The Need for Meta-Skills Development Among Secondary Education Personnel

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Meta-skills are a type of higher order cognitive skill becoming more critical each year as artificial intelligence (AI) and automation begin to reduce the need for lower order thinking skills in the modern world. While many studies have established the importance of student meta-skills, the purpose of this study was to assess and analyse the skills needed by secondary school personnel, a cohort that few studies have adequately addressed so far. This study measured the specific desired meta-skills among 556 individuals working at 33 St. Paul de Chartres Schools across Thailand. Each respondent answered questions about their educational background, in addition to self-assessment of existing meta-skills. The data were analysed using Prioritised Needs Index (PNImodified), which compares each respondent's current skills ("reality") with their desired skills ("expectations"). PNImodified elucidates the largest perceived gaps in meta-skill development amongst school system personnel. Respecting the human dignity of others was identified as the top priority meta-skill among respondents. This underscores the importance of fostering a positive and inclusive school culture that values human dignity. It also provides evidence that education personnel are open to growth through meta-skill development, and suggest there may be benefits of formulating policies within establishments to nurture these types of skills. Future studies should investigate a paradigm for how to prioritise and grow these skills within secondary school personnel.

Keywords: meta-skills, competency, secondary school, continuing education, St. Paul de Chartres Schools, Thailand

INTRODUCTION

"Economic growth is strongly affected by the knowledge capital of workers" (Hanushek, & Woessmann, 2020). Recent studies have begun to outline the need for school staff to pursue continuing education in order to effectively prepare future generations in the 21st century. As a developing country, Thailand needs to empower their workforce to create long-term economic growth to mirror developed countries' programmes such as in Singapore.

(1) There is a critical distinction between Meta-Skills, Hard Skills, and Soft Skills.

Meta-skills promote a growth mindset or attitude that encourages learning, problem-solving, and innovation. This supports lifelong learning and helps people prepare for future change (Loshkareva et al., 2018). This is in contrast to hard skills, which are measurable and teachable, and soft skills, which are one's interpersonal and interpersonal skills.

(2) There is an increasing need for Meta Skills in this rapidly changing world.

Meta-skills promote a growth mindset or attitude that encourages learning, problem-solving, and innovation. This supports lifelong learning and helps people prepare for future change (Loshkareva et al., 2018). Many studies have explored the importance of meta-skills in higher education students studying several domains including STEM (Santiteerakul et al., 2019), marketing (Rohm et al., 2021), and English (Tiang-uan, A. 2024). However, there are only a small number of meta-skills studies that have focused on the school personnel rather than the students. As noted by (Mulyoto et al., 2024), "Creative teachers produce creative students."

(3) Meta-skills are needed in education personnel, especially in developing countries.

Based on the results of the study done by (Mulyoto et al., 2024), career development for teachers had a 44% positive effect on their creativity. Creativity is a meta-skill that leads to higher quality and more dynamic education. Skilled management is also necessary for an institution's system to be efficient. To fulfil commitments and goals, all school staff play an essential role in improving the quality of instruction. (Buncherdchu, 2009) states that school administrators in particular are crucial in enabling education management that can accomplish missions effectively. More expertise, extraordinary ability, and exceptional performance is expected of administrators compared to other roles in an educational organisation, which entails schools must develop and empower human capital with excellent knowledge and competency to thrive at all stages of their career. Developing countries rank lower in creativity (Mulyoto et al., 2024) compared to economically strong countries.

(4) Meta-skills could help promote Education 4.0 in secondary school systems, before post-secondary school.

Education 4.0 describes a concept in higher education whereby post-secondary institutions are shifting the focus of their curriculum and services towards better preparing graduates for career employment, according to (Bonfield at al., 2020). Meta-skills are required for the rapid adoption of technology to promote better learning

outcomes. Unlike studies mainly focused on university students, this study aimed to explore the necessary meta-skills among secondary school staff. Creative students should be nurtured before leaving secondary school, because promoting Education 4.0 in secondary schools could also prepare high school graduates for career development after graduation.

(5) Promoting meta-skills among secondary school personnel through a mentorship paradigm.

Since very few studies have been done on meta-skill development among secondary education personnel as opposed to students, The Saint Paul de Chartres sisters suggest a need for more research on Meta-skills for all personnel training the next generation of workers, learners, and builders. The aim would be to decentralise continuing education by opening the door for individuals at any stage in their career to participate in school leadership at a high level. Therefore, introducing a meta-skills development framework is essential to train a new generation of school administrators to learn from someone with experience in their targeted skills. Defining these methodologies can improve the management of secondary schools and empower personnel and students to reach their holistic competency.

Research Objective and Framework

This study aimed to examine the requirements for Meta-skills development in secondary school personnel according to self-reported assessment of existing skills and learning needs through 5-point scoring.

The objective of researching the perceived need for Meta-Skills Development was to better understand the perceived skill gaps among personnel at a secondary school system in a developing country. The investigator synthesised and evaluated several scholarly investigations' findings, hypotheses, and tenets.

The goal is to use this data to propose a Meta-Skills development framework that is evidence based but still culturally specific to developing countries. The researcher assessed respondents administration skills, notions of accomplishment, and the administrative duties of Saint Paul de Chartres schools. The following were four meta-skills assessed:

(1)   Leadership competencies.

(2)   Creating an identity for the learning community.

(3)   Power of Unity.

(4)   Innovative networking and communication.

The framework of the surveys was the Priority Need Index (Priority Need Index: $PNI_{modified}$) . Using this

The researcher used Suwimon Wongwanich and Nonglak Wiratchai's Priority Need Index methodology (2007:279) to gather information about the expectations and

actuality of Meta-Skills development base growth for Saint Paul de Chartres school personnel.

METHOD

This study focuses on the Meta-skills development assessment among personnel at 33 Saint Paul de Chartres Secondary Schools across Thailand. The following was the study's scope:

Participants

33 Sisters serve as administrators, 28 as assistant administrators, 235 teachers head departments in the Saint Paul de Chartres school administrative system, and 260 teachers lead the subject groups for a total of 556 respondents.

Research tool

The Saint Paul de Chartres school administrators completed surveys with five point rating scales. The questionnaires had two sections.

Section 1, respondents were questioned about their gender, age, education, position, experiences, and length of service. The questionnaires were designed using a checklist style.

Section 2, need of the Meta-skills development assessment among school administrators' questionnaires, supervises the Saint Paul de Chartres administrators in actual and expectation situations. The components are composed of the competencies of a leader in the Catholic Spirit, creating a community of learning around the Catholic identity, Power of Unity, and Creative Communication and Networking.

Data collection

The researcher gathered 556 completed questionnaires on the day of the appointment, and the data was required to be analysed using a statistical program.

This study obtained a certificate of approval for research involving human subjects No. E.020/2566 from the Research Ethics Committee of Saint Louis College. To protect the participants, the researchers explained the objectives, procedures, and data protection to the participants and constantly sought their consent before collecting data. The researcher contacted the personnels for permission and built a relationship with them before explaining the research method's significance and the questionnaire's details. The researcher distributed the QR Code to the personnels willing to participate via mobile phone, explained the research objectives, and instructed how to answer the questionnaire. The personnels then scanned the QR code on their mobile phones to complete the online questionnaire via the developed Google Form. The questionnaire took 10–15 min to complete. The researcher waited until the personnels completed or submitted the questionnaire and rechecked the completion to get accurate and completed questionnaires for the analysis.

Data analysis

The procedure under analysis was as follows:

(1) The personal data was analysed to calculate frequency (f) and percentage (%).

(2) The standard deviation (S.D.) and mean (x) were calculated to examine the administrators needs and competencies for mentorship.

(3) The Prioritised Needs Index (PNI$_{modified}$) was calculated for each skill.

Data processing and analysis of findings was completed using software that computed the Frequency (f), percentage (%), mean (x), and standard deviation (S.D.) of responses.

The Prioritised Needs Index (PNI$_{modified}$) was calculated as follows:

PNI$_{modified}$ = ("Expectations" I - "Reality" D) / ("Reality" D)

FINDINGS

(1) Table 1 specifies the analysis of Saint Paul de Chartres administrators' general demographic data in Thailand, including frequency and percentage.

Table 1

Review the quantity and percentage of Thailand's Saint Paul de Chartres administrators

Demographic data	Number	Percentage
Gender - male	96	17.27
Gender - female	452	81.29
Gender - did not disclose	8	1.44
Summary	556	100.00
Age - less than 30 years	43	7.73
Age - 30 to 40 years	169	30.40
Age - 41 to 50 years	155	27.88
Age - more than 50 years	188	33.81
Age - more than 50 years	188	33.81
Summary	556	100.00
Current Position - Administrator	33	5.94
Current Position - Deputy Administrator	28	5.04
Current Position - Assistant/ group leader	235	42.27
Current Position - Subject group leader	260	46.76
Summary	556	100.00
Experience in work and teaching - Less than five years	113	20.32
Experience in work and teaching - 5 to 10 years	129	23.20
Experience in work and teaching – 11 to 15 years	69	12.41
Experience in work and teaching – more than 15 years	244	43.88
Experience in work and teaching - No answer	1	0.18
Summary	556	100.00
Educational degree - Bachelor's degree	379	68.2
Educational degree - Master's Degree	164	29.5
Educational degree - Ph.D.	9	1.6
Educational degree - No answer	4	0.7
Summary	556	100.00

Table 1 revealed the following: Of the population, 452 females were counted as 81.29%, 96 males as 17.27%, and 1.44% did not wish to disclose their gender.

By age, the majority of people are over 50. The second largest age group was 30–40, or 169 numbers were 30.40% of the population. The third of the total respondents, 155 aged between 41-50, accounted for 27.88%, while 43 respondents, or 7.73%, were under 30.

According to this table, there were 260 heads of subject groups or 46.76% of the total. Of the 235 heads of department, the latter accounted for 42.27%, while 33 respondents, or 5.94%, were directors. Twenty-eight deputy directors, or 5.04 %, were the fewest.

Most of the 244 respondents—43.88%—had more than 15 years of job experience throughout the survey. Of the latter group, 129 respondents (23.20%) had worked for five to ten years, 113 respondents (20.32%) had worked for less than five years, 69 respondents (12.41%) had worked for 11 to 15 years, and 1% had no information all regarding their working term.

Concerning educational background, 379 individuals, or 68.82% of the population, held bachelor's degrees. Of those, 164, or 29.5%, held master's degrees. Nine respondents, or 1.6%, had doctorates, and four respondents, or 0.7%, had yet to learn their educational background.

(2)   Means, Standard Deviations, and Levels Reality and expectations of the competency of school administrators in the Sisters of St. Paul de Chartres in Thailand.

Table 2
Leader competencies

Leadership	Reality (D)		Expectations (I)		
	$\overline{X}$	S.D.	$\overline{x}$	S.D.	PNI modified
(1) You have leadership qualities that follow the example of Jesus in loving and serving others.	4.16	0.65	4.70	0.50	0.13
(2) You follow the policies and principles of education of the Catholic Church.	4.31	0.65	4.72	0.48	0.10
(3) You develop your spiritual life by elevating the level of goodness in practising oneself for the whole community's benefit.	4.33	0.61	4.77	0.45	0.10
(4) You have love and kindness. Fair to personnel, students, co-workers, and the underprivileged	4.57	0.54	4.86	0.36	0.06
(5) You respect the human dignity of personnel, students, coworkers, and stakeholders.	4.67	0.51	4.88	0.34	0.04
(6) You see the value of nature and the environment.	4.58	0.58	4.85	0.38	0.06
(7) You are an excellent example of how to live and conduct yourself.	4.23	0.66	4.76	0.46	0.13
(8) You are eager to help your fellow human beings.	4.44	0.61	4.82	0.42	0.09
(9) You motivated and directed the personnel of the schools affiliated with the sisters of St. Paul de Chartres to participate in work with willingness and achieve the set goals.	4.25	0.69	4.73	0.51	0.11
Summary	4.39	0.43	4.79	0.32	0.09

Table 2 shows survey results assessing leadership competencies. The average of all samples yields (D = 4.39, I = 4.79, $PNI_{modified}$ = 0.09). The largest gaps according to the $PNI_{modified}$ column are in having leadership qualities that follow the example of Jesus in loving and serving others (D = 4.16, I = 4.70, $PNI_{modified}$ = 0.13) and being an excellent example of how to live and conduct yourself (D = 4.23, I = 4.76, $PNI_{modified}$ = 0.13). Those are followed by being motivated and directing the personnel of the schools affiliated with the sisters of St. Paul de Chartres to participate in work with willingness and achieve the set goals (D = 4.25, I = 4.73, $PNI_{modified}$ = 0.11). Following are the polices and principles of education of the Catholic Church (D = 4.31, I = 4.72, $PNI_{modified}$ = 0.10) and developing your spiritual life by elevating the level of goodness in practicing oneself for the whole community's benefit (D = 4.33, I = 4.77, $PNI_{modified}$ = 0.10). Being eager to help your fellow human beings (D = 4.44, I = 4.82, $PNI_{modified}$ = 0.09) comes right after that. Next are having love and kindness. Fair to personnel, students, co-workers, and the underprivileged (D = 4.57, I = 4.86, $PNI_{modified}$ = 0.06) which is equal with seeing the value of nature and the environment (D = 4.58, I = 4.85, $PNI_{modified}$ = 0.06). Lastly the closest gap is respect for the human dignity of personnel, students, coworkers, and stakeholders (D = 4.67, I. = 4.88, $PNI_{modified}$ = 0.04).

(3)   Means, Standard Deviations, and Levels Reality and Expectations of the Competency of School personnel in the sisters of St. Paul de Chartres in Thailand.

Table 3
Creating an identity for the learning community

A learning community	Reality (D)		Expectations (I)		
	$\overline{x}$	S.D.	$\overline{x}$	S.D.	PNI modified
(1) You develop cooperation among personnel by bringing the knowledge and skills of each personnel to exchange knowledge with each other.	4.20	0.67	4.75	0.48	0.13
(2) You improve the quality of school learning management based on cultural relationships, according to Catholic education's identity.	4.35	0.65	4.78	0.44	0.10
(3) You focus on individual student development. You want to be a complete human with the whole-body mental, emotional, social, and intellectual.	4.34	0.66	4.82	0.42	0.11
(4) You encourage students to participate in the teaching and learning process. Assess the value and truth of life.	4.40	0.62	4.83	0.42	0.10
(5) You encourage executives and personnel to integrate knowledge with Gospel values.	4.19	0.74	4.73	0.51	0.13
(6) You donate to strengthen the ethics and Christian science curriculum that presents a holistic picture of humanity.	4.15	0.74	4.68	0.54	0.13
(7) You promote the teaching and learning process that emphasises reflection.	4.21	0.67	4.72	0.49	0.12
(8) You encourage executives to be good role models. Facilitate learning and be lifelong friends with students.	4.45	0.64	4.80	0.46	0.08
(9) You strengthen the audience on the path of unity.	4.16	0.74	4.70	0.52	0.13
Summary	4.27	0.52	4.76	0.38	0.11

Table 3 examines the expectation versus reality of staff's meta skill of critical thinking abilities. The overall results conclude that (D = 4.27, I = 4.76, PNI$_{modified}$ = 0.11). From highest to lowest PNI$_{modified}$ the traits that have the most room for improvement towards the expected levels are development of cooperation among personnel by bringing the knowledge and skills of each personnel to exchange knowledge with each other (D = 4.20, I = 4.75, PNI$_{modified}$ = 0.13), encouraging executives and personnel to integrate knowledge with Gospel values (D = 4.19, I = 4.73, PNI$_{modified}$ = 0.13), donating to strengthen the ethics and Christian science curriculum that presents a holistic picture of humanity (D = 4.15, I = 4.68, PNI$_{modified}$ = 0.13), and strengthening the audience on the path of unity (D = 4.16, I = 4.70, PNI$_{modified}$ = 0.13). Next is promoting the teaching and learning process that emphasises reflection (D = 4.21, I = 4.72, PNI$_{modified}$ = 0.12). This is followed up by focusing on individual student development. You want to be a complete human with the whole-body mental, emotional, social, and intellectual (D = 4.34, I = 4.82, PNI$_{modified}$ = 0.11). Improving the quality of school learning management

based on cultural relationships, according to Catholic education's identity (D = 4.35, I = 4.78, $PNI_{modified}$ = 0.10) and encouraging students to participate in the teaching and learning process. Assess the value and truth of life (D = 4.40, I = 4.83, $PNI_{modified}$ = 0.10) are next highest. Lastly the closest to expectations is to encourage executives to be good role models. Facilitate learning and be lifelong friends with students (D = 4.45, I = 4.80, $PNI_{modified}$ = 0.08).

(4) Mean, standard deviation, and level of Reality and expectations of the competency of school personnel in the sisters of St. Paul de Chartres in Thailand.

Table 4
The power of unity

The power of unity	Reality (D)		Expectations (I)		
	$\overline{X}$	S.D.	$\overline{X}$	S.D.	PNI modified
(1) You strengthen the attitude of personnel in devotion to others, following the example of Jesus.	4.30	0.67	4.79	0.45	0.11
(2) You strengthen the values of personnel in devotion to others, following the example of Jesus.	4.28	0.69	4.78	0.45	0.12
(3) You develop relationships among people with differences, love, and unity.	4.37	0.67	4.82	0.43	0.10
(4) You help, respect, and listen to each other's opinions.	4.53	0.60	4.85	0.39	0.07
(5) You develop relationships among personnel in the group by accepting each other.	4.46	0.60	4.83	0.41	0.08
(6) You give praise. Appreciate the work and support the progress of all personnel.	4.57	0.57	4.85	0.38	0.06
Summary	4.42	0.52	4.82	0.34	0.09

Table 4 addresses the staff's meta skill of collaboration comparing their mean expectations to reality. The overall results from the table's data yields (D = 4.42, I = 4.82, $PNI_{modified}$ = 0.09). The largest expectation gap came from strengthening the values of personnel in devotion to others, following the example of Jesus (D = 4.28, I = 4.78, $PNI_{modified}$ = 0.12). Second is strengthening the attitude of personnel in devotion to others, following the example of Jesus (D = 4.30, I = 4.79, $PNI_{modified}$ = 0.11). Third highest is developing relationships among people with differences, love, and unity (D = 4.37, I = 4.82, $PNI_{modified}$ = 0.10). The final three are descending in order are developing relationships among personnel in the group by accepting each other (D = 4.46, I = 4.83, $PNI_{modified}$ = 0.08), you help, respect, and listen to each other's opinions (D = 4.53, I = 4.85, $PNI_{modified}$ = 0.07), and giving praise. Appreciating the work and supporting the progress of all personnel (D = 4.57, I = 4.85, $PNI_{modified}$ = 0.06).

(5) Mean, standard deviation, and level of Reality and expectations of the competency of school personnel in the sisters of St. Paul de Chartres in Thailand.

Table 5
Innovative networking and communication

Communication and networking	Reality (D)		Expectations (I)		
	$\overline{X}$	S.D.	$\overline{X}$	S.D.	PNI modified
(1) You have a correct and creative way of communicating with others.	4.29	0.66	4.78	0.45	0.11
(2) You exchange information between schools and communities, creating cooperation.	4.24	0.69	4.73	0.49	0.12
(3) You create a good understanding with internal and external stakeholders.	4.24	0.70	4.74	0.49	0.12
(4) You create a network between schools, parents, and the community with good interactions.	4.19	0.70	4.73	0.49	0.13
(5) You create a good understanding with parents and communities to mobilise resources for learning and teaching.	4.22	0.72	4.72	0.51	0.12
(6) You strengthen cooperation within the network to develop the quality of education.	4.25	0.67	4.75	0.48	0.12
Summary	4.24	0.58	4.74	0.41	0.12

Table 5 shows the survey results relating to the meta skill of communication. It shows that the summary of the mean of the results yields the highest room for improvement of all of the meta skills (D = 4.24, I = 4.74, $PNI_{modified}$ = 0.12). The main contributing factor is the gap in creating a network between schools, parents, and the community with good interactions (D = 4.19, I = 4.73, $PNI_{modified}$ = 0.13). The most common $PNI_{modified}$ result of 0.12 is given by exchanging information between schools and communities, creating cooperation (D = 4.24, I = 4.73, $PNI_{modified}$ = 0.12), creating a good understanding with internal and external stakeholders (D = 4.24, I = 4.74, $PNI_{modified}$ = 0.12), creating a good understanding with parents and communities to mobilise resources for learning and teaching (D = 4.22, I = 4.72, $PNI_{modified}$ = 0.12), and strengthening cooperation within the network to develop the quality of education (D = 4.25, I = 4.75, $PNI_{modified}$ = 0.12). The best result came from having a correct and creative way of communicating with others (D = 4.29, I = 4.78, $PNI_{modified}$ = 0.11).

DISCUSSION

This study investigated the meta-skills of school personnel and identified areas for improvement. The findings revealed a significant gap between the desired level of meta-skills and the current reality, suggesting a desire for growth. Communication and networking skills were identified as needing the most development, followed by creating a learning community identity, leadership, and lastly, collaboration. This is consistent with the findings of (Karademir, 2024), which demonstrated that pre-service teachers in Indonesia were low level at speaking when their skills were evaluated. Communications and networking (Table 5) needing the most improvement (D = 4.24, I = 4.74, $PNI_{modified}$ = 0.12), Creating an identity for the learning community (table 3) (D = 4.27, I = 4.76, $PNI_{modified}$ = 0.11), leadership (table 2) (D = 4.39, I = 4.79, $PNI_{modified}$ = 0.09), and lastly collaboration (table 4) (D = 4.42, I = 4.82, $PNI_{modified}$ = 0.09). Across

all 4 categories of meta-skills assessed in this study, the skills with higher self scoring also had higher growth expectations.

These findings suggested a new paradigm is needed to grow future school leadership.

Prioritising Meta-skill Development: The identified gaps highlight the need for targeted interventions to enhance specific meta-skills. Communication and networking emerged as the most critical areas for development. This skill encompasses creative and correct communication with not only students but all other stakeholders at school and the parents. This lends insight into what training emphasis pre-service teachers should focus on improving earlier as they prepare for this career path as well as continued learning support for active teachers to get them more engaged in communication. Teachers valuing and improving these necessary meta-skills becomes increasingly relevant as they often control how these skills will be imparted to students in their lesson plans according to (Buasuwan et al., 2022). It is also important to be monitoring the teachers and how they feel about their work to prevent apathy, burnout, and anxiety that leads them to further distance themselves from work. This trend in feeling indifferent or distanced has been tripling over the last 15 years up to 47% of teachers in Spain according to (Ponce et al., 2024).

Fostering a Learning Environment of Education 4.0: To address the identified needs, schools can create formal and informal learning environments that encourage independent exploration and development of meta-skills. This aligns with research by (Amran et al., 2019) and (Boobphan et al., 2012), suggesting such environments foster critical thinking and independent problem-solving. This is especially important for the school staff to foster as critical thinking needed the second most improvement after the communication meta-skill. In addition to critical thinking and creativity, teachers have to constantly be updating their skills and knowledge as the world advances. In order to prepare graduates for the workforce, the school staff needs to update their curriculum and learning tools with the latest technology when feasible. Results from a recent study (Chaudhari & Khirwadkar 2024) show that multimedia Information and Communication Technology (ICT) can improve training for teachers and help students with both attention and retaining more information. As (Bonfield at al., 2020) concludes, "we need to be thoughtful in our application of curriculum design, learning environments and data, and always place the learner at the heart of any pedagogical intervention".

Self-Awareness and Catholic Culture: While self-awareness needs were found to be the least pressing, further research is needed to explore the role of Catholic school culture in fostering this meta-skill. (Boonyaprapun, 2020) suggests that training programs can enhance self-awareness, and studies by (Vago, 2014) and (Rothbaum et al., 2012) suggest that Catholic culture, with its emphasis on mindfulness, might contribute to higher levels of self-awareness. The self-awareness is necessary for the reflection on performance and demonstrates the school staff's collective desire to improve by consistently setting higher expectations for themselves.

This study looked at the development of school administrative meta-skills in 33 Catholic schools across Thailand, a country with a large Buddhist population. The

significance of Catholic values in an extremely diverse population of non-Catholic and Buddhist personnel are unique to this study.

Other research has suggested that human expression is influenced by various multilevel influences ranging from the individual to the interpersonal, societal, and cultural to the public policy levels (Bronfenbrenner & Morris, 2006). Therefore, these findings should also be replicated in other settings because different educational practices and cultural norms can impact meta-skills development.

Future research can explore the effectiveness of specific interventions designed to enhance identified meta-skills among school personnel. Additionally, a larger and more diverse sample could be employed to enhance the generalizability of the findings. Finally, further research could delve deeper into the role of Catholic school culture in shaping meta-skills like self-awareness.

CONCLUSION

This study obtained new information about the meta-skills development requirements of secondary school personnel in Thailand. Respondents reported consistently higher expectations for themselves than their current reality, suggesting a unanimous desire for growth among all personnel. Gaps suggested areas of skill improvement to nurture.

School personnel reported more weakness in communication and networking skills, a high-priority meta-skill required for teaching. Establishments interested in improving the impact of education personnel should make use of these findings to formulate policies that will support the development of meta-skills in a diverse setting.

This research sheds light on the specific meta-skills that school personnel desire to grow through collaboration, communication, and mentorship. To effectively put into practice Education 4.0, this research suggests that new paradigms for skill development could benefit from teaching more meta-skills such as creative communication. Additionally, this data could be used to inform a new personalised framework for utilising mentorship to effectively teach meta-skills in education.

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