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Thai Student Teacher Learning Management Skills: A Stakeholder Needs Assessment

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Abstract

A UNESCO international survey has discovered that 91% of all primary schools worldwide have moved to some form of digital and broadcast remote learning policies. Additionally, in Thailand, 90% of all forms of education have moved to online teaching. However, teachers and students have been thrust into an online education system in which few were prepared. Therefore, given these concerns, the authors devised a study in which Thai student-teacher learning management skills (STLMS) would be evaluated by stakeholders using a needs assessment process. The objectives were 1) to study the *present* and *desired* conditions in developing TLMS, 2) to prioritize the *desired* needs in developing STLMS, and 3) to prioritize the needs and necessities of developing learning management skills of student teachers. The sample consisted of three stakeholders, including 158 student-teacher mentors, 32 student-teacher lecturers, and 320 student-teacher university alumni, totaling 510 teachers. The research tools used a needs assessment form for learning management skills (LMS). Descriptive statistics included percentages, standard deviation, and the modified Priority Need Index ($PNI_{modified}$). The results identified three TLMS needs as essential. Ranked in importance, these were the ability to *develop digital media technology* ($PNI_{modified}$ = 0.0744), the ability to develop a *learning management plan* ($PNI_{modified}$ = 0.0693), and finally, the ability to *ability to develop learning measurement and evaluation tools* ($PNI_{modified}$ = 0.0691). The study contributes to the literature in that it demonstrated that correctly developed and implemented STLMS can increase online teaching skills significantly.

Keywords: Learning management plan, online teaching, pre-service teachers, student teachers, Thailand

Introduction

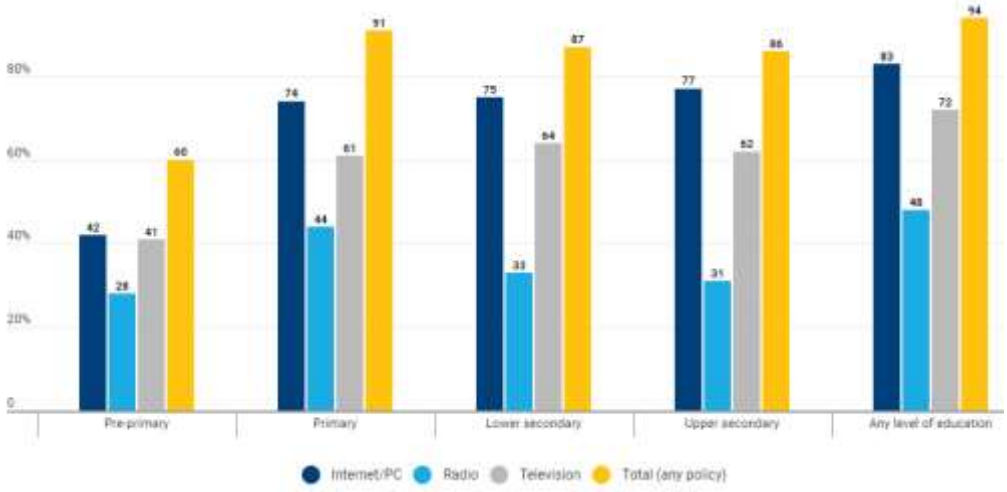
In 2020 the world woke up to the ravages of a global pandemic, which has decimated international commerce, tourism, and education initiatives at all levels, especially in developing countries (Andrade-Vargas et al., 2021; Deloitte, 2020). Unfortunately, for almost two years, the world and Thailand have been locked in a daily battle with a silent killer, COVID-19. However, communities in Thai culture look to their teachers for wisdom and advice and wisdom (Kanawapee et al., 2021). Also, teacher knowledge and their respective competencies have become a more significant concern today than a couple of years ago.

Therefore, teachers' skills and abilities must be evaluated and developed as the pandemic situation changes (Perifanou et al., 2021). More than 90% of the Kingdom chooses to use some form of online teaching instead of the traditional classroom (UNICEF, 2020). This is consistent with a UNESCO-UNICEF-World Bank national survey on education responses to COVID-19-related school closures in which 87% of lower secondary schools and 86% of the upper secondary schools had abandoned the traditional classroom format for some form of digital and broadcast remote learning policies (Figure 1) (UNICEF, 2020). These numbers increased even further to 91% when primary schools were surveyed.

However, changing the environment and adopting new teaching and learning styles creates significant risks, problems, and challenges for teachers and students alike (Bao, 2020; Cachón-Zagalaz et al., 2020; Hiraoka & Tomoda, 2020). Teachers' ability to cope with the challenges and changes associated with this new teaching context (*New Normal*) has been a significant concern. In another global survey by Jelińska and Paradowski (2021) on how the COVID-19 pandemic has created turmoil in the lives of students and teachers and forced them into emergency remote instruction, the authors discovered various problems from the teachers who participated online from 91 countries. The first problem was verifying whether each student completed their online assignments and exams independently. Another issue is the divide created when lessons are presented using smartphones and computer screens, as this manner of teaching can impair dialogue and the teacher's ability to provide feedback and lessons specific to each learner (Iwai, 2020). Online learning also potentially impedes teachers' awareness of their students' academic or emotional difficulties (Zaccoletti et al., 2020).

Figure 1

International Countries Implementing Digital and Broadcast Remote Learning



Source: UNICEF (2020)

Therefore, educators must adapt their teaching methods to the *New Normal* and the accelerating pace of required change (Konrad, 2020; "Rocky start," 2020; Saengmanee, 2020). In Thailand's '*New Normal*,' online teaching has become a

required and accepted practice, but not without numerous bumps in the road. One of the *bumps* has been the rise in Thai student dissatisfaction with the amount of time and methods used for online teaching and their growing unhappiness (anger?) in being forced to use it (Imsa-ard, 2020).

In a similar study from Thailand, Karo (2021) examined 113 pre-service teachers from four Early Childhood Education Program classes and determined that highly effective teaching and learning collaboration tools were Google Drive, Google Sites for electronic portfolios, and

PowerPoint. Therefore, these are excellent ICT (information communication technology) related resources to adapt to online teaching under the COVID-19 pandemic conditions. Therefore, teachers and mentors involved in developing student-teacher skills must search for the most influential ICT resources for all stakeholders.

This is consistent with Binheem et al. (2021), who added that student teachers and their respective institutions should be technically competent and equipped if they expect to engage with a newer generation of technically and Internet-savvy students effectively. However, implementing ICT will not yield greater learning process benefits or student learning if a teacher or student lacks *learning management skills* (Onkwanmoung, 2016). In Thailand, Patphol (2020) has added that primary school teachers must develop their TLMS to promote learners' creativity and innovation ability. Moreover, Thailand's OBEC (*Office of the Basic Education Commission*) has voiced a similar goal for primary and secondary school teachers and their TLMS development, specifically promoting learners' creativity and innovation ability.

Specifically, various documents and agencies have pointed out TLMS indicators. According to Thailand's *National Institute for Development of Teachers, Faculty Staff and Educational Personnel* (NIDTEP) (2000), the *Office of the*

Teacher Civil Service and Educational Personnel Commission (OTEPC) (2007), and *OBEC* (2010), TLMS competencies included 1) creativity in curriculum development, 2) teaching content, 3) learning process organization focused on student-centered learning, 4) the development and application of multimedia learning, innovation, and ICT learning management, and 5) the ability to measure and evaluate learning. In a similar but less detailed manner, the *Secretariat Office of the Teachers Council of Thailand* (2013) has stated that TLMS competencies should include: 1) the creation, preparation, and application of lesson plans that offer actual results, and 2) the creation of a classroom management atmosphere for student learning.

Another agency involved in teacher assessment is the *Office for National Education Standards and Quality Assessment*)ONESQA(. Initially established in 2000 to evaluate schools and their staff every five years (ONESQA, 2017; Yuthavong, 2014), ONESQA has had an essential but controversial role in assessing and maintaining educational quality in Thailand ("ONESQA: Leading the drive for quality," 2009: ONESQA, 2017; Pitiyanuwat, 2005, 2007).

Needs Assessment (NA)

Needs assessments are tools for constructive and positive change, measuring the gaps between the *present* state and what is *desired* (Lee et al., 2007; Prasitticho & Klaykaew, 2021). To identify gaps between the *present* state and *the desired* one, it becomes necessary to place the needs' gaps from the results in a method that prioritizes the most important ones to be addressed (Kaufman et al., 1993).

Needs assessments are not designed for quick fixes or situational crises but for the rational and logical functional change that meets all stakeholders, educators, and learners (Kaufman,

1979). A World Bank study on needs assessment stated that a NA is a tool that supports the earliest phase of a project's development (Watkins et al., 1998; Watkins et al., 2012). Barbazette (2006) has added that a NA is a process within an organization to collect information from which training can be applied to improve the organization's workings or correct a deficiency. The author also added that a NA entails a three-stage process. These collect the necessary information, its analysis, and the subsequent training plan creation.

Therefore, this research uses the NA process to find information on the needs of stakeholders in formulating guidelines for the development of TLMS. The stakeholders collected data: student-teacher mentors, student-teacher lecturers, and student-teacher alumni. In Thailand, guidelines have been established for student-teacher development and training. In these plans, hands-on experience and preparation are part of the required curriculum before certification. Training is conducted systematically, continuously, and earnestly to obtain teachers who can assure a high quality of education for the future (Karo, 2021; Prasitticho & Klaykaew, 2021**).**

Research question

- What are the present characteristics of teaching teacher learning management skills (TLMS)?
- What kind of TLMS is required?

Research Procedures

Assessing the needs is necessary for the TLMS of student teachers based on the stakeholders' opinions.

Research Objectives

- The study's objectives were to evaluate and measure the *actual* and *desired* conditions for the development of TLMS.
- To prioritize the needs and necessities of TLMS according to the stakeholders' opinions.

Population and Sample

The research population is stakeholders in the production and development of the teacher profession. For this study, three groups were identified for the stakeholder population. These were: 1) the student-teacher *mentors,* who are individuals responsible for supervising and guiding student students during their teacher professional experience training, 2) the student-teacher *lecturers* who are the teachers responsible for teaching student teachers, and 3) the *alumni* who were students who graduated from 2015 – 2018.

Population

The research population consisted of 2,155 individuals (Table 2). This was further divided into 1,850 student-teacher alumni from the Faculty of Education at Thailand's Nakhon Si Thammarat Rajabhat University who graduated from 2015 – to 2018 (Table 1). The remaining were the total number of student-teacher mentors (260) and student-teacher lecturers (45) within the university (Table 2).

Table 1

Summary of Student-Teacher Alumni Information from the Faculty of Education, Nakhon Si Thammarat Rajabhat University 2015-2018

Discipline	Graduation Year					
	2015	2016	2017	2018	Total	Sample

						Collected
Computer	55	57	59	57	228	41
Mathematics	54	58	59	56	227	40
Thai	53	58	55	57	223	40
English	56	29	27	55	167	30
Physical Education	55	56	56	57	224	40
Society	57	59	57	59	232	41
Science	57	55	55	54	221	39
Childhood Education	59	59	58	58	234	42
Physics	21	23	27	23	94	17
					1850	329

Table 2

Summary of Population and Group Sample Collected

Type	**Population**	**Sample Collected**
Student-teacher mentors	260	158
Student-teacher lecturers	45	40
Student-teacher alumni	1850	329
Total	2155	527

Sample Determination

The sample size used Taro Yamane's formula (1973) with a 5% error and used to compare the proportions from the population of each type by stratified random sampling method according to the formula:

$$n = \frac{N}{1+Ne^2} \quad (1)$$

where n = desired sample size, N = population size, and e = acceptable sampling tolerance (Singh & Masuku, 2014, p.15).

Sample Collection

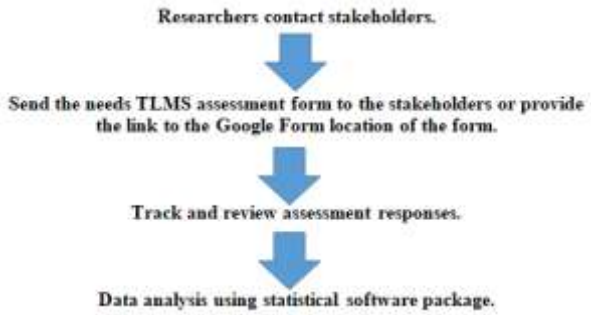
The sample obtained for the study consisted of 158 student-teacher mentors, 40 student-teacher lecturers, and 329 alumni, totaling a total population of 527. Stratified random sampling was used for sample collection.

Data Collection

The researchers collected the data by self-submission and online submission by converting the data in Google Form into QR Codes for easy questionnaire answering. Figure 2 shows the research investigation steps.

Figure 2

Data Collection Process



TLMS Needs Assessment Analysis

The investigators examined the accuracy and completeness of each *Essential Needs Assessment.*

Form. This was necessary to ascertain the TLMS stakeholder opinions. Analysis was conducted using the mean ($\bar{x}$) and standard deviation (SD). The TLMS needs assessment was undertaken using the *modified priority needs index* ($PNI_{Modified}$), which is a need assessment tool often used in Thai and other global studies (Amornpinyo, 2016; Chainut et al., 2019; Shamsheun & Chomeya, 2017; Silsawang et al., 2014; Thammasaeng et al., 2016**).** Originating from studies conducted by Wongwanich and Wiratchai (2005) and Wongwanich (2015), the modified version offers a more robust output as it finds the differential value between the *desired* outcome (I) and the *actual* results (D). The calculation formula adopted for use in this study was as follows:

$$PNI_{Modified} = (I - D)/ D \quad (2)$$

PNI = priority needs index

I = the $\bar{x}$ for the *desired* outcome

D = the $\bar{x}$ for the *actual* results

Moreover, a $PNI_{(modified)}$ analysis was conducted to determine the level or rank of each need according to each stakeholder's input.

Tools used

The research tool was a TLMS needs assessment form designed to assess each stakeholder's opinions. The questionnaire was divided into two parts. Part 1 consisted of items concerning basic stakeholder information such as gender and role of the respondent and their school learning management experience. Part 2 contained items detailing each individual's opinions concerning TLMS. The 5-level assessment scale type was based on Kaufman et al. (1993) and the Teachers Council of Thailand Regulations on Professional Standards, 4th Edition, 2019, using a dual response model (Wongwanich, 2015).

There were 22 items, with each item having two parts. The first part was concerned with the *present* or present state of the TLMS condition. The second part was concerned with the *desired* status of the TLMS according to the criteria for measuring the level of demand. Using these criteria, Level 5 represented the reality or

condition at the highest level, while Level 1 represented the reality or the condition at the lowest level (Wongwanich, 2015).

Questionnaire item development was undertaken with the assistance of five learning and education experts. After that, the content validity of each item was evaluated using the index of item-objective congruence (IOC). This analysis reported scores from 0.67 to 1.00 (Rovinelli & Hambleton, 1977). The overall necessity coefficient resulted in Cronbach's alpha coefficient of 0.75, which is higher than the commonly accepted value of $\alpha \geq 0.70$, indicating a good level of reliability (George & Mallery, 2010).

Research and Discussion

Data Analysis of Respondents

Table 3 shows each teacher's gender and personal and professional status. Not surprisingly, the majority were women (70.59%). Also, most of the sample was student teachers who had already graduated (62.75%). Finally, the majority had 3-4 years of learning management experience (30.20%).

Table 3

Teacher Gender, Personal and Professional Status

General Information	Number	%
Gender		
Male	150	29.41
Female	360	70.59
Respondent status		
Student Teachers' Lecturers	32	6.27
Student Teachers' mentors	158	30.98
Student Teacher alumni	320	62.75
Experience in learning management		
Less than one year	68	13.33
1-2 year	123	24.12
3-4 year	154	30.20
5-6 year	48	9.41
More than six years	117	22.94
	510	100.00

TLMS Present and the Desired States Needs Assessment

Table 4 presents the needs assessment analysis of the *present* and *desired* states concerning TLMS.

Present Condition

Concerning the *present* condition, item 2 was considered the most significant concern. This was "*the ability to integrate knowledge and pedagogy to plan and manage learning is important*" (mean=4.44). This was closely followed by item 22, which was "the ability to apply online learning management media in learning management is

important" (mean=4.42), and item 21, "the ability to develop media using technology to manage learning in the New Normal era is important" (mean=4.40).

Desired Condition

Concerning the *desired* condition, two items were at the top of importance. These were item 22 again, which was "*the ability to apply online learning management media in learning management is important*" (mean=4.55), and item 21, "*the ability to develop media using technology to manage learning in the New Normal era is important*" (mean=4.54). These two items were closely followed by two more groups, including 2, 6, and 16 (mean=4.51) and items 5 and 7 (mean=4.50).

There can be no doubt from these results that the sample survey of teachers understands loud and clear that Thailand's education environment is moving in a new direction, and that direction consists of ICT, the Internet, digital media, virtual learning, and online learning (the *New Normal*) (Hua & Ren, 2021; UNESCO, 2020; Wannapiroon & Pimdee, 2022; Yalagi & Nirgude, 2021). Since March 2020, support for these ideas has been building. First, newer Thai teaching standards encourage educators to develop new ways to transfer knowledge. This includes teaching pedagogies such as flipped classrooms (Eppard & Rochdi, 2017), blended learning, inquiry-based learning (IBL) (Hrast & Savec, 2018), problem-based learning (PBL) (Srikan et al., 2021), and student-centered/personalized learning (Friend et al., 2017).

In simplest terms, the *New Normal* is the slow demise of the traditional classroom with rows of desks to an *online environment* (Hua & Ren, 2021; Yalagi & Nirgude, 2021). Hopefully, it is the end of *chalk-and-talk* teaching in which the teacher-centered environment lets the teacher talk, and the student listens (Kenan Foundation Asia, 2017). It is the education movement onto digital devices that uses the Internet to transmit the lesson and the student's response. It is a process of using *blended learning* models and *flipped classrooms* to enhance collaboration within the digital and online experiences (Srikan et al., 2021; Wannapiroon & Pimdee, 2022; Zainuddin et al., 2019).

It is the use of ICT to facilitate *inquiry-based learning* (IBL) (Bakhshialiabad et al., 2015; Hrast & Savec, 2018) and the use of *learning management systems* (LMSs) such as Google Classroom or Schoology to coordinate the learning process and gather the critical data necessary to develop a *personalized* learning experience (Friend et al., 2017). Finally, the *New Normal* uses online teaching methods and digital ICT platforms to overcome space and time limitations or, stated another way, it allows '*anytime-anywhere*' learning (Bergmann & Sams, 2012). Therefore, the *New Normal* has become the 'catch-all' phrase for many things.

TLMS Needs Assessment Ranking Importance

Table 4 details the 22 items used in the needs assessment stakeholder questionnaire. Based on the ranking of the 22 items using the $PNI_{modified}$ needs assessment formula, it was determined that the stakeholders felt that (8) "*the ability to develop digital media technology*" was most important ($PNI_{modified}$ = 0.0744). This is consistent with teacher competency requirements across multiple Thai teacher certifications and assessment organizations. This is also supported by O'Reilly (2016), who stated the critical importance of technology integration by teachers as this is the initial step in its successful adoption and sustained use. In Europe,

Botturi (2019) reported that digital and media literacy (DML) had gained increasing attention in European compulsory education in the age of digitalization. Interestingly, other studies' findings have suggested that the number of years teaching and a teacher's age can negatively affect ICT adoption and integration (Inan & Lowther, 2010). However, many other studies have suggested this is not always true as many internal and external factors affect successful ICT educator adoption.

The second most crucial need, according to the stakeholders for STLMS, was (4) "*the ability to develop a learning management plan correctly and completely with all components is important*" ($PNI_{modified}$ = 0.0693). This opinion on a learning management plan's (LMP) importance most probably finds it the foundation it the requirement

by the Thai Ministry of Education (MOE) that educators create and follow the numerous TQF (Thai Qualification Framework) procedures for five learning outcome domains, including ICT (Maneerat et al., 2015; Office of the Higher Education Commission, 2009; 2014).

Also, the ability to formulate an LMP is a critical pillar in becoming a teaching professional, with numerous student-teacher education programs worldwide providing pedagogical, subject-specific, and practical learning opportunities to support student teachers' learning (European Commission, 2013; Flores, 2016; König et al., 2020).

The third most crucial need, according to the stakeholders for STLMS, was (10) "*the ability to analyze, design, and develop learning measurement and evaluation tools that are consistent with the learning management plan are important*" ($PNI_{modified}$ = 0.0691). Once again, this strength could come from an external source such as Thailand's ONESQA ("ONESQA: Leading the drive for quality," 2009: ONESQA, 2017; Pitiyanuwat, 2005, 2007).

Moreover, the *ability to develop learning measurement and evaluation tools* plays an essential role in education while also playing a significant and influential part in recognizing performance levels (Almaleki et al., 2021).

Therefore, institutes responsible for producing and developing teacher professions should plan and schedule student-teacher training that helps them analyze, design, and develop learning management plans. These same organizations need to also assist with their ability to measure and evaluate learning outcomes with accuracy and completeness of all elements.

This is consistent with Contreras et al. (2020), who researched teacher-student and teacher *cognition* while developing lesson plans. From the research, it was said that lesson planning is an essential element in education and that throughout each teacher's career, cognition should be a factor that is understood and acknowledged.

Iqbal et al. (2021) researched rethinking theories concerning how lesson plans are developed and used for effective teaching and learning. From the study, the authors stated the importance of attractive, dynamic plans that allowed students to engage with the material. Therefore, TLMS should include the development of how to deal with the changing demands and fast-advancing learning needs of students.

From the data synthesis from Table 4, the authors determined that the essential TLMS needs were *developing digital media technology, a learning management plan, and learning measurement and evaluation tools* (Figure 3).

Table 4

TLMS Needs Assessment Abilities Results

Needs Assessment Abilities	The *present* condition mean	The *desired* condition mean	$PNI_{modified}$	Rank
(1) The ability to create and develop courses is essential.	4.19	4.39	0.0468	11
(2) Integrating knowledge and pedagogy to plan and manage learning is essential.	4.44	4.51	0.0140	22
(3) The ability to use technology for learning management is essential.				

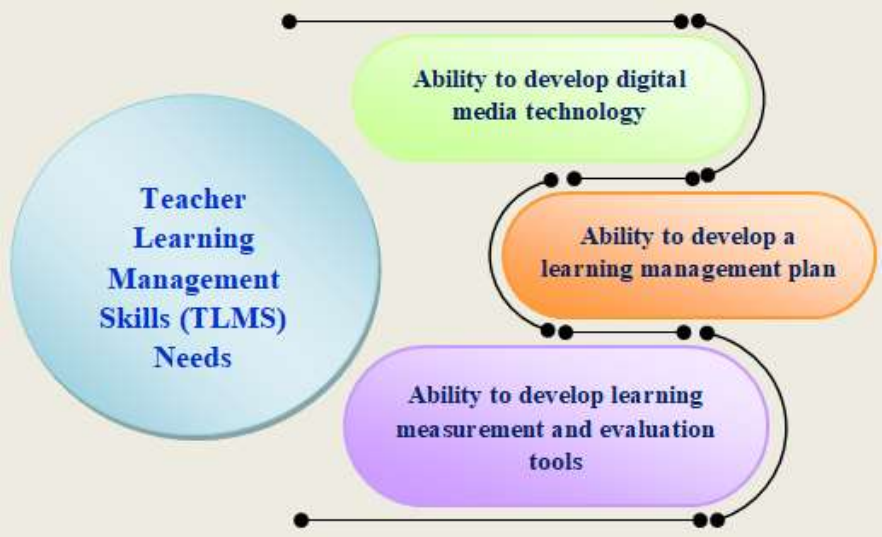
	4.22	4.41	0.0457	12
(4) Formulating a learning management plan correctly and entirely with all components is essential.	4.15	4.44	0.0693	2
(5) The ability to analyze, design, and develop learning activities is essential.	4.23	4.50	0.0650	4
(6) The ability to analyze, design, and develop media for learning management is essential.	4.24	4.51	0.0632	6
(7) The ability to organize activities and create an atmosphere stimulating learning is essential.	4.32	4.50	0.0408	14
(8) The ability to develop digital media technology is essential.	4.04	4.34	0.0744	1
(9) The ability to develop media from local wisdom to support learning management is essential.	4.17	4.43	0.0611	7
(10) The ability to analyze, design, and develop learning measurement and evaluation tools consistent with the learning management plan is essential.	4.16	4.45	0.0691	3
(11) The ability to care for, assist and develop individual students according to their potential is essential.	4.28	4.40	0.0285	21
(12) Ability to write individual student development reports is essential.	4.34	4.49	0.0357	15
(13) The ability to control classes and attract students' attention is essential.	4.10	4.36	0.0637	5
(14) The ability to conduct research in the classroom to improve learning management and student development is essential.	4.39	4.48	0.0209	21
(15) The ability to work in a creative team is essential.	4.32	4.47	0.0348	16
(16) The ability to apply learning management	4.33	4.51		13

plans, media, measuring, and evaluation tools in the classroom consistently and appropriately are essential.			0.0423	
(17) The ability to transfer knowledge that is easy to understand is essential.	4.26	4.52	0.0598	8
(18) The ability to insert morals and ethics during learning management is essential.	4.35	4.49	0.0338	17
(19) Being able to have the problem-solving ability during learning management is essential.	4.25	4.45	0.0485	10
(20) The ability to record and summarize results after learning management is essential.	4.22	4.44	0.0525	9
(21) The ability to develop media using technology to manage learning in the New Normal era is essential.	4.40	4.54	0.0312	18
(22) Applying online learning management media in learning management is essential.	4.42	4.55	0.0296	19

The data synthesis from Table 1 determined that the essential TLMS needs were *developing digital media technology,*

a learning management plan, and learning measurement and evaluation tools (Figure 3).

Figure 3 The Most Important TLMS Needs According to the Stakeholders



Furthermore, the research results determined that the actual STLMS conditions had a lower mean score than the desired conditions, showing that stakeholders have a higher TLMS expectation than what is available.

Student teachers also need to be prepared for a future where they may face many challenges, whether the teaching process or their role as a teacher, with increased workloads. Because the content and teaching materials now need to be adapted to the online space under the *New*

Normal, TLMS competency has taken on a new dimension along with its related skill sets that are now required for transforming the classroom teaching environment and delivering documents and learning using digital platforms, the Internet, and ICT (Allen et al., 2021; Hill, 2021).

Conclusion

Developing student-teacher skills and abilities is critically important, not just for the individual but also for the Thai nation. This is

because the student teachers are educating and training the leaders and workers of the future. The skills required for a 21st-century knowledge worker will embrace all aspects of online and digital media and platforms. Therefore, it will be necessary for student teachers to analyze, design, and develop learning management plans, digitally based media lessons, and knowledge of LMSs such as Google Classroom and Moodle. It will also be imperative that they acquire excellent classroom and student measuring and evaluation tools which are accurate and complete. The TLMS and their development and learning management use will be the key to managing learning in the classroom, whether online or onsite. The race is on!

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