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Strategies for Developing Special Education Teachers' Core Competencies in Northeast Region of Thailand

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Abstract

This research aimed to identifying and evaluating competencies of special education teachers in northeast region of Thailand. The researchers employed a three-phase procedure including identification components of competencies, need assessment, and creating related strategies. A mixed mode research design was employed. The findings showed the six components in descending order: Collaboration and interdisciplinary teamwork (PNI modified = 0.43); early childhood learning development (PNI modified = 0.40); building relationships with families (PNI modified = 0.38); information technology skills (PNI modified = 0.30); curriculum development and learning management (PNI modified = 0.26), and professional development and ethical conduct (PNI modified = 0.21).

Keywords: Core Competencies, Create Strategies, Need Assessment, Special Education Teachers.

Introduction

Special education is of great importance in Thailand because it plays a crucial role in addressing the diverse learning needs of students with disabilities (Dhir, 2020). Dhir (2020) emphasized that special education is important in promoting inclusive education by providing opportunities for students with disabilities to learn alongside their peers in general education settings. This inclusive approach fosters a sense of belonging and diversity within schools. Therefore, special education teachers' competencies development becomes crucial for providing effective in order to support students' diverse learning needs (Feng & Sass, 2013). According to Feng and Sass (2013), there are several strategies used to enhance special education teachers' competencies, for example, ongoing professional development, collaboration and networking, individualized learning plans, cultural competency, behavioural management techniques, technology integration, inclusive education practices, observation and feedback, and parent and community engagement.

Feng and Sass (2013) suggested that Ministry of Education can provide regular workshops, seminars, and training sessions on the latest research, teaching methodologies, and assistance-technologies in special education as one of the methods to cultivate their competencies through ongoing professional development. Besides, educational administrators should encourage their special education teachers' attendance at conference and participation in online courses so that they can stay updated on best practices. Bateman and Bateman (2013) stated that school administrators have to foster collaboration among special education teachers, general education teachers, and other professionals such as speech therapists, occupational therapists, and psychologists. This strategy can facilitate peer learning and mentoring opportunities within the school or district, so-called collaboration and networking.

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One of the important competencies that special education teachers need to possess is to create and implement individualized education plans (IEP) competency. Therefore, school administrators have to train their special education teachers to address the unique needs of each student by using IEP. This is to provide support in understanding and using assessment data to inform instructional decisions (Reich, 2010). Another important competency for special education teachers is to foster an inclusive and welcoming environment within the classroom. Alanazi et al. (2023) suggested to offer training on cultural competence to ensure that special education teachers understand and respect the diverse backgrounds and experiences of their students and their families.

Furthermore, Alanazi et al. (2023) emphasized the importance of behavioural management techniques for special education teachers. As a result, they should be provided training in positive behaviour interventions and supports in order to equip them with effective behaviour management strategies. This will help special education teachers be able to address the diverse behavioural challenges that may arise in special education settings (Alanazi et al., 2023). Moreover, Alanazi et al. (2023) mentioned that school administrators should not ignore technology integration competency to keep them updated on advancements in educational technology. They recommended the idea of training those special education teachers in the use of assistance technologies and other tools that can enhance the learning experience for students with special needs.

The above discussion shows the importance of competencies of special education in the 21st century that cannot be understated. It serves as a cornerstone for promoting educational equality, inclusively, and diversity (Dhir, 2020; Hornby & Kauffman, 2021). In other words, special education is dedicated to ensuring that each student, regardless of their unique learning abilities, has access to a tailored and supportive educational experience. This statement was found in consistent with Hornby (2014a) who addressed the diverse needs of students for providing individualized instruction and accommodations so that all students can thrive academically and socially to foster a positive learning environment. Thus, it aligns with the principles of education equity and social justice, ensuring that no student is left behind and that differences are celebrated as strengths. Consequently, special education is not only a support system for students with disabilities but also a vital component in preparing all students for a world where diversity is embraced and valued (Kauffman & Hornby, 2014).

Research Methodology

The researchers employed a mixed mode methods encompassing three phases aiming to develop strategies for cultivating special education teachers' competencies in the northeastern region of Thailand. The research was started by identifying the components and indicators of special education teachers' competencies. This was followed by assessing the current situation and desired improvements, and finally the researchers developed and evaluated those strategies to enhance special education teachers' competencies.

Research Design and Research Process

In the first phase, two ways of data collection were employed, namely a documentary review and expert interviews. The documentary review entails an in-depth analysis of relevant literature, principles, theories, and literature review in the field of special education teachers' competencies. The results of documentary review helped researchers to conceptualize a comprehensive framework consisting of six core components of special education teachers' competencies in Thailand context. This was followed by another qualitative method of interviewing five experts with the purpose of verifying and synthesizing the six core components and indicators of special education teachers' competencies. In this case, qualitative approach was found suitable as qualitative data could provide more in-depth insights into the experiences and perspectives of the five experts because they are policy-level educational officials, academic experts, and unit-level practitioners. Following this line of reasoning, these initial results were able to provide a solid

foundation for strategies development to enhance special education teachers' competencies.

In the second phase, researchers used the results of the first phase to investigate the current situation, needs, and necessary requirements for developing the core competencies of special education teachers in northeastern region of Thailand. A survey research design was utilized for a more practical method to collect data from a large and diverse population using an online survey questionnaire (Gay et al., 2009). The researchers used the six components to design a questionnaire to ensure that the obtained data is reliable and relevant to research objective.

In the final phase, a SWOT analysis was used for developing strategies to enhance the core competencies of special education teachers. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats, and it provides a structured framework for assessing internal and external factors that can impact a group of special education teachers.

Population and Samples

In the first phase, purposive sampling also known as non-probability sampling technique in which the researchers deliberately chose the five specific experts based on pre-defined criteria including experts' expertise, experience, knowledge, and specific traits related to special education teachers' competencies. This purposive sampling was employed in in-depth interviews with five experts because the researchers aimed to explore, understand, and interpret the experiences and perspectives of this specific individuals. The purposive sampling was found particularly useful when the aim of this research is to delve deeply into specific components and indicators of a phenomenon of special education teachers' core competencies (Gay et al., 2009).

A stratified random sampling was a sampling technique used in the second phase of this research where the population was divided into two subgroups on certain characteristics namely school administrators and teachers that were relevant to the research. The purpose of using this stratified sampling technique was to ensure that each subgroup was adequately represented in the sample, allowing for more accurate and meaningful analysis of the data. A total of population as 745 school administrators and teachers from 20 special education centres under the supervision of the Special Education Administration Office, Ministry of Education, Thailand was researchers' target group. The researchers distributed the entire population into homogeneous subgroups based on the identified characteristics, namely school administrators and teachers. Each individual in the population should belong to one and only one stratum. A sample size of 255 respondents was counted using Krejcie and Morgan's (1970) formula. Once the population was divided into strata, the researchers randomly selected 20 school administrators and 235 teachers from each stratum, making up a total of 255 respondents. This is to ensure that each subgroup was represented in the final sample.

In the final phase, the researchers employed a multi-stage sampling method by breaking down the sampling process into several stages, with each stage contributing to the final selection of participants (Gay et al., 2009). In the context of selecting 10 experts to evaluate strategies for developing special education teachers' core competencies, the researchers started by identifying three successful special education centers. Within the three selected organizations, the researchers identified individuals who have expertise in special education, teacher training, or related fields. Then, the researchers used stratified sampling to categorize the identified individuals based on their specific areas of expertise within special education or teacher training. This was to ensure representation from different aspects of special education, such as instructional strategies, assessment, behavioral interventions, and technology integration.

Research Instruments, Pilot Study and Data Analysis

A total of eight open-ended interview questions were designed for five experts to encourage them sharing their thoughts, experiences, and perspectives in a thorough and detailed manner about special education teachers'

core competencies. Other than introduction question, researchers tailored the interview questions to the unique context of the research. Additionally, researchers also would be prepared to adapt and ask follow-up questions based on the participant's responses to delve deeper into their experiences and perspectives.

A questionnaire consisted of 22 items was used as an instrument to examine the current situation, desired conditions, and necessary requirements for the development of special education teachers' core competencies using a Likert rating scale with five-levels, ranged from lowest, low, moderate, high, and highest levels of special education teachers' core competencies. The researchers conducted a pilot study to test the interview protocol, questionnaire, and heuristic evaluation form to ensure that the interview questions questionnaire items, and heuristic evaluation items were effective in eliciting the information needed to achieve study aims and improved the quality of the data collected during the actual study.

Before the researchers started to collect data, the interview questions, questionnaire, and heuristic evaluation form were sent to two experts in the field of educational administration for feedback and comments to validate the contents. The researchers made necessary modifications according to the two experts' feedback. The pilot testing of the questionnaire was then conducted on three school administrators and 27 teachers who were not the samples of the actual study, but they have the same background and structure as the samples of this research. The questionnaire was found reliable and good to use as the Cronbach alpha value was 0.985. Nevertheless, this Likert-based rating scale was employed to gauge its suitability, feasibility, and utility. On top of that, rigorous quality assurance measures were applied including theoretical foundation and content validity analysis was taken into consideration.

Data collection encompassed the submission of the draft strategy to the nine experts for evaluation, followed by an analysis of their feedback to implement necessary refinements. Data analysis relied on means and standard deviations, applying predefined criteria to determine the strategy's suitability and effectiveness. The researchers employed content analysis to analyze the interview data. Firstly, the researchers transcribed all interview data into a written format. The whole qualitative analysis process was carried out using the NVivo software program (McNiff, November 9, 2016). This was followed by unitizing the data by breaking it down the data into smaller units, such as sentences or paragraphs, that could be analyzed. The next step was to code the data. The researchers assigned codes to the units of data that represent concepts or themes that emerged from the data. Then, the researchers started to group the codes into broader categories or themes. This step involves looking for similarities and differences among the codes and grouping them together according to those similarities and differences. The final step was to analyze the data by looking for patterns, themes, or any relevant information that emerged from the data. This was done using narrative analysis as the method of data analysis.

PNI modification calculation was used to measure the gap of current situation, desired conditions, and prioritize needs development regarding the six components. The indication of the need assessment components is based on the PNI value of at least .30, the need components are more crucial when their number is higher than .30. The obtained data commands the effective approaches needed for the development of special education teachers' competencies as follows: $PNI_{\text{modified}} = (1-D)/D$.

In addition, descriptive statistics such as mean score and standard deviation were used to summarize the collected data. The researchers analyzed the mean scores into lists so that researchers could put the mean score in order. This can help us to interpret from the lowest to the highest mean scores in descending order. In other words, researchers used mean scores to compare different conditions. Besides, researchers used standard deviation as a measure of the dispersion or spread of a set of values. It quantifies how much individual values deviate from the mean score. Therefore, researchers used mean score and standard deviation to assess the normality of a distribution (Gay et al., 2009).

The researchers applied a SWOT analysis to develop strategies in promoting special education teachers' core competencies. The researchers followed the SWOT analysis, as suggested by Gurel (2017). Firstly, the researchers identified the existing strengths in the special education teachers' core competencies. This could include their expertise in specific teaching methods, knowledge of diverse learning needs, and effective communication skills. Next, the researchers identified areas where special education teachers might be lacking in core competencies. This could involve gaps in knowledge, skills, or resources. After that, the researchers explored opportunities for professional development, training programs, or workshops that can enhance special education teachers' core competencies. Lastly, the researchers recognized external factors that might impact special education, such as societal attitudes or policy changes (Gurel, 2017).

Research Findings

Identification of Special Education Teachers' Core Competencies Components and Indicators

The researchers explored 11 documents to identify the competencies of special education teachers, including Anastasiou and Keller (2010), Australian Institute for Teaching and School Leadership (2018), Bhutan Ministry of Education (2021), European Commission (2012), Office of Non-formal and Informal Education Promotion (2011), SEAMEO (2018), Singapore Ministry of Education (2021), and Teacher Council of Thailand (2022). The findings from document analysis were triangulated with insights from interviews with five experts to be incorporated to provide in-depth findings regarding the six core competencies components and 21 indicators of special education teachers as elucidated in Table 1.

Table 1: Core Competencies of special Education Teachers.

Competencies	Definition	Indicators	Indicator behaviour
Early childhood learning development	The process of acquiring skills, knowledge, and behaviours during the early years of life, typically from birth through age eight.	<ol style="list-style-type: none"> Physical, social, emotional, and intellectual development. Recognizing each student as an individual. Promoting learning through experiences for each type of disability. 	<ol style="list-style-type: none"> Can assess student's development. Can screen for different types of disabilities. Can understand unique characteristics of each student's disability. Can create suitable learning experiences for each type of disability and age group of students.
Curriculum development and learning management	The process of design, organizing and implementing instructional materials and activities tailored to meet the unique needs of students with disabilities.	<ol style="list-style-type: none"> Curriculum development and enhancement. Creation of IEP to match with Individualized Family Service Plan (IFSP) and Individual Transition Plan (ITP) Activity planning is specifically focused on their disabilities. 	<ol style="list-style-type: none"> Can develop early intervention (EI) curricula service tailored to the type of disability. Can prepare IEP, IFSP, and ITP. Can design diverse learning activities to match specific disability.

Building relationships with families	Involves establishing and maintaining positive collaborative, and open lines of communication between teachers and the families of students with special needs.	<ol style="list-style-type: none"> 1. Establishing family networks. 2. Family involvement in IEP. 3. Family participation in classroom activities. 4. Communication with families. 	<ol style="list-style-type: none"> 1. Can form collaborative networks between teachers and parents. 2. Can set guidelines for IEP development. 3. Can organize classroom activities to foster relationships and cooperation with parents. 4. Can utilize technology for communication with parents to enhance their child development.
Collaboration and interdisciplinary teamwork	Involves professionals from different disciplines working together to provide comprehensive and coordinated support for students with special needs.	<ol style="list-style-type: none"> 1. Knowledge sharing and collaborative learning. 2. Building collaborative networks with interdisciplinary teams and stakeholders. 3. Collaborating with interdisciplinary teams and relevant organizations. 4. Creating a positive teamwork atmosphere. 	<ol style="list-style-type: none"> 1. Can share knowledge, skills, and experiences with various professional fields to overcome challenges collectively. 2. Can establish collaborative networks with interdisciplinary teams. 3. Can create a learning community within interdisciplinary teams. 4. Can foster a harmonious teamwork atmosphere among school administrators and other teachers.
Professional development and ethical conduct	Critical components that contribute to the effectiveness and integrity of teachers and professionals working with students with special needs.	<ol style="list-style-type: none"> 1. Seeking new academic and professional knowledge. 2. Creating knowledge and innovations for organizational and professional development. 3. Exchanging learning and building networks. 4. Practicing professional ethics as role models. 	<ol style="list-style-type: none"> 1. Can engage in knowledge exploration, actively seeking opportunities for self-development. 2. Can generate knowledge and innovations to enhance abilities in learning, organizational, and professional management. 3. Can exchange learning with colleagues from the same profession. 4. Can serve as exemplary models for colleagues in adhering to professional ethics.
Information technology skills	Referring to technology plays a significant role in enhancing the learning experiences and addressing the diverse needs of students with disabilities.	<ol style="list-style-type: none"> 1. Integrating technology into teaching and learning process. 2. Using technology to create instructional media. 3. Utilizing technology for systematic data storage. 	<ol style="list-style-type: none"> 1. Can incorporate technology through adaptation of current teaching situations. 2. Can utilize technology to develop online instructional materials. 3. Can employ technology to store students' information systematically.

Need Assessment for Developing Special Education Teachers' Core Competencies Components

Before the researchers proceeded to conduct a need assessment, they analyze the suitability of each component of special education teachers' core competencies that have been identified in the first phase. The interpretation

of the suitability of each component of the core competencies was assessed according to Boomchom's (2014) identification as illustrated in Table 2. The findings showed that the six components of the core competencies at the current conditions were interpreted at moderate to high levels while they were found at highest levels at desired conditions. This can be interpreted that there is a significant gap between current condition and desired condition for each component of special education teachers' core competencies as presented in Table 3.

Table 2: Interpretation of the Suitability of Special Education Teachers' Core Competencies.

Interval of Mean Score	Interpretation
4.51-5.00	Highest
3.51-4.50	High
2.51-3.50	Moderate
1.51-2.50	Low
1.00-1.50	Lowest

Table 3: Interpretation of the Suitability of Special Education Teachers' Core Competencies.

Core competencies	Current conditions			Desired Conditions		
	\bar{X}	<i>SD</i>	Inter-pretation	\bar{X}	<i>SD</i>	Inter-pretation
Collaboration and interdisciplinary teamwork	3.36	0.36	Moderate	4.72	0.17	Highest
Early childhood learning development	3.30	0.35	Moderate	4.62	0.30	Highest
Building relationships with families	3.35	0.41	Moderate	4.64	0.22	Highest
Information technology skills	3.52	0.33	High	4.60	0.33	Highest
Curriculum development and learning management	3.73	0.22	High	4.56	0.24	Highest
Professional development and ethical conduct	3.56	0.21	High	4.30	0.29	Highest
Overall	3.46	0.31	Moderate	4.57	0.25	Highest

The findings of the need assessments for core competencies of special education teachers in northeastern region of Thailand indicated that collaboration and interdisciplinary teamwork component is the vital component of special education teachers' core competency. Table 3 depicts the details of each component of special education teachers' core competency ranking in order from the most needed to the least are as follows: collaboration and interdisciplinary teamwork ($PNI_{\text{modified}} = 0.43$); early childhood learning development ($PNI_{\text{modified}} = 0.40$); building relationships with families ($PNI_{\text{modified}} = 0.38$); information technology skills ($PNI_{\text{modified}} = 0.30$); curriculum development and learning management ($PNI_{\text{modified}} = 0.26$), and professional development and ethical conduct ($PNI_{\text{modified}} = 0.21$). Table 3 demonstrates overall need assessment index of special education teachers' core competency components.

Table 4: Overall Need Assessment Index of Special Education Teachers' Core Competencies.

Core competencies	Current conditions		Desired Conditions		PNI_{modified}	Ranking
	\bar{X}	<i>SD</i>	\bar{X}	<i>SD</i>		
Collaboration and interdisciplinary teamwork	3.36	0.36	4.72	0.17	0.43	1
Early childhood learning development	3.30	0.35	4.62	0.30	0.40	2
Building relationships with families	3.35	0.41	4.64	0.22	0.38	3
Information technology skills	3.52	0.33	4.60	0.33	0.30	4
Curriculum development and learning management	3.73	0.22	4.56	0.24	0.26	5
Professional development and ethical conduct	3.56	0.21	4.30	0.29	0.21	6

Create Strategies for Developing Special Education Teachers' Competencies in Northeast Region of Thailand

The findings of strategies were developed employing a multi-case study approach to investigate

and extract valuable lessons from three special education centers that have been recognized as successful awards. The researchers utilized SWOT (Strengths, Weaknesses, Opportunities, Threat) analysis and synthesized it into a draft strategy. Subsequently, the heuristic evaluation findings were reported by 10 experts indicating the quality of the created strategies to practice the six components of special education teachers' core competencies in terms of their suitability, feasibility, and utility. The highest mean score related to suitability, feasibility, and utility of the strategies was Strategy 2: Enhancing special education teachers' proficiency in assessing student development. This was followed by Strategy 1: Fostering collaboration and interdisciplinary team competencies. Table 5 displays heuristic evaluation findings based on the 10 experts' reviewing feedback.

Table 5: Heuristic Evaluation on Strategies for Developing Special Education Teachers' Core Competencies.

Components of the strategies	Suitability			Feasibility			Utility		
	X	SD	Level	X	SD	Level	X	SD	Level
Vision	4.85	0.37	Very high	5.00	0.00	Very high	4.54	0.51	Very high
Mission	4.69	0.43	Very high	4.66	0.50	Very high	4.67	0.57	Very high
Goals	4.69	0.51	Very high	4.63	0.48	Very high	4.84	0.34	Very high
Strategy 1: Fostering collaboration and interdisciplinary team competencies	4.78	0.35	Very high	4.70	0.48	Very high	4.81	0.23	Very high
Strategy 2: Enhancing special education teachers' proficiency in assessing student development	4.89	0.31	Very high	4.89	0.31	Very high	5.00	0.00	Very high
Strategy 3: Cultivating relationships between teachers and families to promote student development.	4.67	0.67	Very high	4.67	0.67	Very high	4.78	0.42	Very high
Strategy 4: Increasing special education teachers' proficiency in utilizing digital technology.	4.78	0.42	Very high	4.56	0.68	Very high	4.67	0.47	Very high
Strategy 5: Developing curricula that align with different types of disabilities and current contexts.	4.71	0.38	Very high	4.66	0.38	Very high	4.76	0.39	Very high
Strategy 6: Enhancing the quality of special education teachers' expertise in managing education for individuals with disabilities.	4.69	0.30	Very high	4.62	0.32	Very high	4.67	0.33	Very high

Conclusion

In summary, special education in northeast region of Thailand is essential for promoting inclusivity, providing equal educational opportunities, and supporting the holistic development of students with disabilities or special needs. Therefore, special education should align with global principles of education for all and ensures that every student, regardless of ability, has the right to receive an education tailored to their unique needs and capabilities. Following this line of reasoning, curriculum development in special education should involve creating a structured plan that addresses the individualized learning goals, abilities, and challenges of students with special needs. Special education curriculum development is suggested to take into account various factors such as the specific disabilities of the students, their cognitive levels, sensory needs, and any required accommodations or modifications.

Since the findings of the need assessments for core competencies of special education teachers indicated that

collaboration and interdisciplinary teamwork component is the vital component of special education teachers' core competency, this collaborative approach recognizes that diverse needs of students with disabilities often require input and expertise from various professionals. For example, interdisciplinary teamwork involves professionals from different fields, such as special education teachers, general education teachers, speech therapists, occupational therapists, psychologists, social workers, and other specialists, working together. The team collaborates to address the unique needs of each student comprehensively.

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