Strategies for Developing the 21st Century Skills of School Principals under Loei Primary Educational Service Area Office

Kongnaren Phonsa[1] ✉
Somkid Sroinam[2]
Phongnimit Phongphinyo[3]

[1,2,3]*Department of Educational Administration, Udon Thani Rajabhat University, Udon Thani, Thailand.*
[1]*Email:* knrps2519@gmail.com *Tel: +66 81-263-2696*
[2]*Email:* sroinam@gmail.com *Tel: +66 81-873-0415*
[3]*Email:* phongnimit@gmail.com *Tel: +66 88-326-5198*

(✉ *Corresponding Author*)

Abstract

In the 21st century, school leaders are expected to make school administration go smoothly including develop teaching and learning. School administrators must have a feature and skills that are outstanding and different from the previous school administrators. The purposes of this research were to study the 21st century skills of the principals, construct the development strategies, and evaluate the development strategies of the 21st century skills of the principals under Loei Primary Educational Service Area Office, Thailand. The participants consisted of 9 experts and 203 school administrators. The 5-rating scale questionnaire, structured interviews and experts meeting were employed for data collecting. The quantity data were analyzed by using SWOT analysis, $PNI_{Modified}$ technique, and descriptive statistics and the qualitative data was analyzed by using content analysis. The results led to understand the characteristics of strategies for developing the 21st century skills of the school principals in primary schools and the research application was discussed.

Keywords: 21st century skills, Strategy, Principals, Primary schools, Need assessment, School administration.

Contents

1. Introduction

In the 21st century, school leaders are expected to follow the organization's orders to smooth the administration of schools. The principals must work to ensure that he has acted as a leader for student learning because learning cannot occur without leadership. School Leadership means leaders who have an understanding of academic content, evaluation and teaching techniques, working to enhance skills with teachers, collecting, analyzing and using information to make decisions. Leaders are expected to work with teachers, students, parents, community members and various agencies to ensure that every student's learning needs are responded. Some skills are very important for the leaders in the 21st century such as team building skills, conflict management skills to ensure that universal learning environments occur in every classroom where the leader of the school cannot achieve this many work missions alone (Sararatana, 2013). The qualifications that school administrators need to have in order to success in the management effectively consist at least 3 things as 1) technical skill 2) human skill and 3) conceptual skill. In short, executives must be good at work in order to be able to teach or recommend subordinate teachers in their regular work and manage them to the right jobs. In addition, the administrators will be able to improve weaknesses, develop strengths, motivate teachers, and coordinate with others who are relevant as well (Katz, 2005).

In the past, Thai education management aimed to produce some skillful people to work in factories and business units in the industrial capitalist system. That action is too obsolete because the world has changed dramatically in science, technology, economic and social management. The 21st century world economy focuses on the use of workers with knowledge, skills, concepts, problem solving ability, analyzes as well as imagination and learning new experiences. Education management must be undergoing a major change to develop a smart responsible citizen for more economic competition. As a result, Thailand need to reform the entire educational management structure in a systematic way to understand the problems, goals, guidelines for economic development with fairness for the benefit of most people (Chiangkun, 2016). Improvement of organization to achieve the specific objectives need to use appropriate strategies so the strategies are therefore a process of defining a plan to achieve success by expertise of planning (Hongkrailert, 2007) including expertise in determining activities, techniques and guidelines that have competitive advantages (Wattanasuphachoke, 2005).

Strategy is important and necessary for the organization because the organization uses strategies to work for organization goals. The strategies of each organization are determined according to the nature of the organizations so determining strategies has to know the status or condition of the organization first (Hutanuwat and Hutanuwat, 2002). Success or failure in operations depends on the strategies that the executives use appropriately and in accordance with the situation including the characteristics of the executive, development and increasing management skills to be a modern continuously. If any organizations lack executives who are rich of knowledge, ability and skills in administration the organizations will lack anchor and lack of significant driving force. This brings the organizations to be weak and eventually lead to collapse (Asavabhum, 2006).

However, the Thai educational conditions for the year of 2013-2014, the government's education budget is higher both the amount and proportion of the national budget and gross domestic product while the number of students, graduates began to decline due to the population in school age decreased. The proportion of public school students is rather more than private schools at the level of 80:20 (Chiangkun, 2016). When considering the basic education level students achievement score of Ordinary National Educational Test (O-NET) in 2015, it found that the average score was below 50 percent furthermore.

The results of Programme for International Student Assessment (PISA) score was also lower than many other countries with similar development levels (National Economic and Social Development Plan No. 12, 2017). International Institute for Management Development stated that the overall academic competency of the year 2016 in Thailand has been ranked at 52 from 61 countries in the competition of education decreasing from 2015 (Office of the Education Council, 2017). Not only the problems of learner quality in basic education level, in terms of students quality in vocational and higher education are also have problems in the amount, knowledge, ability and various competencies as well. The Education of Loei Province which has both public and private sessions with the basic and higher education levels, the results of quality assessment of educational management is congruent with the national level. The learning achievement, knowledge, ability and competency in various areas are lower than the standard criteria (Loei Province Education Office, 2016).

In fact school administrations in both small and large sized schools perform the same role that considering the academic work as the main task because it is related to the learner quality. A lot of research results both in Thailand and abroad pointed out that school administrators who adhere to academic work and academic leadership will lead the school to success. In contrast, the school administrators who do not aware the importance of academic work due to lack of knowledge, skills and academic experience are unable to lead the school to achieve the goals (Sanguannam, 2010). In the digital age, school administrators must have a feature and skills that are outstanding and different from the previous school administrators. They are required to develop characteristics and skills in order to cope and design appropriate learning management, challenging and inspiring teachers and learners to create cooperation in learning, inventing, creating and developing knowledge for new knowledge or innovation (Chamchoy, 2017). The current of changes in the world in the information age of the 21st century executives must have the right skills that will lead the organization be able to support the changing trend of social conditions including the progress of communication and technology which are important factors in the digital society era. Therefore, school administrators as leaders of the organizations must be a person with skills for managing the changing situation. As a result, the purposes of this research were to study the 21st century skills of the principals, construct the development strategies, and evaluate the development strategies of the 21st century skills of the principals under Loei Primary Educational Service Area Office, Thailand because the development of strategies for improving school effectiveness is the key for school success in the 21st century.

2. Method

2.1. Participants

The participants in this research consisted of 9 experts and 203 school administrators under Loei Primary Educational Service Area Office, Thailand. The sample size of school administrators was employed by Krejcie and

Morgan table that calculated the sample by proportion of administrators in each school. Then, stratified random sampling and simple random sampling were applied for 203 school administrators. Then, the 9 experts were selected by purposive sampling.

2.2. Measures

The instrument used in this study was used for both quantitative and qualitative data collecting.

2.2.1. Instrument for Collecting the Quantitative Data

The instrument for collecting the quantitative data was a questionnaire comprised 2 parts consisted of background data of the participants and the current state and guidelines of the 21st century skills for principals.
Part 1 was the list to inquire general data of the participants that consisted of work position, school size and work experience.
Part 2 composed of the 5-rating scale questions of the current state and guidelines of the 21st century skills for principals.

2.2.2. Instrument for Collecting the Qualitative Data

The instrument for collecting the qualitative data was structured interviews and experts meeting. The structured interviews was used to study the 21st century skills of the principals, construct the development strategies, and evaluate the development strategies of the 21st century skills of the principals under Loei Primary Educational Service Area Office, Thailand. The experts meeting were used to construct the development strategies, and evaluate the development strategies of the 21st century skills of the principals.

2.3. Procedure and Design

This research aimed to develop strategies for developing the school administrators' skills in the 21st century of schools under Loei Primary Education Area Office using mixed methodology for data collecting. A four-phase research design was employed for this study.

2.3.1. Phase 1

This phase studied the components of school administrators' skills in the 21st century that is divided into 2 steps comprising of document analysis and structured interviews with 9 experts.

2.3.2. Phase 2

Phase 2 studied the current and desirable conditions of school administrators' skills in the 21st century using the 5-rating scale questionnaire with the 203 school administrators under Loei Primary Educational Service Area Office, Thailand. Then, ordered priority the needs of school administrators' skills in the 21st century by $PNI_{Modified}$ technique (Wongwanich, 2015).

2.3.3. Phase 3

This phase was the construction of strategies for development of school administrator's skills in the 21st century of schools under Loei Primary Educational Service Area Office. There were 4 steps as 1) matrix analysis 2) needs grouping by considering $PNI_{Modified}$ 3) making TOWS matrix and 4) examining strategies by 9 experts.

2.3.4. Phase 4

Finally, the strategies for developing the school administrators' skills in the 21st century were evaluated. This phase consisted of 3 parts as 1) evaluating the main strategies by the 203 school administrators 2) assessing the minor strategies, guidelines, methods and activities by the 25 policy level executives and 3) assessing the utility, feasibility, propriety and accuracy by 9 experts.

2.4. Statistical Analysis

The data was analyzed by using Statistical Package for the Social Sciences: SPSS. The descriptive statistics was applied for frequency, percentage, mean, standard deviation. The $PNI_{Modified}$ was applied to order priority the needs of school administrators' skills in the 21st century. Then, SWOT analysis and TOWS matrix were employed for creating the strategies. Moreover, content analysis was used for qualitative data.

3. Results

3.1. The 21st Century Skills of the School Principals

The document analysis and experts interview indicated that there were 5 main components of the 21st century skills of school principals in Thai context that consisted of management skill, technology and communication skill, thinking skill, participation and teamwork skill and self-development and others development skill. In addition, the research result also displayed 11 sub-factors of the 21st century skills of the school principals as follow;

- Management skill composed of 2 minor components that were new organization management skill and strategic planning skill.
- Technology and communication skill comprised of the use of information technology skill and communication skill.
- Thinking skill comprised of 2 sub components that were creative thinking skill and conceptual thinking skill.
- Participation and teamwork skill consisted of 3 minor factors that were the collaboration and participation skill, team building skill, team working skill.

- Self-development and others development skill composed of, self-development skill and human resources development skill.

Table-1. Needs assessment analysis of the 21st century skills of school administrators under Loei Primary Educational Service Area Office.

The 21st century skills of the school principals	Degree of Success (D)		Importance (I)		PNI_Modified	Priority
	Mean	S.D.	Mean	S.D.		
1.Management skill	3.88	0.54	4.56	0.46	0.18	2
2. Technology and communication skill	3.85	0.69	4.57	0.50	0.19	1
3. Thinking skill	3.86	0.65	4.54	0.52	0.17	3
4. Participation and teamwork skill	4.02	0.61	4.61	0.60	0.15	4
5. Self-development and others development skill	4.03	0.68	4.62	0.50	0.14	5
Overall	**3.93**		**4.58**		**0.17**	

Table-2. The first strategies for developing the 21st century skills of school principals under Loei Primary Educational Service Area Office.

TOWS Matrix	Main Strategies	Minor Strategies	Guidelines, Methods and Activities
ST	1. Development of use and creation of information and communication technologies.	1. Strengthen information technology skills in public relations by adhering universal principles	1.1 Site visit to promote news dissemination for creating wonderful image of organization. 1.2 Organize a workshop to enhance the ability to create a news database for promoting school education 1.3 Focus on public relations seminars through various communication channels and present information in a positive way that is the strength or advantages of school. 1.4 Do a workshop of unique and outstanding public relations, explain and provide information to create a better understanding for teachers, parents and relevant organizations
ST		2. Enhance skills in using social media networks that are modern and creative media.	2.1 Strengthen the school administrators to have knowledge in terms of the use of online social networks, elements of use and create personnel networks including the development between networks. 2.2 Support the creation of a network of school board, parent network to communicate and manage the school. 2.3 Do the principals training for using modern media creatively, choosing the right media, presenting through modern media, simple media production by oneself.
WT		3. Accelerate skills development, database creation for being a modern learning resource.	3.1 Develop the process of creating online learning resources. 3.2 Train the principals for creating and designing online learning resources. 3.3 Collect data that needs to be used to create a learning resource. 3.4 Develop learning resources oneself for use in school administration.
WT		4. Accelerate the development of social media building skills to assist in education management.	4.1 Seminar for school administrators on the development of social media building skills to assist in educational management. 4.2 Invite experts to provide practical training in the application of social media for teaching. 4.3 Develop social media programs for teaching and self-study. 4.4 Cooperate with experts for workshops on designing and producing social media in teaching and learning to encourage teachers and students.
WT		5. Develop information and communication technology systems to improve educational quality.	5.1 Train the school administrators to develop the basic knowledge and understanding of information and communication technology for education. 5.2 Provide knowledge about information and communication technology systems for basic education and Ministry of Education Policy. 5.3 Seminars and workshops to develop the use of information technology in educational management. 5.4 Invite experts for workshop. 5.5 School administrators change the policy on information and communication technology of school to support the national strategy. 5.6 Allocate budget to support the development of information and communication technology systems.

Table-3. The second strategies for developing the 21ˢᵗ century skills of school principals under Loei Primary Educational Service Area Office.

TOWS Matrix	Main Strategies	Minor Strategies	Guidelines, Methods and Activities
SO	2. Development of organizational management skills for the 21st century	1. Promote organizational management for future success	1.1 Promote the knowledge and competence of school administrators for the organization management according to international standards. 1.2 Design activities to promote and educate the best practices of international leading organizations. 1.3 Maintain quality in order to create works for the organization in the long term.
		2. Promote information management to support modern organization management	2.1 Promote knowledge and understanding of information to increase the efficiency of organization management. 2.2 Train for management of information systems to use in organizations. 2.3 Enhance using information skills of school administrators for modern organization management. 2.4 Invite experts for workshop on using as a tool for information and technology converter.
ST		3. Enhance innovation ability to become an organizational culture.	3.1 Strengthen the school administrators in school development to become an innovative organization. 3.2 Invite experts for workshop on innovative organization. 3.3 Site visits to strengthen the principal in stimulating and motivating personnel to be committed to work continuously. 3.4 Study more the innovative organization by oneself.
ST		4. Strengthen and develop educational innovation	4.1 Strengthen educational innovation process for school administrators. 4.2 Do workshop for educational innovation creating. 4.3 Create educational innovations that are used in school administration to increase efficiency.
WO		5. Develop internal supervision systems	5.1 Organize management processes to promote internal supervision systems. 5.2 Do workshop for internal supervision. 5.3 Monitor, evaluate and improve the management process to promote the internal supervision system.
WT		6. Accelerate the development of innovative processes in supervision and monitoring.	6.1 Formulate policies to promote the development of innovation processes in supervision and monitoring 6.2 Develop skills in innovation creating of supervision and monitoring. 6.3 Educate for innovation.
WO		7. Develop quality assurance system in school.	7.1 Develop a management system to enhance the quality assurance within school. 7.2 Do workshop for quality assurance. 7.3 Establish a policy for positive supervision in the development of internal quality assurance systems.

3.2. The Result of Needs Assessment Analysis

The current condition and the desirable condition of school administrators' skills in the 21st century considered by the $PNI_{Modified}$ index of the needs assessment analysis of school administrators under Loei Primary Educational Service Area Office were at the high level with the overall $PNI_{Modified}$ of 0.17. The priority of the needs indicted that the information and communication technology skills was the most important with the $PNI_{Modified}$ of 0.19. The organizational management skills also showed the importance with the $PNI_{Modified}$ of 0.18. The third importance was cognitive skills revealed $PNI_{Modified}$ of 0.17. Then, the skills in participation and teamwork indicated $PNI_{Modified}$ of 0.15. The final component was self-development and others development skills demonstrated $PNI_{Modified}$ of 0.14 as Table 1.

3.3. The Strategies for Developing the 21ˢᵗ Century Skills of School Principals

The strategies to develop the 21ˢᵗ century skills of principals consisted of 5 main strategies, 24 sub strategies and 73 guidelines. The 5 main strategies composed of skills in development of use and creation of information and communication technologies, development of organizational management skills for the 21ˢᵗ century, enhancing the 21ˢᵗ century thinking skills, promoting collaborative and participatory skills and the last strategy was promoting self-development and others development skills portrayed as Table 2.

3.4. The Result of Strategies Evaluation

The result of strategies evaluation all of 5 strategies with 4 aspects consisted of utility, feasibility, propriety and accuracy. The school administrators and the experts were strongly agree with all aspects in utility, feasibility, propriety and accuracy of the strategies.

Table-4. The third- fifth strategies for developing the 21ˢᵗ century skills of school principals under Loei Primary Educational Service Area Office.

TOWS Matrix	Main Strategies	Minor Strategies	Guidelines, Methods and Activities
SO	3. Enhancing the 21st century thinking skills.	1. Promote systematic thinking skills for administration.	1.1 Promote systematic thinking processes for school administrators to operational goals. 1.2 Do workshop for systematic thinking skills development.
SO		2. Promote data analysis for administration and assignment.	2.1 Do workshop for data collecting and analyzing. 2.2 Do workshop for assigning controlling and monitoring. 2.3 Practice for data collecting and analyzing
WO		3. Develop innovative thinking ability.	3.1 Develop innovative thinking processes in school management. 3.2 Train for change attitude of innovative thinking. 3.3 Stimulate innovative thinking and applying, innovative presentation and creative problem solving.
SO	4. Promoting collaborative and participatory skills.	1. Encourage participatory management processes.	1.1 Promote the participation in school. 1.2 Encourage principals, teachers, and communities to meet, discuss, acknowledge problems, share ideas and make solutions.
SO		2. Promote team Leadership.	2.1 Increase the potential in team leading of school administrators. 2.2 Develop the role of the new team leader.
ST		3. Enhance working skills with other people or other organizations.	3.1 Strengthen the ability of school administrators to work effectively with others. 3.2 Organize activities to develop the special characteristics of "team leaders" and "followers" to balance the team.
WO		4. Develop motivation building skills for teamwork.	4.1 Develop strategies to create a team of excellence. 4.2 Create and develop the team to the goal.
ST		5. Develop effective team work.	5.1 Develop the potential of school administrators to work as a team. 5.2 Achieve organizational goals with effective team.
SO	5. Promoting self-development and others development skills	1. Strengthen professional administrators	1.1 Promote the process of becoming a professional executive of school administrators. 1.2 Seminars to develop the characteristics of being a professional executive in the 21st century. 1.3 Organize activities to promote professional administrators according to the standard of operation.
ST		2. Strengthen the organization to professional learning community	2.1 Strengthen the ability of school administrators in developing school to professional learning community. 2.2 Study the model of success in becoming a professional learning community. 2.3 Organized activities to develop professional learning community.
WO		3. Develop research capabilities of school administrators and teachers.	3.1 Seminar for developing the ability of school administrators in solving problems with research methodology. 3.2 Support research to solve problems within the school. 3.3 Do research onself.
WT		4. Accelerate the capacity building in accordance with the national strategy to enhance schools.	4.1 Develop a strategic leader to meet the country's policy. 4.2 Provide policies on organization-level strategies to be consistent with national strategies.

4. Discussion and Conclusion

4.1. The 21ˢᵗ Century Skills of the School Principals

The 5 components of the 21ˢᵗ century skills of school principals in Thai context that consisted of management skill, technology and communication skill, thinking skill, participation and teamwork skill and self-development and others development skill. In addition, the research result also displayed 11 sub-factors of the 21ˢᵗ century skills of the school principals as follow;

- Management skill composed of 2 minor components that were new organization management skill and strategic planning skill. The new organization management skill is consistent with Hoyle *et al.* (2005) stated that skills that make the success of school administrators in the 21st century are organizational management skills. Moreover, strategic planning skill is the important skill of school administrators (Williams, 2007).
- Technology and communication skill comprised of the use of information technology skill and communication skill. The use of information technology skill is in accordance with Wilson's concept. He explained that new society needs new leadership. The administrators must have many skills but one of the

necessary skills is that the skills to use ICT technology widely (Wilson, 2013). The communication skills is congruent with the concept of Viriyaphan (2007). She said that executives not only being a good person, but also having communication skills. That is important to every human enabling people with the ability to communicate effectively.

- Thinking skill comprised of 2 sub components that were creative thinking skill and conceptual thinking skill. Creative thinking skill is consistent with Robinson (2012) who wrote the online article of "Crawling Out-of-the-Box: 5 New Skills for 21st century School Leaders". He stated that in order to become a school leader in the 21st century, administrators should have creative thinking skill. Furthermore, conceptual thinking skill is the definitions, meaning or concepts that represent knowledge and understanding of the common characteristics of objects or events. Therefore, people with skills to create ideas can create words which is abstract to concrete. Skillful people can make clearly and easily to understand (Laoreandee, 2011).

- Participation and teamwork skill consisted of 3 minor factors that were the collaboration and participation skill, team building skill, team working skill. The collaboration and participation skill is also congruent with Hoyle *et al.* (2005) indicated that in any works executives must focus on the participation of personnel in the organization and community as a basis for development and decision-making for various policies. For the team building skill, Phongwarin (2009) said that difficult work can be achieved easily by unity. Collaboration of people by building trust and encouraging unity and good relationship each other affect members commit to work for achieving the objectives or goals together. Team working skill is consistent with National Association of Secondary School Principals (NASSP) (2013) concluded that core skills in the 21st century include teamwork skills, seeking and supporting participation of team members.

- Self-development and others development skill composed of, self-development skill and human resources development skill. Self-development skill is congruent with Bournon's concept. He discussed about the leaders in the 21st century that if they want to be bound by others, they must develop themselves for the others benefit (Brunson, 2008). Moreover, the Office of the Civil Service (2010) explained the human resources development skill that effective leaders must have caring and developing others. This means to promote learning or development in the long term focusing on the intent to develop others and the consequences rather than just acting.

4.2. The Result of Needs Assessment Analysis

The current condition and the desirable condition of school administrators' skills in the 21st century considered by the PNI$_{Modified}$ index of the needs assessment analysis of school administrators under Loei Primary Educational Service Area Office were at the high level with the overall PNI$_{Modified}$ of 0.17. The priority of the needs indicted that the information and communication technology skills was the most important with the PNI$_{Modified}$ of 0.19. The organizational management skills also showed the importance with the PNI$_{Modified}$ of 0.18. The third importance was cognitive skills revealed PNI$_{Modified}$ of 0.17. Then, the skills in participation and teamwork indicated PNI$_{Modified}$ of 0.15. The final component was self-development and others development skills demonstrated PNI$_{Modified}$ of 0.14.

Current conditions of school administrators' skills in the 21st century of schools under Loei Primary Educational Service Area Office was at a high level overall. This may be because school administrators nowadays follow the mission assigned by the agency. There is communication for understanding. The principals able to analyze the environment and use to determine the strategies and missions of schools which are consistent with the policy of the agency and the context of schools. In addition, the principals can establish an effective action plan that can lead to practical work in the school effectively. There is supervision and monitoring the teachers' performance in school to be in accordance with the action plan to achieve both short and long term goals. This is consistent with Phongsriwat (2005) who said that executives need to use administrative skills to perform the role to achieve the expected goals. However, the performance skills priority depends on situations.

Desirable condition of the 21st century school administrators' skills in schools under Loei Primary Educational Service Area Office was at a high level overall. This is probably because LPEO (2016) established Loei Province Educational Development Plan of 2017 - 2021 with clear objectives that are congruent with Amdonkloy (2013) concluded that executives must know change so that they able to develop oneself and think about new change strategies.

4.3. The Strategies for Developing the 21st Century Skills of School Principals

The strategies to develop the 21st century skills of principals consisted of 5 main strategies, 24 sub strategies and 73 guidelines. The 5 main strategies composed of skills in development of use and creation of information and communication technologies, development of organizational management skills for the 21st century, enhancing the 21st century thinking skills, promoting collaborative and participatory skills and the last strategy was promoting self-development and others development skills.

- Development of use and creation of information and communication technologies consisted of 5 minor strategies as 1) Strengthen information technology skills in public relations by adhering universal principles 2) Enhance skills in using social media networks that are modern and creative media. 3) Accelerate skills development, database creation for being a modern learning resource. 4) Accelerate the development of social media building skills to assist in education management. 5) Develop information and communication technology systems to improve educational quality. This congruence with the Ministry of Education (2017) specified the National Education Plan 2017 - 2036 has set guidelines for the development of digital technology systems for education of all age's people. The first was to develop digital technology systems for education, teaching and learning for lifelong learning which is flexible and accessible. The second was to develop the quality and standard of distance learning management in various systems such as DLIT, DLTV and ETV. The third was to establish the Institute for Educational Technology and Educational Technology Development Fund. Then, promote and support the establishment of television stations and production of educational programs including the development of infrastructure for digital

technology systems for education. Finally, expand the high-speed internet service network covering all areas that is enough for learners.

- Development of organizational management skills for the 21st century consisted of 7 minor strategies as 1) Promote organizational management for future success. 2) Promote information management to support modern organization management 3) Enhance innovation ability to become an organizational culture. 4) Strengthen and develop educational innovation 5) Develop internal supervision systems. 6) Accelerate the development of innovative processes in supervision and monitoring. 7) Develop quality assurance system in school. This is similar to Juito (2009) said that organization management strategies to develop executive skills must have a variety of strategies. In addition, every strategies must manage the organization to be flexible and responsive to customer needs quickly.

- Enhancing the 21st century thinking skills consisted of 3 minor strategies as 1) Promote systematic thinking skills for administration. 2 Promote data analysis for administration and assignment. 3) Develop innovative thinking ability. This is consistent with Chamchoi (2560) discussed the modeling or innovation modeling skills that they are the combination of imagination and real ability of school administrators to analyze, integrate, synthesize, hypothesize in working and try to design or simulate ideas or draft innovations. For school administrators, that means ability to analyze, synthesize and integrate creatively in order to find a management approach or action method to a clear image. Then, use administration capabilities to manage personnel development and integrate various technologies to facilitate work for achieving the school goals.

- Promoting collaborative and participatory skills consisted of 5 minor strategies as 1) Encourage participatory management processes. 2) Promote team leadership. 3) Enhance working skills with other people or other organizations. 4) Develop motivation building skills for teamwork. 5) Develop effective team work. This is rather the same as Marshall and Oliva (2010) said that the skills and attributes for the 21st century, school leaders need to have is collaboration. Effective leaders will attract all stakeholders to create a caring community. People can talk and have positive social interaction. The most important is they can work in a multi-cultural environment.

- Promoting self-development and others development skills consisted of 4 minor strategies as 1) Strengthen professional administrators 2) Strengthen the organization to professional learning community 3) Develop research capabilities of school administrators and teachers 4) Accelerate the capacity building in accordance with the national strategy to enhance schools. This is similar to Center for Creative Leadership (2005 cited in Phromsri (2014)) proposed that the use of power appropriately help subordinates to develop themselves effectively and efficiently. This way means the administrators can manage employees and assign them effectively. Moreover, the administrators should allow employees to have opportunity for growing their career, develop their potential, and focus on providing low-level employee participating in the decision. Furthermore, the administrators should suggest each employees how to achieve organizational expectations, explain and answer questions. Finally, the administrators have to listen carefully to matters related to work, interact with employees and motivate them like to develop their skills continuously.

4.4. The Result of Strategies Evaluation

The result of strategies evaluation all of 5 strategies with 4 aspects consisted of utility, feasibility, propriety and accuracy. The school administrators and the experts were strongly agree with all aspects in utility, feasibility, propriety and accuracy of the strategies. This probably because MoE (2017) has defined the roles of various levels of agencies in the fourth strategies at the regional level. The agencies compose of the Regional Education Office, Provincial Education Office, Educational Service Area Office and other relevant departments. The significant duties consist of 5 items. 1) Promoting the management of education and learning in the appropriate format to create opportunities and improve the quality of life for all target learners. 2) Developing information systems for school, regional, and central management level. 3) Encouraging agencies and schools in the area to use computer programs through digital technology systems to record and organize information for schools. 4) Promoting and supporting the development of relevant personnel to access accurate and up-to-date information and utilize for management and educational development. 5) Performing other associated tasks.

5. Recommendations

The administrators of the educational service area office should study the strategies from this research as a guideline for determining strategies for developing the skills of the school administrators to have appropriate skills and to develop schools effectively. In addition, school administrators and agencies that develop new school administrators should study the strategies from this research to be an alternatives for defining self-development plans and developing new executives to manage the schools for the 21st century.

The further research should study the strategies for development of school administrators skills in the 21st century at the regional or national level due to the skills of school administrators in the 21st century, derived from this research, is a synthesis of skills from various sources not only specific areas.

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