to respond to Thailand 4.0 policy in order to develop innovation to be a product with Thailand 4.0 policy. Knowledge is born anytime, anywhere both in daily life learning and work. Therefore, learning management needs productivity or innovation for the benefit of the community itself and other communities and the world as well learning management must be emphasized to produce products, emphasizing education, developing people to produce products that focus on product or product-oriented education, which is sometimes important, It was called product-based education (Sinlarat, 2016). In accordance with Olsen (2010) had studied teaching development and learning design model for high school students to develop 21st century skills for students. The research results are learning management style. Teaching and learning, searching for truth (Inquiry-based approach) consists of four steps, which are 1)

environmental management 2) planning 3) learning and teaching 4) measurement and evaluation

Based on the research finding, academic management strategies of primary schools based on the concept of Thai 4.0 to increase measurement and evaluation of Thais 4.0 features in innovative behavior and digital entrepreneurship. It shows that education in the era of Thailand 4.0 using technology in which there is a lot of progress. Teachers should keep up with these technologies by bringing these technologies into the classroom teaching process. In addition to using technology in the learning management process, technology can also be used in the measurement and evaluation process. They should adjust the measurement method to be in the real world and more creative adjust grading by learners who can think, analyze, solve problems, have creative ideas, and can be used to get a high-grade score, not just a measure from answering the exam or report with documents

Based on the research finding, academic management strategies of primary schools based on the concept of Thai 4.0 to accelerate develop, supply and use media, learning resources, innovation and educational technology to enhance Thais 4.0 features in innovative behavior and digital entrepreneurship. It shows that planning to develop teaching and learning media using ICT as a tool must do the whole system to reform teaching and learning to be truly effective, in line with Chaemchoy (2012), saying that the world today has turned into the century 21st is the era of Knowledge-based-Economy that factors in production and competition are changing to be more tangible factors. Therefore, innovation is one way to help every organization create a strong position.

Recommendations

Recommendations for Implementing the Research Findings

1. The strategy that the school director can immediately implement is the strategy 1 : to develop the school curriculum aimed at enhancing the Thai 4.0 characteristics in creative behavior, innovation and digital entrepreneurship. Because of the results showed that the academic management in curriculum development has the highest average current condition in academic management demonstrating the strength and readiness of academic management in curriculum development.
2. The strategy that the primary school director should have to plan proactively in implementing is the strategy 4 : to accelerate develop, supply and use media, learning resources, innovation and educational technology to enhance Thais 4.0 features in innovative behavior and digital entrepreneurship. Because of the results show that media development, learning resources, innovation and educational technology is the weakness. Schools should accelerate the development, procurement and use of learning resources. innovative technology that is safe and secure to enhance innovation behavior.

Recommendations for the Future Research Studies

1. The future research should study on the form of media development, learning resources, innovation and educational technology of primary schools based on the concept of Thais 4.0.
2. There should study on academic management innovation of primary schools based on the concept of Thais 4.0.
3. The future research should study of strategies for enhancing innovative behavior and digital entrepreneurship for primary school students.

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References

- Asawapoom, S. 2008. **Modern educational administration: concepts, theories and practices**. 4th ed. Ubon Ratchathani: Ubonkit Offset Printing Ltd.
- Boonprasert, U. 1997. **Curriculum and school Management**. Bangkok: S.D.Press.
- Bunkrong D. 2017. **Analysis of the Education Management Approach with Driving Education to Thailand 4.0**. Retrieved from <http://culturaljournal.wu.ac.th/2017/11/22/ปีที่-17-ฉบับที่-2-ก-ค-ธ-ค-60/>.
- Chaemchoy, S. 2017. **School Management in Digital Era**. Bangkok: Chulalongkorn University.
- Haseeb, M., Hussain, H., Slusarczyk, B., & Jermstittiparsert, K. 2019. "Industry 4.0: A Solution towards Technology Challenges of Sustainable Business Performance." **Social Sciences** 8 (5): 154.
- Jammuang, J. et al. 2009. **Exam preparation guide for school administrators and educational administrators**. Bangkok: Charoendi Mankhongkanphim.
- Jermstittiparsert, K., Sriyakul, T., Pamornmast, C., Rodboonsong, S., Boonprong, W., Sangperm, N., Pakvichai, V., Vipaporn, T., & Maneechote, K. 2016. "A Comparative Study of the Administration of Primary Education between the Provincial Administration Organization and the Office of the Basic Education Commission in Thailand." **The Social Sciences** 11 (21): 5104-5110.
- Manpower group. 2017. **Open 6 IT lines in the future. Get the era 4.0**. Retrieved from: www.manpowerthailand.com/tris/content/detail/731.
- Maysinsee, S. 2016. "**Thailand 4.0: Strengthening from inside Linking Thai economy toEarth**". Retrieved from th-th.facebook.com/drsuvitpage/posts/1396306724009387.
- Miller, V. 1965. **The public administration of American school system**. New York: McMillan.
- Ministry of Education. 2009. **The Teacher's Handbook**. Bangkok: Office of the Basic Education Commission.
- National Science and Technology Development Agency. 2017. **Blueprint Thailand 4.0**. Retrieved from www.inter.nstda.or.th/stks/pub/2017/20171114-draeqa-blueprint.pdf.
- Norasing, M. 2017. **People development for driving Thailand to Thailand 4.0**. Retrieved from mgronline.com/daily/detail/9600000120293.
- Numnonda, T. 2017. **Defining Thais 4.0 is not just a technology player**. Retrieved from thanachart.org/2017/02/13/.
- Office of the Basic Education Commission. 2015. **Annual Report 2015**. Bangkok: Agricultural Cooperative Federation of Thailand Limited.
- Office of the Education Council. 2015. **Thailand Education: 2558 "How to reform Thai education in the 21st century?"**. Bangkok: Pimdee Printing.
- Olsen, J. 2010. **A grounded theory of 21st century skills instructional design for high school students**. Connecticut: University of Hartford.
- Phuprasert, K. 2001. **Academic Administration of the Education School**. Bangkok: TIPS.
- Puncreobutr, V. 2016. "Education 4.0: New challenge of learning." **St. Theresa Journal of Humanities and Social Sciences** 2 (2): 92-97.
- Sae-Lim, P. & Jermstittiparsert, K. 2019. "Is the Fourth Industrial Revolution a Panacea? Risks toward the Fourth Industrial Revolution: Evidence in the Thai Economy." **International Journal of Innovation, Creativity and Change** 5 (2): 732-752.
- Saifah, Y. 2014. "A Transition Between Kindergarten and Primary Grade Classrooms: An Important Step of Primary School Students. " **Journal of education studies, Chulalongkorn University** 42(3), 143-159.

- Sakworawich, A. 2017. **11 characteristics of Thai people 4.0 that must be reformed to help Thailand 4.0 be true (Part 1)**. Retrieved from as.nida.ac.th/gsas/article/11-คุณลักษณะของคนไทย-4-0-ที่ด-2/.
- Sinlarat, P. et al. 2017. **Productive Thinking, how to produce: teach and create**. 2nd ed. Bangkok: Chulalongkorn University Printing Press.
- Siribanpitak, P. 2009. **Education Management for a Small-Planet**. Bangkok: Fine Print.
- Siripattarawit, S., Wichitputchraporn, W., Niyamabha, A., & Koedsuwan, S. 2018. "A Causal Model of Enabling School Structure and School Mindfulness, Mediated by Academic Optimism, Affecting Student Achievement in Upper Secondary Education Schools under the Thailand Office of the Basic Education Commission." **PSAKU International Journal of Interdisciplinary Research** 7 (2): 82-90.
- Sotarot, A., Buasuwan, P., Sarnswang, S., & Lapanachokdee, W. 2018. "An Influential Model of Instructional Leadership Affecting Students' Achievement in Small-sized Secondary Schools under the Office of the Basic Education Commission in Thailand." **Asian Political Science Review** 2 (2): 96-106.
- Suyaprom, S. & Manmee, T. 2018. "Education Reform in Thailand 4.0: A True Story or a Soap Opera." **Asian Political Science Review** 2 (2): 88-95
- Utranun, S. 1987. **Curriculum Theory**. Bangkok: Mitsaim Printing House Ltd.,Part.
- Wayhachat, R. 2007. **Educational Administration in Basic School**. Songkha: Thaksin Book.
- Wittayasin, S. 2017. "Education Challenges to Thailand 4.0." **International Journal of Integrated Education and Development** 2 (2) :29-35
- Wonganutaroj, P. 2010. **Academic Administration**. Bangkok: Pimdeekarnpim.
- World Economic Forum. 2017. **The Global Competitiveness Report 2017-2018**. Retrieved from www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf.