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The Need Assessment in Developing Teacher Innovator's Skills under the Office of the Basic Education Commission

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Abstract

The primary research goals, as set forth by the Office of the Basic Education Commission, were to 1) examine the elements and indicators of secondary school teachers' innovative talents. 2) To examine the requirement for secondary school teacher innovation skills development within the Office of the Basic Education Commission. The findings were validated and confirmed by nine specialists. In the northeastern zone of the Office of the Basic Education Commission, 540 school principals and teachers were selected as the sampling group using a multi-stage random sampling process. Mean, standard deviation, and the Priority Needs Index were used to analyze the data. The findings indicated that school teachers' innovator skills consist of 5 celements, including initiative skills with five indicators, questioning skills with 6 indicators, observation skills with 6 indicators, experimental skills with 6 indicators, and 5) networking skills with 5 indicators. The degree of appropriateness for the components and indicators is quite high. Need assessment for building teacher innovators' skills revealed that the aspect with the greatest demand was questioning skills, with initiative skills, observation skills, experimental skills, and networking skills coming in second and third, respectively. The overall state of the Office of the Basic Education Commission's secondary school teachers' innovative skills is currently at a medium level; the component with the highest average score was networking skills, followed by trial skills, initiative skills, questioning skills, and observation skills, in that

order. The aspect with the highest average score was trial skills, followed by questioning skills, initiative skills, observation skills, and networking skills in that order, which are all at the highest degree of desired condition.

Keywords: Innovative teacher, Necessity, Need assessment

1. Introduction

The improvement of Thai people's skill level may be achieved in part via education. Through the art of management, the way that education is now managed has undergone a significant transformation. The aim is to develop the learner's desired characteristics, and the course materials are complimented by sophisticated thinking abilities including critical thinking, creativity, and social skills to collaborate with others and successfully interact with one another. Ability to innovate in inventions or processes while also having an awareness of morals, ethics, and social welfare. Innovation is continuously produced and introduced to society in accordance with social and economic circumstances. As a result, developing learners who are capable of creativity or innovation is a crucial objective for education and a crucial ability for future education (Wisetsat & Nuangchalerm, 2019).

Creativity and invention rank among those essential competencies (Baker, 2014). It involves more than just coming up with new ideas; it also entails getting people to accept them, commercializing them, and raising the worth or caliber of the underlying procedure or service. New technology development is another aspect of innovation (Nuangchalerm, 2020). It promotes unconventional concepts that have the potential to change societal beliefs. Innovative thought is where innovation first starts. Since thinking creatively is a crucial talent, it is vital to develop it until deeply ingrained habit becomes a skill (Nelson, 2012).

People with the capacity to think creatively and innovatively, as well as those who can generate new ideas or transform existing ones. These people will possess a sort of intelligence called as creative intelligence, which differs from other types of intelligence in that it goes beyond memory, perception, and brain-hemisphere preference. The ability to integrate the two hemispheres of one's brain to function as a single unit is a need for those who identify as innovators. by having the ability to develop original ideas. An innovator is someone who has a strong sense of self-motivation, the capacity to probe for the root of the issue, is imaginative, dedicated, and patient. They are knowledgeable about both their personal experiences and networks, and they utilize them to link them in order to develop methods for addressing problems or coming up with new ways to leverage them to boost productivity (Dyer et al., 2011; Polyiem & Nuangchalerm, 2022).

A person who is thought of as innovative in their ways of thinking, learning, and doing; they could accomplish something new, something unusual, or something they have never done before. Understanding innovation is difficult since it involves a broad variety of commitments and differing points of view. The capacity to explore with new experiences and ideas, learn to notice, ask questions, be proactive, and be able to connect concepts to issues or difficulties by asking (Christensen, 2015). Those that are inventive are continuously looking for something new or unique. Regarding what is nearby, there is skepticism, the capacity to

think and seem differently from most people.

There is a connecting concept. In order to broaden one's knowledge, get a fresh viewpoint, be able to collaborate with others, and possess the bravery to take chances, networking was formed. Innovation traits include self-assurance in judgment, adaptability, and optimism, as well as those of scientists (Day, 2016). At the organizational and governmental levels, new products may still be produced or current ones can still be used to their greatest advantage. To produce students who can think creatively and expand on their discoveries, educational institutions must provide them with the necessary tools to teach students the traits and skills necessary for creativity. The teacher is the most crucial player in the growth of education and learning, thus the innovation of the teacher has the greatest impact on the standard of education).

The ability is crucial for further education. The instructor plays a crucial role in helping students learn and grow in order to accomplish these objectives. The researchers were motivated by this to investigate the need to enhance secondary school teachers' capacity for creativity. With the help of this study, teachers will be able to innovate in ways that will help students build their future talents.

2. Method

Researchers conducted a synthesis of principles, concepts and theories about the innovativeness of teachers Wagner (2012); Sandberg and Stenroos (2014); Couros (2014); Furr and Dyer (2014); Navarro et al. (2015); Choi (2020); National Innovation Agency (2020) present a conceptual framework. The procedure of this study can be described below.

2.1 Informants

The following are informants, demographics, and samples: to confirm the content and indications, 9 certified informants were consulted. Higher education faculty, administrators in the field of education, and school administrators make up the three categories, used to examine the state of the population. Northeast of Thailand, 2020 school year, using 933 schools as sample units, desirable circumstances and critical requirements include administrators and instructors at secondary schools connected to the Office of the Basic Education Commission. Secondary education was utilized as the sample. Through a multi-stage random selection process, a sample of 270 schools includes 540 persons, 270 school principals, and 270 teachers were gathered.

2.2 Research Tool

Composition and indicator assessments, content-based accuracy of 1.00, and current and desirable conditions questionnaires, which are based on Likert's 5-level rating scale, are the tools used in the study. The composition and indicator assessments have a classification power value was 0.63 to 0.90 and its reliability was 0.94.

2.3 Data Collection

By contacting experts and gathering samples, nine evaluations, nine returns (all nine

received), and nine questionnaires were used to gather data. 556 of the 580 copies were returned (95.86%), and 540 were examined.

2.4 Data Analysis

We verified the evaluations before analyzing the mean and standard deviations and using criteria to interpret the results. Analyze the mean and standard deviation once the questionnaire has been validated, and then interpret the criteria. The criteria for interpretation can be concluded that 1.00-1.50: Lowest, 1.51-2.50: Low, 2.51-3.50: Moderate, 3.51-4.50: High, 4.51-5.00: Highest. After that, rate the necessary requirements after analyzing the need index.

3. Result

3.1 Innovation Components

Under the Office of the Board of Education Basic, the secondary school teachers' innovation component. 28 indicators are broken down into 5 elements. Initiative skills, which consists of 5 indicators: leadership, adapting to new technologies, being open to them, seeing opportunities and potential in new things, and using your imagination, diverse from the original concept, foreign or framed. To generate fresh viewpoints and options and to link concepts to produce new knowledge, use creativity. Capability for probing following six indicators: intrigued about the environment and the people there. Educate oneself by asking difficult questions, challenging the current quo by posing doubts, ask questions based on possibilities as well as those that will help teachers see things from new angles and provide fresh options.

Power of observation, there are need for topic knowledge, that must be followed, effective restraint over partiality or personal ideas. Outline the observation's purpose in detail by developing a methodical plan for observations. Pay close attention to what you are seeing and make a note of it. The willingness to take risks and the acceptance of possible risks. In addition to the skill to plan experiments, it takes work and patience to overcome numerous hurdles. Additionally, networking abilities, shared interest, respect for others' ideas, and mutual trust should be listed. Perceptions and viewpoints are widespread by the appropriateness assessment, which are shown in Table 1, there are cooperative actions to accomplish shared objectives and engage in exchange for learning.

Table 1. Appropriateness of the innovation component of secondary school teachers

Organization	$\bar{x}$	SD	Appropriateness level
1. Initiative skills	4.51	0.51	Highest
2. Questioning skills	4.52	0.50	Highest
3. Observation skills	4.52	0.50	Highest
4. Experimental skills	4.52	0.50	Highest
5. Networking skills	4.51	0.51	Highest
Overall	4.52	0.50	Highest

According to Table 1, the composition of secondary school teachers under the Office of the Basic Education Commission is the most appropriate, the elements with the highest averages are questioning skills, observation skills, experimental skills, followed by initiative skills, and networking skills respectively.

3.2 Current Condition

Overall, secondary school teachers' current conditions might be described as moderate. favorable circumstances, secondary school instructors' creativity. The totality of the situation is at the greatest level on all sides, for the requirement that secondary school instructors foster innovation. an organization connected to the Office of the Basic Education Commission as demonstrated in Table 2, the questioning abilities are the most difficult to master, followed by initiative, observation, experimentation, and networking skills in that order.

Table 2. Current condition

Component	$\bar{x}$	SD	Interpret
1. Initiative skills	3.29	0.59	Moderate
2. Questioning skills	3.27	0.61	Moderate
3. Observation skills	3.27	0.62	Moderate
4. Experimental skills	3.35	0.62	Moderate
5. Networking skills	3.40	0.64	Moderate
Overall	3.32	0.62	Moderate

Table 2 shows that all secondary school teachers are now in good health, with a condition score of 100%. Networking skills had the highest average scores, followed by experimental skills, initiative skills, questioning skills, and observation skills, in that order.

Table 3. Desirable conditions

Component	$\bar{x}$	SD	Interpret
1. Initiative skills	4.68	0.47	Highest
2. Questioning skills	4.69	0.46	Highest
3. Observation skills	4.64	0.48	Highest
4. Experimental skills	4.76	0.49	Highest
5. Networking skills	4.59	0.49	Highest
Overview	4.67	0.48	Highest

According to Table 3, the desirable conditions of secondary school teachers are desirable. The elements with the highest averages were experimental skills, followed by questioning skills, initiative skills, observation skills, and networking skills in respectively.

Table 4. Analysis and sequencing of needs

Component	Current condition		Desirable conditions		Trunks	Order
	$\bar{x}$	SD	$\bar{x}$	SD		
1. Initiative skills	3.29	0.59	4.68	0.47	0.422	2
2. Questioning skills	3.27	0.61	4.69	0.46	0.435	1
3. Observation skills	3.27	0.62	4.64	0.48	0.420	3
4. Experimental skills	3.35	0.62	4.76	0.49	0.418	4
5. Networking skills	3.40	0.64	4.59	0.49	0.349	5

According to Table 4, the elements with the highest demands were questioning skills (PNI = 0.435), followed by initiative skills (PNI = 0.422), observation skills (PNI = 0.420), experimental skills (PNI = 0.418), and networking skills (PNI = 0.349) in respectively.

4. Discussion

The innovation component of secondary school teachers under the Office of the Basic Education

Commission has 5 elements of 28 indicators. Considering the comparison with the principle Concepts and theories about teacher innovations adopted by researchers as a research conceptual framework. It was found that all 5 elements are based on the ideas of Dyer et al. (2011); Wagner (2012); Sandberg and Stenroos (2014); Couros (2014); Furr and Dyer (2014); Navarro-Garcia et al. (2015); Kieu (2017) which studied the factors influencing innovation, it was found that the factors influencing innovation are divided into 4 factors:having conflicting ideas, being creative, being open to thought, and having a coherent mindset.

The current state of innovation among secondary school teachers under the Office of the Basic Education Commission found that the overall picture in all aspects was moderate. The elements with the highest average are networking skills, followed by experimental skills. Initiative skills, questioning skills and observation skills, respectively. It shows that networking skills are a relatively high component in teachers. Therefore, in the development of the innovation of the teacher. Such elements should therefore be used as the main driving factor in the development process. It is based on Nelson (2012) concept that networking skills are an important element that enables innovations to have the ability to work as a team. Innovation must be aware of teamwork and full participation in the team and be ready to work with others to achieve innovation, according to Kieu (2017), who says that building a good network will involve a wide range of individuals. This diversity allows innovations to see different approaches and ways of thinking, allowing them to expand their resources with an extensive network.

Desirable conditions of secondary school teachers under the Office of the Basic Education Commission the whole picture on all sides is at the highest level. The elements with the highest average include experimental skills. Secondly, questioning skills, initiative skills, observation skills, and networking skills, respectively, it can be seen that experimental skills are another important element that one would expect to have at a high level of such skills. Therefore, in the development of the innovation of the teacher. It is in accordance with the concept of Kieu (2017) that successful innovations see the world as a laboratory. Innovations will see opportunities to experiment everywhere and test new ideas. All the time without worrying about sticking to the status quo. This experimental approach can lead to unexpected discoveries opening the door to new opportunities, according to Baker (2014), who says that newcomers have the ability to perform differently or experiment with things that have not been done before. The newcomers are open to new ideas and create an environment where colleagues are challenged.

The highest essential needs include questioning skills, followed by initiative skills, observation skills, experimental skills, and networking skills, respectively. It shows that questioning skills have the most important need to develop. It is based on Dyer et al. (2011) that questioning is a skill that truly demonstrates innovation, since asking good questions is more difficult than answering them. In line with Kieu (2017), who says that the innovators will always be curious, there will always be doubts and questions. This curiosity stimulates discovery and drives learning. They are not afraid to deal with questions and bring new approaches to problems that need to be solved and are closely linked to creativity. This insatiable curiosity will make the innovation open to new ideas.

5. Recommendation

The findings show that instructors have a relatively high component of networking abilities. As a result, this component should be the primary consideration when creating rules to encourage teacher creativity. Driven in line with other factors as well. Teachers now have rather low skill levels in these areas, even though developing their questioning and observational abilities should be given a high priority.

To gain insights for policymaking and the continued development of teacher innovation, a comprehensive study using integrated research with pertinent personnel at both the policy and practical levels that will more clearly reflect the innovation of secondary school teachers should be conducted.

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