

Exploratory Factors Analysis of Expectations Towards the Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects)

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This research article aimed to perform an Exploratory Factor Analysis (EFA) of expectations regarding educational management to reduce academic stress among upper secondary and vocational certificate students at Romklao Kanchanaburi School (under the Royal Initiative Project). This descriptive study collected data from a sample of 300 advisor teachers and upper secondary and vocational students at Romklao Kanchanaburi School (under the Royal Initiative Project). The research instrument was a 5-point Likert scale questionnaire with a reliability coefficient of 0.98. Data were collected through interviews and online questionnaires. Data analysis was performed using Exploratory Factor Analysis with Principal Component Analysis (PCA) and Varimax orthogonal rotation. Statistical data analysis was executed using the SPSS software package. Statistical significance was set at the .05 level.

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The findings revealed that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .903, indicating high inter-variable correlation and suitability for factor analysis. The analysis identified 4 main factors comprising 23 indicators of expectations regarding educational management to reduce academic stress, namely: 1) Environment, comprising 6 indicators; 2) Learning Management, comprising 6 indicators; 3) Learning Assessment, comprising 6 indicators; and 4) Learner Wellbeing Support, comprising 5 indicators.

Keywords: Exploratory Factor Analysis, Academic Stress Reduction, Educational Management, Upper Secondary, Vocational Certificate

Introduction

During the year 2025, many schools in Thailand faced rapid changes, including extreme weather conditions, natural disasters, economic problems affecting families, and increasing academic pressure. In particular, the current Thai education system is highly competitive, involving continuous assessments, university entrance examinations (such as TGAT/TPAT, A-Level), and high expectations from both families and society. These pressures cause students to experience "Academic Stress." If accumulated over a long period, it negatively affects both physical health (insomnia, headaches) and mental health (anxiety, depression). Consequently, this stress diminishes

the "Quality of Life" of students, who are the "heart of the school," across all dimensions—including learning, relationships with others, and daily life. It is evident that long-term accumulated stress is becoming an escalating silent crisis that many might not notice immediately (Information Center, Office of the Basic Education Commission, 2025).

According to data from the mental health screening of children under 18 years old (Mental Health Center, Department of Mental Health, 2026) between 2022 and 2026, it was found that the majority of children under 18 years old experienced the highest level of stress from academic learning, as shown in Figure 1

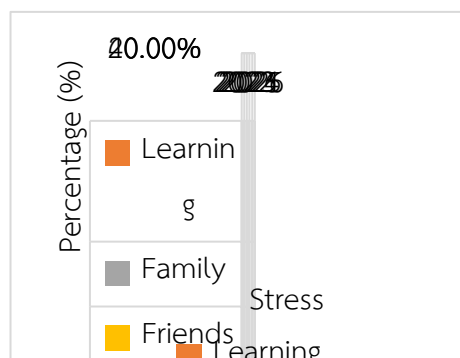


Figure 1 Percentage of Stress Levels among Children Aged Under 18 Years Between 2022 – 2026 (Mental Health Center, Department of Mental Health, 2026)

From Figure 1 it is found that between 2022 and 2026, the majority of children under 18 who responded to the mental health screening by the Mental Health Center, Department of Mental

Health had the highest level of stress originating from academics. For teachers and educational personnel, this represents a significant challenge because mental health warning signs are often

subtle and not clearly expressed. For example, some children withdraw and become quiet, some exhibit aggressive behavior, some separate themselves from peer groups, skip classes frequently, or arrive late regularly until their grades drop rapidly. This forces schools to adapt their roles beyond merely "providing knowledge" to becoming emotionally safe spaces. Caring for students' hearts is not a distant issue, because in an era filled with uncertainty, schools are not just places for studying books, but are refuges for students on days when they feel most vulnerable (Information Center, Office of the Basic Education Commission, 2025).

Based on the background and significance of the problem described above, the researcher is interested in conducting a study titled "Exploratory Factor Analysis of Expectations Towards Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects)" to propose guidelines for increasing the efficiency of educational management for faculty and school administrators, and to serve as fundamental data for planning educational management to reduce academic stress for upper secondary and vocational certificate students at Romklao Kanchanaburi School (Under The Royal Initiative Projects) moving forward.

Research Objectives

To analyze the exploratory factors of expectations toward educational management to reduce academic stress for upper secondary and vocational certificate students at Romklao Kanchanaburi School (Under The Royal Initiative Projects).

Literature Review

For the study on "Exploratory Factor Analysis of Expectations Towards Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects)," the researcher studied relevant concepts, theories,

documents, and research literature to guide the study as follows

1. Concepts of Expectation

Vroom, V. H. (1964) proposed the Expectancy Theory, explaining that expectation is an individual's belief that exerting effort will lead to the desired level of performance or success. Expectation is therefore an internal motivation that drives individuals to display behaviors in response to stimuli. This aligns with Oliver's (1980) Expectation-Confirmation Theory (ECT), which states that expectation is a pre-purchase or pre-exposure standard created by individuals to measure or evaluate the quality of service or management received. If the actual performance matches or exceeds the expectations, it results in satisfaction and positive perception. Khrutka, C., et al. (2021) stated that managing expectations is a tool for building quality in the service sector, serving as a key to driving the organization's service potential and leading to service quality development. Expectations arise from service perceptions through multiple channels, such as organizational news, experience, and word-of-mouth, as well as receiving convenience, modern technology, and comprehensive access to information, all of which compile into expectations. Expectations help create inspiration, impressions, and eventually loyalty toward the service organization. Managing expectations is thus an indicator of an organization's effective competitive potential in providing services (Sriyothin, S., 2019) and meeting needs beyond expectations is delivering the best service to customers (Kanjanasilanon, C., 2017).

When applying the concept of expectation to an educational context, the expectations of learners and stakeholders refer to the advance evaluation and expected goals regarding instructional models, learning methods, environments, and educational support systems organized by the institution to effectively satisfy needs, reduce learning barriers, and promote learners' psychological well-being.

2. Concepts of Stress

2.1 Meaning of Stress

Dorland, Neuman W.A. (1994) stated that stress refers to a state in which the body reacts to stimuli, causing the body and mind to adapt by expressing anxiety, fear, discomfort, dissatisfaction, a sense of loss, or boredom. The causes stem from various factors, such as parental divorce or separation, loss of loved ones, economic problems, entering a new school, or adjusting to peers.

Baron, T., & Greenberg, E. (1990) stated that stress is a state arising from physical and psychological reactions to any situation that individuals perceive as a threat to achieving their goals.

Mondy et al. (1988) stated that stress is an abnormal state occurring in a person's body and mind. The impact of stress is not limited to illness but also decreases efficiency in daily living, such as in studying or working.

Lazarus, R.S. and Folkman, S. (1984) stated that stress occurs when individuals interact with the environment and appraise or understand that the relationship endangers their well-being, exceeding their capacities or resources to cope.

Selye H. (1974) stated that stress is a state causing physical and psychological reactions to internal and external threats that obstruct human functioning, growth, or needs. This results in physical structural and chemical changes to resist that threat, disrupting physical and psychological balance and manifesting through specific syndromes.

2.2 Methods for Coping with Stress

Thanmanta, K. (1998) stated that coping methods include:

1) Using External Resources: This includes using social support, which means receiving information and care from close people who love and wish them well. This helps individuals build confidence and feel more valued. Participating in social activities and having friends lead to reduced stress and better stress management.

2) Using Internal Resources for Mental Training: This includes (1) Realizing that the mind has the power to promote good health and can help maintain faith and belief as a self-healing tool; (2) Realizing the power of mental imagery to feel relaxed, remove negative thoughts, and replace them with positive energy; (3) Accepting the belief that humans can effectively direct their own minds, such as convincing themselves that illness symptoms will decrease within 1-2 hours; (4) Allowing the mind to be in a calm, relaxed state for short periods each day, which is essential when feeling anxious or tense.

2.3 Process of Coping with Stress

The stress coping process involves stages of responding to stressors with the goal of maintaining a balance between the stressor and the ability to handle it. This process requires time to respond, consisting of the following steps (Phumasri, W., and Promlee, S., 2022) :

Step 1: Threat Appraisal from Stressors: The individual perceives and interprets the incoming stimulus as harmful or threatening, resulting in a loss of psychological equilibrium and a feeling of pressure.

Step 2: Stimulus Appraisal: Consists of 3 sub-steps: (1) Primary appraisal where individuals evaluate whether an event is positive, negative, or irrelevant to them; (2) If evaluated as good or irrelevant, the appraisal outcome manifests positively; (3) If the event has a negative impact, it can induce stress and cause negative consequences, especially regarding health and illness.

Step 3: Prediction or Anticipation of Outcomes: Once the stimulus is deemed a threat, the individual begins to anticipate the situation and exhibits initial physical, emotional, and behavioral reactions.

Step 4: Stress Coping Behaviors: Occurs as a continuous, goal-directed process, integrating intelligence, emotion, and physical systems to evaluate options and execute systematic coping behaviors to solve the problem.

Step 5: Adaptation: The final outcome of efforts to maintain equilibrium. Individuals who employ appropriate coping behaviors can eliminate the threat and eventually return to their original balance. Conversely, inappropriate coping leaves stress unmanaged, leading the individual into a crisis state.

Research Methodology

The study on "Exploratory Factor Analysis of Expectations Towards Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects)" utilized a descriptive research design. It involved reviewing literature and research related to stress management, followed by administering a questionnaire developed by the researcher to advisor teachers, upper secondary students, and vocational certificate students. The collected data were analyzed using Exploratory Factor Analysis (EFA) to summarize the components and indicators of expectations. The steps were implemented as follows:

1. Population and Sample

1.1 Population: The population comprised 676 advisor teachers, upper secondary students, and vocational certificate students at Romklao Kanchanaburi School (Under The Royal Initiative Projects) (Romklao Kanchanaburi School (Under The Royal Initiative Projects), 2026).

1.2 Sample: The sample size was determined based on factor analysis criteria recommended by Comrey and Lee (1992), which state that a sample size of 300 is considered good.

1.3 Sampling Technique: Stratified Random Sampling and Simple Random Sampling were employed to select samples from each group of teachers and students according to the calculated sample size.

2. Research Instruments

2.1 Instrument Type: The research tool was a 5-point Likert scale rating questionnaire,

designed to capture respondents' feelings corresponding to distinct response choices.

2.2 Instrument Development

2.2.1 Studied questionnaire construction principles and defined the conceptual framework.

2.2.2 Studied books, documents, articles, and related research to create questionnaire items.

2.2.3 Defined item themes and boundaries aligned with research objectives and benefits.

2.2.4 Developed a draft questionnaire.

2.2.5 Submitted the draft questionnaire along with an evaluation form to 3 experts with knowledge and experience in the field to check for content validity, coverage, and language accuracy. The experts' scores were used to calculate the Index of Item-Objective Congruence (IOC), which ranged from 0.67 to 1.00. The researcher used these scores and expert feedback to improve and revise the questionnaire.

2.2.6 Administered the revised draft questionnaire for a try-out with 30 individuals sharing similar characteristics to the target population.

2.2.7 Scored and analyzed the try-out data. The item discrimination of the checklist section was analyzed using Standard Deviation (S.D.), yielding values between 0.41 and 0.97. Reliability was evaluated using Cronbach's Alpha coefficient, revealing a total questionnaire reliability of 0.98. The discrimination of the rating scale section analyzed via Corrected Item-Total Correlation yielded values between 0.52 and 0.85 per item.

2.2.8 Fine-tuned the questionnaire based on the discrimination and reliability analysis before field implementation.

3. Data Collection

Data collection was divided into 2 primary steps

3.3.1 Collected data from the 300 sampled respondents using physical questionnaires and online questionnaires via Google Forms distributed through online communication channels of upper secondary and vocational certificate teachers and students at Romklao Kanchanaburi School (Under The Royal Initiative Projects).

3.3.2 Checked the returned questionnaires for completeness and proceeded with computerized statistical data analysis.

4. Statistical Analysis

Quantitative data analysis was performed using Exploratory Factor Analysis (EFA) to group and extract variables. Factor extraction was executed via Principal Component Analysis (PCA) accompanied by Varimax orthogonal rotation. The criteria for keeping factors required Eigenvalues of 1.00 or higher, and factor loadings for each item had to exceed 0.50 (Andrew and Howard, 1992). Any variable or item with a loading below 0.50 was omitted because it shared less than 50% variance with the factor group, which is considered too low (Silpcharu, T., 2024).

Research Results

The researcher analyzed the scale measuring expectations toward educational management to reduce academic stress among upper secondary and vocational certificate students at Romklao Kanchanaburi School (Under The Royal Initiative Projects) via EFA, yielding the following results

1. Correlation Matrix Suitability Check: The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was used to measure data suitability for factor analysis. The analysis

yielded a KMO value of 0.903, which is close to 1, indicating that the data are highly suitable for factor analysis. Additionally, Bartlett's Test of Sphericity showed a Chi-Square value of 6310.672, degrees of freedom (df) of 325, and a Significance (Sig.) value of 0.000. This indicates that all variables are significantly correlated and suitable for factor analysis in this research.

2. Communalities Extraction:

Communality represents the correlation coefficient between one variable and all remaining variables, ranging between 0 and 1. A value above .20 is acceptable. The analysis showed communality values ranging from .467 to .827, confirming that the items were suitable for further factor analysis.

3. Exploratory Factor Analysis (EFA):

Each component must have an Eigenvalue greater than 1.00 and factor loadings greater than 0.50 to form a distinct component (Silpcharu, T., 2024). The original scale contained 26 indicators of expectations. EFA extracted 4 main components based on the Rotated Component Matrix. Variables were assigned to Components 1 to 4 depending on where their highest loading values fell. Variables with loadings under 0.50 were eliminated. Following rotation, the Eigenvalues for the 4 components ranged from 3.440 to 5.363, with individual variances between 13.232% and 20.627%, and a cumulative variance ranging from 20.627% to 66.495%. The researcher renamed these 4 components based on their underlying variables as follows: 1) Environment, 2) Instructional & Pedagogy, 3) Learning Assessment, and 4) Learner Wellbeing Support. Details are displayed in Table 1.

Table 1 Exploratory Factor Analysis Results of Expectations Towards Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects)

No.	Component	Number of Variables	Eigenvalue	% of Variance	Cumulative % of Variance

1	Environment	6	5.363	20.627	20.627
2	Instructional & Pedagogy	6	4.688	18.029	38.656
3	Learner Wellbeing Support	6	3.798	14.607	53.263

Table 1 Exploratory Factor Analysis Results of Expectations Towards Educational Management to Reduce Academic Stress of Upper Secondary and Vocational Certificate Students at Romklao Kanchanaburi School (Under The Royal Initiative Projects) (Cont.)

No.	Component	Number of Variables	Eigenvalue	% of Variance	Cumulative % of Variance
4	Learning Assessment	5	3.440	13.232	66.495
		23		66.495	66.495

Table 1 indicates that the 4 factors combined explain 66.495% of the total variance of expectations towards educational management to reduce academic stress. Factor 1 (Environment) has an Eigenvalue of 5.363, accounting for 20.627% of the variance. Factor 2 (Instructional & Pedagogy) has an Eigenvalue of 4.688, accounting for 18.029% of the variance. Factor 3 (Learner Wellbeing Support) has an Eigenvalue of 3.798, accounting for 14.607% of the variance. Factor 4 (Learning Assessment) has an Eigenvalue of 3.440, accounting for 13.232% of the variance.

Table 2 Factor Loadings of Indicators in Component 1: Environment

Indicator Category	Component 1: Environment details	Factor Loading
1. Natural environment within the institution	Increase green spaces or natural environments within the school to reduce emotional tension and stimulate relaxation during school days.	.833
2. Physical environment within the classroom	Design and improve the physical environment inside classrooms (e.g., lighting, temperature, and air ventilation) appropriately to relieve physical and mental fatigue.	.805
3. Control and minimize noise pollution and external stimuli around building areas	Control and minimize noise pollution and external stimuli around building areas to support concentration and reduce anxiety during learning.	.786

Table 2 Factor Loadings of Indicators in Component 1: Environment (cont.)

Indicator Category	Component 1: Environment details	Factor Loading
4. De-Stress Zones	Establish relaxation spaces (De-Stress Zones) such as creative corners or therapeutic gardens within the institution.	.784
5. Counseling Room	Allocate a counseling room with a private, safe environment and implement a strict confidentiality	.753

	system according to psychological professional ethics.	
6. Appropriate school start times	Adjust the daily first-period start time appropriately to align with sleep hygiene and the natural waking cycles of adolescent students.	.584
6 Indicators	Eigenvalue	5.363
Component 1	Percentage of Variance	20.627

Based on Table 2, Component 1: Environment refers to creating a "Positive Mental Wellbeing Environment." It emphasizes physical and natural surroundings covering green areas, lighting/temperature/air, noise pollution reduction, psychological spaces (De-Stress Zones and counseling rooms), and adjusting class start times to fit student hygiene. It comprises 6 indicators with loadings ranging from .584 to .833. The indicator with the highest loading is the natural environment within the institution, followed by the physical environment within the classroom, noise pollution/external stimuli, De-Stress Zones, counseling rooms, and appropriate school start times, respectively. Component 1 has an Eigenvalue of 5.363, explaining 20.627% of the variance.

Table 3 Factor Loadings of Indicators in Component 2: Instructional and Pedagogy

Indicator Category	Component 2: Instructional & Pedagogy details	Factor Loading
1. Build good relationships with students	Teachers build good relationships with students by providing good advice, being active listeners, and hearing out individual opinions without immediate judgment, shifting roles from lecturing to facilitating knowledge.	.820

Table 3 Factor Loadings of Indicators in Component 2: Instructional and Pedagogy (Cont.)

Indicator Category	Component 2: Instructional & Pedagogy details	Factor Loading
2. Appropriate instructional time allocation	Teachers allocate instructional time appropriately for content coverage in each class period of the subject taught.	.780
3. Organize recreational activities	Teachers integrate quiz games during classes or recreational activities to make learning fun for students.	.713
4. Extend counseling time	Teachers extend counseling hours outside classrooms to provide advice, guidance, and psychological/lifestyle support.	.644
5. Promote supportive group activities	Teachers encourage learning through supportive group activities without classroom ranking or competition.	.601
6. Provide educational and career guidance systems	Organize open, flexible educational and career guidance systems tailored to multiple intelligences and individual interests.	.548
6 Indicators	Eigenvalue	4.688

Component 2	Percentage of Variance	18.029
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Based on Table 3, Component 2: Instructional & Pedagogy refers to "Teachers acting as mentors and addressing students' psychosocial well-being." This involves teachers being good, open-minded listeners, providing guidance on learning, psychology, and daily life outside class hours to build trust and positive relationships. It also involves positive learning and classroom management by planning time allocations alongside incorporating games/recreational activities to minimize stress and foster happiness. Finally, it involves creating a non-

competitive, supportive learning environment with a flexible guidance system matching students' multiple intelligences. It comprises 6 indicators with loadings between .548 and .820. Building good relationships with students scored the highest loading, followed by appropriate time allocation, organizing recreational activities, counseling, promoting supportive non-competitive group activities, and providing guidance systems. Factor 2 possesses an Eigenvalue of 4.688, explaining 18.029% of the variance.

Table 4 Factor Loadings of Indicators in Component 3: Learner Wellbeing Support

Indicator Category	Component 3: Learner Wellbeing Support details	Factor Loading
1. Dialogue between family and school	Open discussion platforms and meeting hours between school and families to align and adjust shared expectations.	.803
2. Daily emotional assessment of learners	Teachers implement an emotional check-in system during daily attendance taking.	.749
3. Policies and strategies for learner wellbeing support	School executives formulate and announce official strategic policies focused on promoting student well-being.	.700
4. Flexible learning via flipped classrooms	Teachers implement a flipped classroom model where students review foundational content via video outside class, allowing classroom time to be used for group activities, problem-solving, and consulting teachers to promote flexibility.	.606
5. Enhance capacities of teachers and staff	The school provides training for teachers and staff regarding adolescent psychology, positive communication, and student support.	.519
6. Build peer counselor networks	Establish and train a group of student peer leaders (Youth Counselors) to provide initial peer support.	.508
6 Indicators	Eigenvalue	3.798
Component 3	Percentage of Variance	14.607

Based on Table 4, Component 3: Learner Wellbeing Support refers to "Systematic and integrated organization of processes, policies,

and educational management." It focuses on addressing students' mental, emotional, and social needs coupled with flexible learning through collaborations among the school,

families, and peers to reduce pressure, build emotional safety, and promote holistic student potential. It comprises 6 indicators with loadings between .508 and .803. The highest loading belongs to the dialogue between family and school, followed by daily emotional assessment,

policies and strategies, flexible flipped classroom learning, enhancing teacher capacities, and building peer counselor networks, respectively. Component 3 holds an Eigenvalue of 3.798, explaining 14.607% of the variance.

Table 5 Factor Loadings of Indicators in Component 4: Learning Assessment

Indicator Category	Component 4: Learning Assessment details	Factor Loading
1. Adapt examination methods	Change time-limited written exams to open-book exams, project-based evaluations, oral presentations, or creative work.	.810
2. Distribute grading proportions	Break down grading criteria into smaller proportions throughout the semester instead of relying solely on midterms and finals.	.720
3. Confidentiality of individual grades	Announcement of scores and GPA results must be kept strictly confidential and not disclosed in front of classmates.	.663
4. Learning assessment matching individual talents	Allow learners to participate in choosing assessment methods aligned with multiple intelligences and individual talents (e.g., creating empirical video media) to evaluate learning objectives.	.588
5. Collaborative rubric design between learners and teachers	Provide opportunities for learners to co-design assessment rubrics with teachers to create mutual understanding of learning goals and minimize anxiety about being judged.	.579
5 Indicators	Eigenvalue	3.440
Component 4	Percentage of Variance	13.232

Based on Table 5, Component 4: Learning Assessment refers to "Continuous and flexible processes of gathering data and evaluating learner development." It emphasizes authentic assessment aligned with learning goals, offering students opportunities to choose work formats and co-define evaluation rubrics based on multiple intelligences, while respecting privacy to minimize anxiety and support self-improvement over pure judgment. It comprises 5 indicators with loadings between .579 and .810. Adapting examination methods scored the highest loading, followed by distributing grading proportions, confidentiality of grades,

assessment matching individual talents, and collaborative rubric design. Component 4 has an Eigenvalue of 3.440, explaining 13.232% of the variance.

New Knowledge Discovered

1. Methodological Research Knowledge: The process of developing components and indicators of expectations toward educational management to reduce academic stress represents a novel set of variables. It began with synthesizing literature and research to draft items. Subsequently, a suitable questionnaire was constructed to finalize statistical conclusions

from data provided by advisor teachers and students. The data underwent EFA to categorize indicators into distinct components. This process establishes valuable baseline knowledge for researchers studying emerging variables without pre-established clear frameworks tailored to specific target groups.

2. Theoretical Knowledge regarding Components and Indicators: The expectations comprise 4 concrete factors: 1) Environment, 2) Instructional and Pedagogy, 3) Learner Wellbeing Support, and 4) Learning Assessment. Once school administrators and teachers understand these components and indicators, they can deploy the research results to enhance educational management strategies aimed at reducing student academic stress more effectively.

Discussion

The study on the exploratory factors of expectations toward educational management to reduce academic stress at Romklao Kanchanaburi School (Under The Royal Initiative Projects) highlighted indicators with the highest factor loadings across all 4 components. These results can be discussed alongside relevant theories and research as follows:

1. Environment Component: The indicator with the highest loading was the "Natural environment within the institution." This might be due to issues regarding overcrowded areas in the cafeteria or cooperative stores during breaks, leaving many students without seats, facing high temperatures, and an oppressive atmosphere. Hence, providing shaded seating options around trees and nature offers students private spaces where nature can alleviate their stress. This outcome aligns with Liu et al. (2022), who discovered that designing easily accessible campus green spaces functions as a "Restorative Environment" that reduces accumulated academic stress, prevents burnout, and supports rapid recovery from brain fatigue. It also agrees with Meredith et al. (2020) and Skar et al. (2021), who found that allowing

learners to spend even 10–20 minutes per day in natural spaces lowers blood pressure, heart rate, and emotional stress.

2. Instructional and Pedagogy Component: The highest loading indicator was "Building good relationships with students." Listening more to students' ideas allows them to learn happily without excessive pressure. Focusing on understanding students' minds and creating mutual agreements between teachers and students can significantly lower academic stress. This aligns with Longobardi et al. (2021) and Luo & Liang (2021), indicating that positive teacher-student relationships built on warmth, trust, and listening function as a "Protective Factor." This significantly reduces anxiety, accumulated stress, and depression from learning, showing that students who perceive teacher care exhibit lower stress hormones and fewer regressive behaviors.

3. Learner Wellbeing Support Component: The highest loading indicator was "Dialogue between family and school." This matches Epstein et al. (2021), who found that regular two-way communication between teachers and parents (rather than reaching out only when problems arise) helps establish aligned learning goals and mitigates excessive family expectations. This significantly lowers student academic pressure and anxiety. It also corresponds with Barger et al. (2019), who noted that when institutions build dialogue channels with parents about students' emotional well-being, parents shift home support behaviors from pressuring to providing encouragement (Autonomy-Supportive Parenting), which decreases accumulated stress and student burnout.

4. Learning Assessment Component: The indicator with the highest loading was "Adapting examination methods." This likely stems from students taking multiple exams within a single day, overly frequent testing, or time-limited written tests causing heavy pressure that harms physical and mental well-being. Transitioning towards open-book exams or project-based

evaluations can mitigate learning stress. This result aligns with Johannis et al. (2017), who demonstrated that replacing traditional exams with open-book examinations or untimed online assessments alleviates emotional tension and pre-exam heart rates because it reduces the fear of short-term memory loss and encourages high-level critical thinking skills instead.

Recommendations

1. Recommendations for Application

School executives and faculty members should utilize the components and indicators of expectations discovered in this study to revise and develop operational action plans across the institution's environment, teaching methods, learning assessments, and student well-being support to raise the efficiency of stress-reduction management.

2. Recommendations for Future Research

2.1 Future studies should conduct a Confirmatory Factor Analysis (CFA) of expectations toward educational management to reduce academic stress in schools under the Royal Initiative Project. This would test the structural validity of the factor structures and

questions extracted from this EFA with a new sample group or expand the scope to other Royal Initiative schools.

2.2 Studies should focus on developing an educational management model specifically designed to reduce academic stress for upper secondary and vocational certificate students at Romklao Kanchanaburi School. Using the discovered components as a design baseline, experimental research could be performed to concretely measure the reduction of stress levels among both general education (upper secondary) and vocational tracks.

2.3 Qualitative in-depth studies should be conducted regarding how general education and vocational students handle academic stress at Romklao Kanchanaburi School (Under The Royal Initiative Projects). Since the context of stress and learning styles differ significantly between upper secondary students and vocational certificate students, future research should utilize qualitative methods such as in-depth interviews or focus groups involving administrators, teachers, and parents to uncover group-specific needs, leading to precisely targeted stress-reduction policies.

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