

*The 21st Century Skills of School Administrators under Udon Thani
Primary Education Service Area Office*

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Abstract

The purposes of this research were 1) to study the 21st century skills of school administrators, 2) to study the current and desirable conditions of the 21st century skills of school administrators, and 3) to study the priority needs of the 21st century skills of school administrators under Primary Education Service Area Office (PESAO) in Udon Thani, Thailand. The study was a mixed method research and consisted of 2 phases as follows; 1) study the 21st century skills of school administrators by documentary analysis and semi-structured interviews with 9 experts, 2) study the current and desirable conditions of the 21st century skills of school administrators by 260 school administrators using a questionnaire and prioritize needs by PNI_{Modified} technique. The results of this research were as follows: 1) the 21st century skills of school administrators consisted of five skills; management skill, technology and communication skill, thinking skill, participation and teamwork skill and self-development skill, 2) The current condition of the 21st century skills of school administrators were at the high level and the desirable condition was at the highest level and 3) The priority needs of the 21st century skills of school administrators found that the skill of technology and communication was the highest on the index, management skill as second and the lowest on the index was self-development skill.

Keywords: School administrator in the 21st century, Skills of school administrators

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Introduction

What is a school administrator?

School administrators work in schools, but not as teachers. They are responsible for overseeing the administrative duties at schools from preschool through post-graduate levels. An educational administrator ensures a safe and productive learning environment for the students and faculty at their institution. They manage routine activities and provide instructional leadership at these institutions (<https://www.careerexplorer.com/careers/education-administrator/>). A school administrator needs to be a leader, organized, and committed to the job. A school administrator may be responsible for setting a curriculum, organizing professional development, creating master schedules, observing and mentoring staff, as well as completing office or clerical tasks as needed (<https://www.teacher.org/career/school-administrator/>). Therefore, a school administrator is a leader, one who can delegate as needed, but keeps things organized and calm in the case of emergency. The administrator needs to be a boss, disciplinarian, organizer, and leader.

What does a school administrator do?

School administrators work in every level of education. They may direct programming, hire and supervise staff, manage budgets, and make decisions that affect the academic community. They are also in charge of developing a direction and mission for the facility at which they work. For schools, this job is usually the role of a principal or assistant principal. For private schools and businesses, the job may be as a director of programs or head master (<https://www.careerexplorer.com/careers/education-administrator/>). Making policies and procedures and setting educational aims and standards is the responsibility of an education administrator. They act as a supervisor for managers and support other faculty. An educational administrator ensures a safe and productive learning environment for the students and faculty at their institution. Budgets, logistics, schedules, disciplinary actions, evaluations, and public relations fall under the purview of educational administrators. Administrators ensure teachers have the equipment and resources necessary to deliver educationally effective curriculum. They also have a hand in matters like planning events and implementing curriculum. Educational administrators provide leadership and lay out optimistic goals and visions for the institutions they serve. They must ensure that their school follows regulations set by local, state, and federal authorities. Every person who works for a school, from teachers to custodial workers, reports to an educational administrator. (<https://education.cu-portland.edu/blog/teaching-careers/educational-supervisor/>) Therefore, the summary of the school administrators' work is as follows:

- Evaluate and standardize curriculum and teaching methodologies
- Recruit, hire, train, and dismiss staff
- Communicate with families
- Lead practices for achievement of high academic standards
- Meet with administrative communities, superintendents, and school boards as well as local, state, and federal agencies
- Monitor financial affairs, including budgets and purchasing of school expenses

- Conduct teacher and staff evaluations to ensure proper implementation of curriculum
- Represent and maintain school image and reputation
- Adjudicate appropriate discipline for delinquent students
- Support faculty with training, enrichment, and goal-setting
- Complete job functions on computers using online communications, spreadsheets, word processors, and other automated tools
- Communicate with parents regarding failing grades or disciplinary issues
- Supervise care of the facility for safety and quality of physical condition
- Ensure compliance with local, state, and federal standards
- Attend school-related events on weekends and evenings
- Prepare for the upcoming school year during the summer

Key Skills and Responsibilities of a school administrator

These professionals face different kinds of challenges on a regular basis, so they need to learn how to adapt quickly, communicate effectively and think critically. Administrators often serve as a mediating force between students, teachers, parents and third parties. They seek out opportunities to enrich the overall educational experience of students as well as management strategies to increase efficiency within the organization itself. Therefore, the skills and responsibilities of the school administrators that we need are:

The skills of the school administrators:

- Excellent spoken and written communication skills
- Methodical and well-organized
- Able to work accurately and pay attention to detail
- Confidence with figures and Good ICT skills
- Able to relate well with pupils, teachers and parents
- Able to priorities work
- Sensitivity and understanding
- To be flexible and open to change
- To be thorough and pay attention to data

The responsibilities of the school administrators:

- Handling relations with parents, students, employers, and the community
- Managing budgets and ensuring financial systems are followed
- Overseeing record-keeping
- Managing student services such as guidance programs
- Training, supervising, and motivating faculty including teachers and auxiliary staff
- Working on committees including academic boards, governing bodies and task groups
- Assisting with recruitment, public or alumni relations and marketing activities
- Providing administrative support to an academic team of lecturers, tutors or teachers
- Drafting and interpreting regulations and dealing with queries and complaints procedures
- Maintaining high levels of quality assurance, including course evaluation and course approval procedures
- Contributing to policy and planning

- Purchasing goods and equipment, as required, and processing invoices
- Liaising with partner institutions, other institutions, external agencies, government departments and prospective students

Skills of a School Administrator in the 21st Century

The 21st century is the current century of the Anno Domini era or the Common Era, in accordance with the Gregorian calendar. It began on January 1, 2001, and will end on December 31, 2100. It is the first century of the 3rd millennium. It is distinct from the century known as the 2000's, which began on January 1, 2000 and will end on December 31, 2099. (<https://www.definitions.net/definition/21st+century>) The term 21st century skills refers to a broad set of knowledge, skills, work habits, and character traits that are believed by educators, school reformers, college professors, employers, and others to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces. Generally speaking, 21st century skills can be applied in all academic subject areas, and in all educational, career, and civic settings throughout a student's life. (<https://www.edglossary.org/21st-century-skills/>) Therefore, effective leaders in 21st century schools consider instructional requirements, the expertise of teachers, and the ultimate needs of students. These 21st century administrators should be the facilitators of a dialogue that asks:

- What outcomes do we want to accomplish in the classroom?
- What available tools and resources can and will support teachers in helping their students meet these outcomes?
- What preparation do we need to ensure teachers and students appropriately utilize tools and resources?
- How will we measure the effectiveness of these tools to gauge how well they support and improve teaching and learning?

With the questions above, this researcher was to answer the question, "What are the 21st century skills of school administrator?" Therefore, an attempt has been made through this study to find the skills of a school administrator in 21st century so that the results of this study can prepare administrators for becoming a good administrator in their schools.

Objectives of the Study

1. To study the 21st century skills of school administrators
2. To study the current and desirable conditions of the 21st century skills of school administrators under the Primary Education Service Area Office (PESAO) in Udon Thani, Thailand.
3. To study the priority needs of the 21st century skills of school administrators under PESAO in Udon Thani.

Research Methodology

This researcher studied the skills of school administrators in the 21st century skills of school administrators under PESAO in Udon Thani by using mixed methods of quantitative research and qualitative research. The research procedures were as follows:

Phase 1: The study of school administrator’s skills in the 21st century

1.1 The researcher reviewed literature about the skills of school administrators in the 21st century from documents, books, concepts, theory, and research literature. In addition, content analysis and content synthesis were used to create a research framework as well as a research instrument.

1.2 Develop a semi-structured interview to study the skills of school administrators in the 21st century by using documents from reviewed literature (1.1) to interviewing the expert of educational administration about “What are the important skills of school administrators in the 21st century?”

1.3 Interview 9 experts consisting of 3 university lecturers’ who major in educational administration, 3 directors of PESAO in Udon Thani, and 3 school administrators with an expert level in school administration or who graduated with a doctoral degree and have knowledge of educational administration that were selected by purposive sampling.

1.4 Analyze data by using interview data from interviewing 9 experts (1.3) for qualitative content data analysis and rearrange the data according to documents from (1.1).

Phase 2: The study of current and desirable conditions about the skills of school administrators in the 21st century under PESAO in Udon Thani

2.1 Research instrument: The questionnaire of current and desirable conditions about the skills of school administrators in the 21st century under PESAO in Udon Thani that the questionnaire according to the document analysis from Phase 1 in two parts as follows.

Part 1: Questionnaire about demographic information consisting of gender, age, educational level, position, experience in educational administration, and size of school.

Part 2: Questionnaire about current and desirable conditions of school administrator skills in the 21st century under PESAO in Udon Thani. The questionnaire used a Likert scale which had five levels on the check list form with opinion level criteria as follows in table 1.

Table 1: Opinion level criteria about current and desirable conditions about the skills of school administrators in the 21st century

Rating Scales	Meaning of Opinion Level Criteria	
	Current Condition	Desirable Condition
5	The existing is very high.	The expected is very high.
4	The existing is high.	The expected is high.
3	The existing is moderate.	The expected is moderate.
2	The existing is low.	The expected is low.
1	The existing is very low.	The expected is very low.

The IOC of the questionnaire was between 0.80 – 1.00, which references that questions were useable. The reliability (r_{tt}) of the questionnaire was 0.80 that tried out with 30 school administrators, who were not part of the samples group that the reliability using Cronbach’s Alpha Coefficient.

2.2 Population and Samples: The population in this study was 803 school administrators under PESAO in Udon Thani in 2017 and the sample group of this

study was 260 school administrators selected by the purposive sampling in which the sample size was chosen by using the Table of Krejcie & Morgan (1970) and stratified random sampling was used the stratification criteria according to education service area before calculating proportion of samples and random.

2.3 Data analysis:

2.3.1 Data analysis of school administrator’s skills in the 21st century from interviewing 9 experts, the researcher analyzed qualitative data using content analysis technique for semi-structured interview.

2.3.2 Data analysis of current and desirable conditions about the skills of school administrators in the 21st century under PESAO in Udon Thani, the researcher analyzed quantitative data by examining the completeness of the questionnaire and analyzing the data using Statistical Package for the Social Science (SPSS) as follows:

2.3.2.1 Analyzing data from the questionnaire Part 1, this asked about the status of interviewees by finding frequency and percentage.

2.3.2.2 Analyzing data from the questionnaire Part 2, this asked about current and desirable conditions. The data was analyzed by finding the average (\bar{X}) and standard deviation (S.D.) and comparing with the criteria of Srisa-ard (2000) to estimate the result average as follows on table 2.

Table 2: The result average of current and desirable conditions

Average	Meaning of average	
	Current Condition	Desirable Condition
4.51 – 5.00	The existing current condition is very high .	The desirable condition is very high .
3.51 – 4.50	The existing current condition is high .	The desirable condition is high .
2.51 – 3.50	The existing current condition is moderate .	The desirable condition is moderate .
1.51 – 2.50	The existing current condition is low .	The desirable condition is low .
1.00 – 1.50	The existing current condition is very low .	The desirable condition is very low .

2.3.2.3 Assess and prioritize needs of school administrator’s skills in the 21st century under PESAO in Udon Thani to compare the difference between current and desirable conditions by using Modified Priority Need Index (PNI_{modified}) to identify the prioritized needs from the formula as follows (Wongwanich, 2015).

$$PNI_{\text{modified}} = (I - D) / D$$

PNI_{modified} = Priority Need Index

I = Desirable condition of school administrator in the 21st century under PESAO in Udon Thani

D = Current condition of school administrator in the 21st century under PESAO in Udon Thani

Results of the study

Phase 1: The result of school administrators in the 21st century

The researcher studied the skills of school administrators in the 21st century based on theory from documents, books, concepts, theory, and research literature, which were analyzed using content synthesis to develop a semi-structured interview. The interviewing of nine experts in educational administration was arranged informally using open questions followed by data organization, data display, conclusion and interpretation (Nopkesorn, 2006) to investigate its appropriation based on theory before conducting the questionnaire. The results of the study found that there were five main skills of school administrators in 21st century as follows.

1.1 Organization management skills. This means that school administrators in the 21st century must be able to use new techniques of administration and lead the organization to changes as well as overcoming the resistance to change by using positive perspectives. In addition, the school administrator should be able to arrange the organizational structure, create organizational strategies, develop operational plans as well as implementing the plans, encourage participation, assign duties and responsibilities, and make decisions based on justice, morality, rules, and regulations to administrate the school, including having responsibility to society, using technology to increase the efficiency of managing systems; maintenance, building, qualitative management as well as having systems to investigate the effectiveness of school administration and having flexibility to use the resources appropriately and efficiently.

1.2 Information technology and communication skills. This means that school administrators in the 21st century must have effective communicative skills for both inside and outside the organization, listen to learn and analyze data, and provide comments clearly through writing and speaking. Furthermore, the school administrator must use tone of speaking, facial expression, eye contact, and body language appropriately as well as having credible writing skills and expressing communicative skills in public well to build relationships and participation in the community. In addition, the school administrator must seek opportunities and cooperation from both community and other academic departments including communicating with parents and community through websites and social media.

1.3 Thinking skills. The school administrator in the 21st century must always have creativity and be able to think critically, collect and analyze information technology and evaluate by using systematic thinking. Moreover, the school administrator must solve problems creatively using critical thinking as well as having innovative thinking, thinking outside the box, finding new ways to solve the problems effectively including using new methods to eliminate obstacles, being able to see the big picture of the organization, and seeing every situation with great vision.

1.4 Team building and collaboration skills. The school administrator in the 21st century must lead the team and introduce the team effectively including having participatory management. The school administrator must create and handle personal management wisely to persuade new generation to improve themselves effectively and encourage them to use their ability to work and achieve the goals of the school. In

addition, the school administrator must manage disagreement, create network with other departments, focus on staff's participation within the organization and participation of the community.

1.5 Self and personnel development. The school administrator in the 21st century must have the ability to know, estimate, improve, and develop themselves. Also, the school administrator must create strategies to manage the personnel department in the future, devise a personnel development plan, improve personnel behavior, provide opportunity for growth at work and provide opportunity to workers in lower levels to participate in decision making in order to develop their confidence.

Phase 2: The result of the study concerning the current and desirable conditions of school administrators in the 21st century under PESAO in Udon Thani

The researcher studied the current and desirable conditions of school administrators in the 21st century under PESAO in Udon Thani by using the questionnaire that the researcher developed from document analysis in Phase 1. The questionnaire queried school administrators of PESAO in Udon Thani. The results of this study are found in table 3.

Table 3: Conclusion of data analysis concerning the current and desirable conditions of school administrators in 21st century under PESAO in Udon Thani

Skills of School Administrator in the 21 st Century	Current Condition			Desirable Condition			PNI _{modified}	Order of Sig.
	\bar{X}	S.D	Results	\bar{X}	S.D	Results		
1. Organization Management Skills	3.88	0.54	High	4.56	0.46	Very High	0.18	2
2. Information Technology and Communication Skills	3.85	0.69	High	4.57	0.50	Very High	0.19	1
3. Thinking Skills	3.86	0.65	High	4.54	0.52	Very High	0.17	3
4. Team Building and Collaboration Skills	4.02	0.61	High	4.61	0.60	Very High	0.15	4
5. Self and Personnel Development Skills	4.03	0.68	High	4.62	0.50	Very High	0.14	5
Total	3.93		High	4.58		Very High	0.17	

From Table 3, it was found that the current condition of school administrators in the 21st century under PESAO in Udon Thani was at a high level (\bar{X} = 3.93). When considering each skill, it was found that the skill, which received the highest score, was self and personnel development skills (\bar{X} = 4.03) following by team building and

collaboration skills (\bar{X} = 4.02) and information technology and communication skills (\bar{X} = 3.85) as lowest score. The desirable condition of school administrators in the 21st century was in very high level (\bar{X} = 4.58). When considering each skill, it was found that the skill, which received the highest score, was self and personnel developing skills (\bar{X} = 4.62) followed by team building and collaboration skills (\bar{X} = 4.61) and organization management skills (\bar{X} = 4.56) as the lowest score. From the study of index PNI_{modified} of necessary skills for school administrators in the 21st century, it was found that the overall was ($PNI_{\text{modified}} = 0.17$) arranging from information technology and communication skills ($PNI_{\text{modified}} = 0.19$), organizational management skills ($PNI_{\text{modified}} = 0.18$), thinking skills ($PNI_{\text{modified}} = 0.17$), team building and collaboration skills ($PNI_{\text{modified}} = 0.15$), and self and personnel development ($PNI_{\text{modified}} = 0.14$).

Discussion

1. Discussion about results of school administrator's skills in 21st century

The synthesized of the school administrators' skills in the 21st century found that there are five main skills from expert interviews. Which may be the result were as following:

1.1 Organization management skills; since the educational administration in 21st century focuses on modern organizational management, which contains learning strategies, educational development plans, and annual operational plans that allow schools to move in the right direction and create the most efficiency. According to Hoyle, English & Steffy (2005), it was stated that skills that led to the success of school administrators in the 21st century were collecting and analyzing information technology skill that was used to assign work and responsibility as well as making decision. In accordance, Alyn & Bacon (2010) explained that necessary qualifications and skills for school administrators in the 21st century was organizational management skills. Furthermore, efficient leaders must adjust the school's culture by using effective ways of organizational management including organizing the school's organizational structure that conveyed high expectations of learner's outcomes and using all the resources effectively.

1.2 Information technology and communication skills; at the present, in order to administrate school and connect to other academic departments to provide information between school and educational services area office, technology is needed due to its convenience, speed, and cost savings in travelling. According to Viriyapan (2007) it was stated that, besides having knowledge and working ability, leaders or those who were becoming leaders must have leadership skills to create value for oneself and must be ready for the globalized world. Communication is regarded as a very important skill for all human beings, especially the leader, since the leader needs it to build relationships with people both inside and outside the organization. People, who have effective communication skills, usually gain more benefits, because they can use communication as a tool to create and encourage participation.

1.3 Thinking skills; since the management in the 21st century, which is the age of 4.0 needs new innovations for educational development, thinking skills are considered important to manage work, since creativity leads to new innovations, which help

improve teaching qualities and students' learning opportunities. Robinson (2012) stated that creativity was having the ability to lead the school in the 21st century, because creative leaders must find new ways to solve problems and issues effectively.

1.4 Team building and collaboration skills; at the present, schools must cooperate and work in the same direction, and must have connection with the village, units, and other departments in order to work together and improve the school's quality. According to Hoyle, et al. (2005), they had written the book concerning the skills for success in the 21st century school leaders and explained that school leader must emphasize individual participation in the organization as well as participation in the community for development as well as setting policy to build relationships and participation with the community and seeking opportunity and participation from both the community and other academic departments for the benefit of the school.

1.5 Self-development and other skills; in order to develop the school's quality in the 21st century, the school administrator must have knowledge and ability. As the Ministry of Education provides the number of hours for the school administrator and teacher to develop them, the school administrator should be trained to improve them self as well as supporting the staff's development in many areas that are relevant to the teaching expertise and school management. Brunson (2008) stated to the leader in the 21st century that the leader must have self-development for the benefits of others instead of being selfish. Furthermore, the leader should have personal professional growth management skills, estimate self-operation, create plan for self-development, and integrate leading behavior to strategic operation.

2. Discussion about results of current and desirable conditions of the school administrator's skills in the 21st century under PESAO in Udon Thani

2.1 The result found that the current condition of school administrators in the 21st century under PESAO in Udon Thani was at a high level. This was because the school administrator nowadays must administrate according to the assignments from the original affiliation with expediency and accuracy, communicate to create understanding, and analyze the surrounding environment to create strategy and school mission along with creating strategic plan based on vision, mission, and objectives of the school as well as proceeding the school work clearly and being relevant to the policy of original affiliation and school context. Sanguannam (2010) stated that the leader must use knowledge, ability, skill, and experience of management to achieve goals by applying their knowledge, methods, and theory suitable to the situation and surrounding. Moreover, Pongsriwat (2005) explained that the leader must use managing skills to operate and achieve the goal.

2.2 The result found that the desirable condition of school administrators in the 21st century under PESAO in Udon Thani was at a very high level. This was because Udon Thani Provincial Education Office (2016) provided the objectives of Udon Thani Educational Plan B.E. 2017-2021 as follows; 1) All learners acquire standardized quality; 2) The population receives education thoroughly; 3) All learners have morality; 4) All learners have occupational skills and skills to live according to sufficiency economy; 5) The school leader, teachers, and educational staff have potential according to international standard; and 6) Educational departments administrate effectively by receiving participation from all units to provide both

domestic and abroad education. Amdonkloy (2013) explained the role of school administrator in the 21st century that the school leader must realize changes, develop oneself, find strategy, provide new management, adjust the working pattern, give the importance to the relationship of workers inside and outside the organization as well as paying attention to the culture of the organization.

3. The result of skills' arrangement of school administrator in the 21st century under PESAO in Udon Thani found that the most important skill was information technology and communication skills. This was because this is the age of information technology, and in order for the school leader to improve their school's quality, the school leader must know media, innovation, and technology. Therefore, it could not deny that the school leader must have information technology and communication skills to create the most benefits from technology effectively. In addition, Chaemmchoy (2017) explained the school administration in the digital age must be adapted appropriately to the era. Therefore, the school administrator must have leadership in technology and innovation.

Conclusion

1. The result of school administrators in the 21st century

The results of the study found that there were 5 main skills of school administrators in the 21st century as follows; 1.1) Organization Management Skills, 1.2) Information Technology and Communication Skills, 1.3) Thinking Skills, 1.4) Team Building and Collaboration Skills, and 1.5) Self and Personnel Development Skills

2. The result of the study concerning the current and desirable conditions of school administrators in the 21st century under PESAO in Udon Thani

The research result concerning the current and desirable conditions of school administrator's skills in the 21st century under PESAO in Udon Thani found that 5 main skills, which were organization management skills, information technology and communication skills, thinking skills, team building and collaboration skills, and self and personnel development skills, were at a high level for both of them. From the results, arrangement of necessary skills for school administrator in the 21st century, the necessary skills arranged by its most significance were 1) information technology and communication skills, 2) organizational management skills, 3) thinking skills, 4) team building and collaboration skills, and 5) self and personnel development.

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