THE IMPACT OF ACTIVE LEARNING PERIODS VERSUS PROLONGED STUDY SESSIONS ON MENTAL HEALTH AND DEEP UNDERSTANDING IN HIGH SCHOOL STUDENTS

Pariyakorn Rueangarak

Assumption College Samutprakarn School, Samutprakarn, Thailand

ABSTRACT

This study looks at how active learning times compare to longer study sessions in terms of high school students' mental health and deep understanding. The goal is to determine which study strategy promotes mental health and improves students' capacity to comprehend and retain academic knowledge. This study uses surveys to collect data to emphasise the relationship between study habits, stress levels, and learning effectiveness. The findings will help instructors, students, and school officials by providing evidence-based suggestions for healthier and more productive learning practices. In the long run, this study can help enhance educational outcomes and promote better mental health practices in academic settings.

KEYWORDS

Active learning, Prolonged study sessions, Mental health, Deep Understanding, Learning strategies

1. INTRODUCTION

Learning is the process by which people pick up new information, abilities, values, or attitudes via education, study, or experience. It entails comprehending, using, and remembering knowledge across time. As a result, learning is generally acknowledged as a necessary component of everyday life that people experience from an early age. The requirement for effective and efficient learning grows as children go through the educational system, particularly in high-stress settings like high school (Liu et al., 2024; Zhai & Carney, 2024).

Numerous learning strategies have been created and advocated by researchers and educators to enhance learning results (Phillips et al., 2016; Wallace et al., 2020). These approaches and tactics are used by students to comprehend, remember, and apply new information. They have a significant impact on a student's ability to comprehend and apply the knowledge they acquire, in addition to how much they learn. Two of the most important elements of these strategies are how study time is organised and how learning resources are used.

Based on findings from Thai students' social media platforms, two different learning styles have received a lot of attention: Active Learning Periods and Prolonged Study Sessions. Active Learning Periods are often defined as brief, concentrated, and engaging learning periods that include strategies such as group discussions, problem-solving, interactive exercises, and frequent breaks (Awedh et al., 2015; Lagubeau et al., 2020). Prolonged Study Sessions, on the other hand, are characterised by longer durations of continuous study, with an emphasis on repetition, memorisation, and passive review (Zhang et al., 2021; Chu et al., 2022).

High school adolescents experience significant emotional shifts, social pressures, and academic strain, all of which raise stress and anxiety levels. The way they learn can have a big impact on their mental health (Torinomi et al., 2022; Cambridge Prisms: Global Mental Health, 2023). While extended study sessions can cause exhaustion and burnout, active learning, which incorporates pauses, social engagement, and a variety of tasks, may help students stay more focused and emotionally balanced (Sapthiang et al., 2019; Van Gordon et al., 2019).

In addition to mental health, these tactics affect how deeply pupils comprehend a subject. Critical thinking, making connections between concepts, and using information in novel circumstances are all components of deep learning. While extended study sessions may result in superficial learning if they are primarily centred on memorisation, active learning periods typically promote this by encouraging participation and reflection (Lagubeau et al., 2020; Liu et al., 2024).

Despite increasing recognition of the significance of student well-being and deep comprehension, little research has directly compared the impacts of Active Learning Periods and Prolonged Study Sessions in these areas. Given the growing academic pressures and mental health concerns among teens, such a comparison is both appropriate and necessary. The purpose of this study is to compare the impact of Active Learning Periods and Prolonged Study Sessions on high school students' mental health and deep knowledge. The project aims to provide evidence-based recommendations for more successful and sustainable study methods in secondary education by assessing how these two learning styles affect both psychological and academic outcomes.

2. LITERATURE REVIEW

In today's increasingly complex educational environment, the pursuit of academic success is often accompanied by significant concerns around student well-being. As high school pressures intensify, educators and researchers are examining various learning strategies to better support both academic achievement and mental health. Two common approaches include active learning strategies and prolonged study sessions. Active learning refers to instructional methods that actively engage students in the learning process through discussion, problem-solving, collaboration, and real-time application of concepts—often incorporating short, focused intervals and regular breaks (Awedh et al., 2015; Lagubeau et al., 2020). This strategy encourages participation and engagement, making learning more dynamic and interactive. In contrast, prolonged study sessions involve extended periods of uninterrupted, often passive studying that typically focuses on repetition, memorisation, and review (Zhang et al., 2021; Chu et al., 2022). According to Bae, Lai, and Lester (2023), interactive approaches like active learning can spark curiosity and emotional engagement, which are essential for deeper understanding and mental wellness. Supporting this, Van Gordon et al. (2019) found that mindfulness-based learning—a form of active learning—led to significant reductions in stress and emotional dysregulation among adolescents.

This literature review draws on over 15 peer-reviewed studies to explore the ways in which active learning and prolonged study sessions impact high school students' mental health and depth of understanding. Active learning strategies have been associated with improved academic outcomes and mental well-being. For instance, Lagubeau et al. (2019) demonstrated that implementing active learning in an introductory physics course significantly reduced failure rates among students with underdeveloped reasoning skills, suggesting enhanced comprehension and retention. Wallace et al. (2020) found that students taught by a first-time instructor using active learning strategies outperformed those taught by a highly-regarded traditional instructor. Awedh et al. (2015) observed that the use of Socrative and smartphones to support collaborative learning positively influenced student engagement and learning performance. Active learning also contributes to mental health by fostering a sense of connectedness and reducing anxiety.

It is impossible to overestimate the importance of coping strategies and social support in reducing the detrimental consequences of rigorous study regimens. According to research, students who use active coping mechanisms and have a strong sense of coherence are better able to manage academic stress, which helps them stay mentally healthy and continue their studies in times of crisis (Meyer et al., 2022). Furthermore, student retention and mental health have been favourably connected with perceived social support, indicating that the collaborative learning environments that are part of active learning may provide protective advantages (Cambridge Prisms: Global Mental Health, 2023).The importance of coping mechanisms and social support in reducing the negative consequences of intensive study regimens cannot be emphasised. According to research, students who use active coping mechanisms and have a strong sense of coherence are better prepared to deal with academic stress, allowing them to preserve their mental health and academic tenacity amid crises. Furthermore, perceived social support has been linked to higher student retention and mental well-being, implying that collaborative learning environments found in active learning may provide protective effects (Cambridge Prisms: Global Mental Health, 2023).

In contrast, extended study periods, which frequently involve passive learning approaches, have been linked to negative mental health effects. Zhang et al. (2021) discovered that Chinese adolescents who had longer school days and more screen time suffered more sleep disruptions and anxiety. Similarly, a study conducted in Thailand during COVID-19 school closures found that students who participated in fully online learning, which often involved prolonged screen exposure and self-study, had higher rates of moderate-to-severe anxiety than their peers in traditional classroom settings (Suwannachai et al., 2022). Sleep quality appears as a significant link between study habits, mental health, and academic achievement.

On the other hand, prolonged study sessions—which frequently involve passive learning strategies— have been linked to negative consequences for mental health. Zhang et al. (2021) discovered that Chinese teenagers who attended school for longer periods of time and spent more time on screens had higher levels of anxiety and sleep problems. Similarly, students who participated in fully online learning—which frequently involves extended screen time and self-study—showed higher rates of moderate-to-severe anxiety than their peers in traditional classroom settings, according to a study done in Thailand during the COVID-19 school closures (Suwannachai et al., 2022). One important component that connects study habits to academic achievement and mental wellness is sleep quality.

Lo Martire et al.'s (2023) systematic review found a bidirectional association between sleep disorders and school-related psychological characteristics like burnout and connectivity, emphasising the importance of balanced study methods. Chu et al. (2022) found that insufficient sleep, which is frequently caused by long study hours, decreases memory consolidation and learning capacity.

The comparison between extended study sessions and active learning highlights the many advantages of active learning strategies in high school contexts. Active learning promotes mental health through increased engagement, improved sleep, and stronger social ties in addition to greater comprehension and academic performance. On the other hand, protracted study sessions—especially those that include passive learning and a lot of screen time—are associated with higher levels of anxiety, disturbed sleep, and a lower quality of life. These results support the inclusion of active learning techniques in curricula in order to foster students' overall growth.

3. METHODOLOGY

An online survey utilising a Google Form was conducted in April 2025 to learn more about Thai high school students' perspectives on various learning approaches that affect mental health and understanding. One hundred Thai high school students from Bangkok and nearby areas took part. Thai high school has two levels: lower high school (grades 7–9) and upper high school (grades 10– 12). Figure 1 depicts the percentages of participation by grade. The bulk of participants (50.9%) were in grade 12, followed by grade 11 (29.3%), 10 (9.5%), and 9 (6%). The remaining 4.3% came from grades 7 and 8, including freshmen.

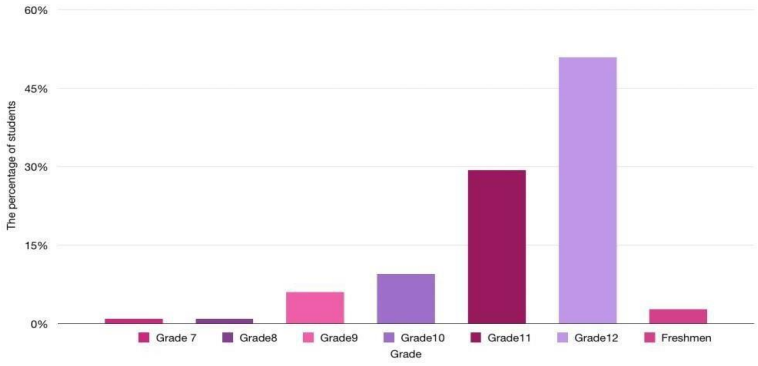

Figure 1. Percentage of participants by grade level.

Participants were also asked to describe their curricula to examine the perspective of learning strategies that impact mental health and in-depth information from various academic concentrations, which are also referred to as "curricula" in Thai high schools. According to Figure 2, 81.9% of participants are students enrolled in the Science-Mathematics (Sci-Math) curriculum, followed by those enrolled in the Art-Language (Art-Lang) curriculum at 7.8% and the Art-Mathematics curriculum (Art-Math) at 2.6%. Those enrolled in the English Program, Physical Education, Math- Language, Math-Sci-Language, and Com-Art programs made up the remaining 7.7%.

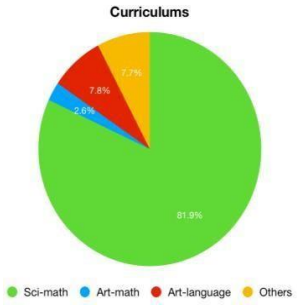

Figure 2. Percentage of participants by curriculum

The researcher only employed one study tool, an online survey platform. I collected data using Google Forms. The online poll had 20 multiple-choice and 4 short-answer questions. Multiple-choice questions were utilised to collect the following information: participants' grade level and curriculum, study habits, mental health towards different sorts of learning tactics, and comprehension. Participants responded to closed-ended questions about their proficiency in each learning technique, which refers to Active Learning Periods or Prolonged Study Sessions, their thoughts on how taking a break can benefit their mental health, study methods to reduce stress,

and whether they would try a new study method if given the opportunity.

The researcher's motivations for using this platform were:

1. Getting information easily and fast.
2. This platform is accessible to everyone through social media.
3. Provide a real-time answer via Google Forms, which will then convert the data into charts/graphs or statistics.
4. Open-ended questions are also easily compared using data orderliness.
5. As a result, the prices or expenses will be lower than for traditional surveys, making it a cost- effective research tool.

The statistical analysis was carried out utilising pie charts. Pie charts are used to display statistical analyses. Descriptive statistics are used to understand the study's distribution and This case study evaluated the impact of two different learning strategies on adolescents' mental health and depth of understanding. It examined not only the strategies themselves but also participants' satisfaction and the number of hours they studied each day. The main findings highlight the actual content absorbed, the mental health outcomes, and the varying perspectives of the participants. The study also explored which learning strategies equally contributed to better understanding and improved mental well-being. The focus is on the actual information consumed, mental health effects, and the participants' diverse opinions. The study also looked into whether different learning styles contributed equally to improved knowledge and mental well-being.

4. RESULTS AND FINDINGS

4.1. Students' Perspective on Active Learning Periods

Students' responses indicated a preference for active learning over long, uninterrupted study periods, owing mostly to the mental state it produced. Several respondents stated that breaking classes down into shorter, more active sessions allowed them to refresh and helped alleviate the mental load they experienced after long hours of studying. Students reported feeling more refreshed and able to keep focused, rather than fatigued or overloaded. The sense of balance that active learning provided was a recurring theme, with many people stating that they felt less stressed and had more control over their time.

When it came to academic knowledge, many students believed that active learning helped them absorb things more deeply. Because these sessions frequently featured group work, hands-on projects, or real-world examples, students reported that the information felt more relatable and easier to recall. Some even stated that they understood the information rather than simply memorising it. This type of learning, they believed, stuck with them longer and helped them think through challenges rather than simply repeating what they had read. It appeared that students were not only learning more but also enjoying the process more than in typical study environments.

Overall, student responses indicated that active learning had a significant impact on their well-being and learning outcomes. The combination of mental breaks, engaging lessons, and active participation tended to result in a happier and more successful learning environment. Based on how strongly students expressed their experiences, it's apparent that schools should prioritise providing chances for active learning, not just for variety, but also for their mental health and academic development.

4.2. Concentration of Students Per Study Time

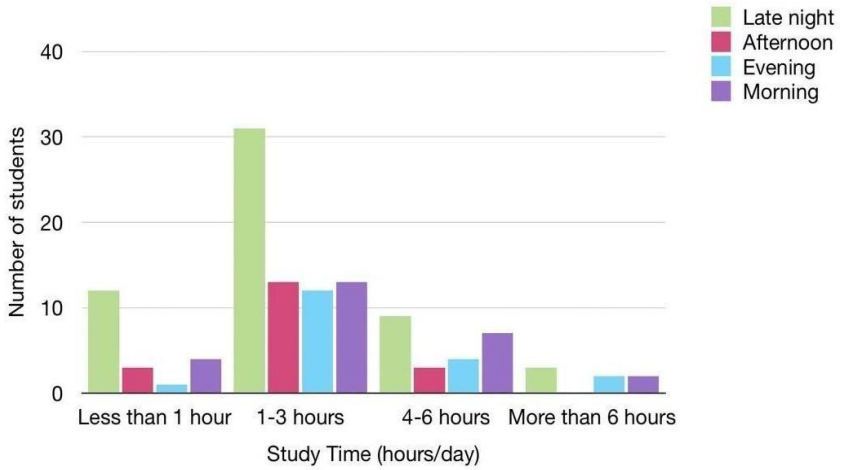

Figure 3. Concentration Periods by Average Study Time per Day

The data reveals a consistent trend across all study durations: students most frequently report achieving peak concentration late at night. This is especially true among those who study between 4 to 6 hours per day, suggesting that extended study routines may lead students to shift their productivity into quieter nighttime hours, where distractions are minimized.

Students who reported studying 1 to 3 hours daily also indicated a preference for late-night studying, though this group exhibited a more balanced distribution, with noticeable numbers also feeling focused in the evening or morning. Interestingly, even students who studied less than 1 hour per day largely identified late night as their most attentive period. This could suggest a broader behavioral pattern among students, potentially shaped by after-school responsibilities or limited free time during the day.

In contrast, students who dedicate more than 6 hours to studying appear to have more structured schedules, with increased concentration reported in the morning and afternoon. This variation may reflect more disciplined planning or advanced time management skills, possibly seen among older or academically driven students.

Overall, while nighttime remains the dominant concentration period, the findings raise important considerations about students' sleep hygiene, time management, and overall academic sustainability. Encouraging earlier, more consistent study habits could help align academic efforts with healthier daily routines.

4.3. Effectiveness of Reviewing After the Study

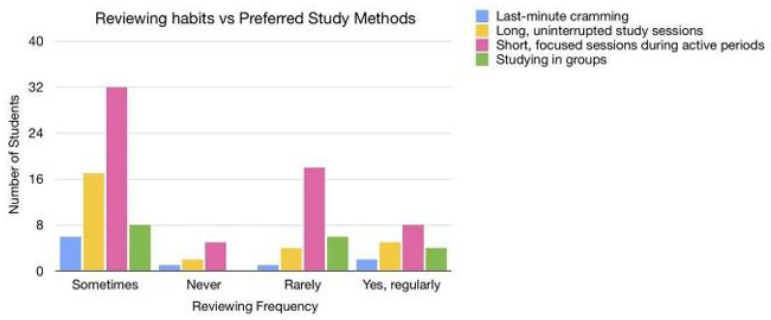

Figure 4. Reviewing Habits Compared to Study Methods

Analysis of review habits reveals a significant inconsistency in how students approach post study reinforcement. The most common response was “Sometimes”, followed by “Rarely” and “Never”, with only a small portion indicating that they review material consistently after study sessions. This suggests that, despite the widely acknowledged review value, it remains an underutilized practice.

A deeper look shows that students using short, focused study sessions are more likely to engage in regular review. In contrast, those who rely on long, uninterrupted sessions or last minute cramming tend to skip reviewing altogether. These trends reinforce established cognitive science findings: spaced repetition and active recall lead to better long-term retention than passive or last-minute approaches.

The lack of consistent reviewing may reflect gaps in academic planning or awareness of effective learning strategies. Students who do review regularly appear to engage more deliberately with their studies, often experiencing greater comprehension and reduced anxiety as a result.

In conclusion, integrating review techniques, such as self-testing or brief recap sessions, into students’ regular study routines could significantly improve academic outcomes. Schools and educators should consider reinforcing these habits through curriculum design and study skill workshops.

4.4. Behavior After Various Effects from Each Learning Strategy

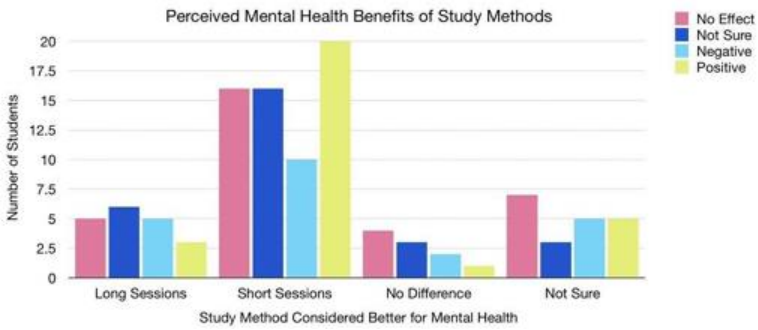

Figure5. Perceived Mental Health Benefits of Study Methods

This section explores how students' experiences with different study strategies influence both their learning behavior and mental health. Many respondents indicated that they had tried both short, focused sessions and long, continuous sessions. A clear majority found the shorter sessions to be more beneficial for their mental well-being.

Students who favored short sessions often reported feeling more positive or neutral about their current study methods. By contrast, those who persisted with long, uninterrupted sessions were more likely to associate their study habits with negative psychological impacts, such as stress or burnout. This aligns with research suggesting that prolonged cognitive effort without breaks can reduce both motivation and retention.

Additionally, some students indicated uncertainty about the psychological effects of their study methods, which may suggest a lack of self-awareness or insufficient reflection on how learning routines impact their emotional state.

Students who recognized the benefits of shorter study sessions commonly employed strategies like frequent breaks, studying during peak focus periods, and using the Pomodoro Technique. These approaches not only improved information retention but also reduced stress. Meanwhile, those who didn't reflect on their methods often continued with less effective or more mentally taxing habits.

In essence, the way students adapt—or fail to adapt—to the outcomes of their learning strategies has a direct effect on both their academic success and emotional resilience. Encouraging metacognitive awareness could help students make better choices that support sustainable learning.

4.5. Reflection on the Curriculum and the Stress Individuals Gain

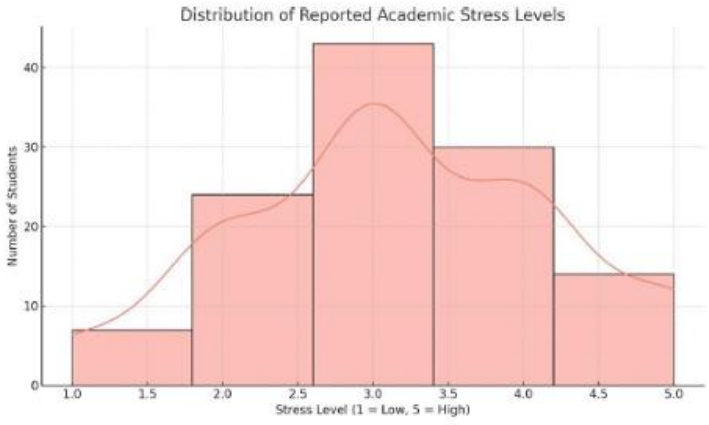

Figure 6. Distribution of Reported Academic Stress Levels

The data highlights a critical concern: a large portion of students report experiencing moderate to high levels of academic stress. Most responses clustered around 3 to 5 on the stress scale, indicating a substantial psychological burden, even though the survey didn't directly ask whether the curriculum was too demanding.

This trend suggests that many students perceive their academic workload as intense and, in some cases, overwhelming. Contributing factors may include tight deadlines, exam pressures, excessive

homework, or lack of downtime—all of which reflect systemic issues rather than personal shortcomings.

In their responses, students described various coping strategies aimed at reducing stress or improving comprehension. Many had experimented with techniques such as breaking study time into smaller blocks, taking regular breaks, or introducing mindfulness activities. These changes often led to increased clarity, reduced exhaustion, and greater emotional balance.

However, not all students reported success. Some said that even after changing their study approach, external factors—such as rigid school structures, excessive expectations, or parental pressure— continued to generate stress. This underlines the limitations of individual coping mechanisms when larger institutional pressures remain unaddressed.

In summary, although students demonstrate self-awareness and initiative in managing academic stress, the data strongly indicate a need for structural support. Schools, educators, and policymakers should reflect on these findings when designing programs and expectations that affect student well-being.

5. CONCLUSION AND RECOMMENDATIONS

Learning techniques are more important in moulding student outcomes, both academically and emotionally, in an ever-changing educational setting. Among the various methodologies utilised in schools today, two stand out: active learning periods and extended study sessions. While extended study has traditionally been regarded as a sign of dedication and rigour, current findings in cognitive science and educational psychology call into doubt its long term usefulness. High school students, in particular, face unprecedented levels of academic pressure, prompting many to extend their study hours in the hopes of succeeding.

However, this frequently comes at the expense of mental health and genuine empathy. In contrast, active learning, which emphasises student participation, cooperation, and engagement, provides a more balanced and potentially more productive option. This study investigates the different effects of these two tactics on high school students' mental health and deep learning.

Research has shown that active learning practices improve both student engagement and mental health. Active learning increases comprehension and engagement by allowing students to participate in discussions, collaborate on problem-solving, and apply concepts in practical situations. This method also lowers stress because students are more engaged and feel less alienated in their studies. Prolonged study sessions, which usually include passive activities like reading or memorising, can cause mental exhaustion and disengagement. Students who attend longer sessions are more likely to develop burnout and struggle with their academic performance. Active learners, on the other hand, retain more information, are more motivated, and are generally happier with their learning experiences.

To assist students in managing their workloads more effectively, schools could consider simplifying the curriculum to focus on core topics rather than covering too much ground. This would enable students to delve deeper into topics without becoming overwhelmed. Furthermore, supporting a healthier approach to studying, such as regular breaks and realistic study timetables, can assist students in balancing their scholastic duties with their overall well-being.

In addition, schools should build a more adaptable learning environment that accommodates the various ways pupils learn and function best. Some children may want quiet time to study, whereas others thrive in collaborative or creative environments. Offering options for project time,

informal activities, or solitary study can help address these diverse demands. A flexible approach respects individual learning choices while simultaneously promoting motivation and a healthier academic balance.

How students organise their study time has a significant impact on their learning and mental well-being. Short, focused sessions during peak alertness are often more effective and less stressful than extended, unbroken study blocks. Late-night studying is frequent, but it can lead to exhaustion and decreased performance. Encouraging better, more balanced study habits can help students achieve well while maintaining their mental health.

ACKNOWLEDGEMENTS

Finally, I'd like to thank everyone who took part in this study. Their time, participation, and candid comments were critical to the success of this research. Furthermore, this research would not be possible without my teachers' assistance, direction, and encouragement during the research process. Their constructive comments have tremendously aided the completion of the research.

REFERENCES

[1] Awedh, M., Mueen, A., Zafar, B., & Manzoor, U. (2015, January 6). Using Socrative and Smartphones for the support https://arxiv.org/abs/1501.01276 of collaborative learning. arXiv.org.

[2] Bacaro, V., Carpentier, L., & Crocetti, E. (2023). Sleep Well, Study Well: A Systematic Review of Longitudinal Studies on the Interplay between Sleep and School Experience in Adolescence. International Journal of Environmental Research and Public Health, 20(6), 4829. https://doi.org/10.3390/ijerph20064829

[3] Chu, T., Liu, X., Takayanagi, S., Matsushita, T., & Kishimoto, H. (2022). Association between mental health and academic performance among university undergraduates: The interacting role of lifestyle behaviors. International Journal of Methods in Psychiatric Research, 32(1). https://doi.org/10.1002/mpr.1938

[4] Lagubeau, G., Tecpan, S., & Hernández, C. (2020). Active learning reduces academic risk of students with nonformal reasoning skills: Evidence from an introductory physics massive course in a Chilean public university. Physical Review Physics Education Research, 16(2). https://doi.org/10.1103/physrevphyseducres.16.023101

[5] Liu, J., Tahri, D., & Qiang, F. (2024). How Does Active Learning Pedagogy Shape Learner Curiosity? A Multi-Site Mediator Study of Learner Engagement among 45,972 Children. Journal of Intelligence, 12(6), 59. https://doi.org/10.3390/jintelligence12060059

[6] Phillips, J. A., McElwain, M. C., & Clemmer, K. W. (2016, July 26). Metacognitive training in professional development can improve and sustain student achievement. arXiv.org. https://arxiv.org/abs/1607.07856

[7] Sapthiang, S., Van Gordon, W., & Shonin, E. (2019). Mindfulness in Schools: a Health Promotion Approach to Improving Adolescent Mental Health. International Journal of Mental Health and Addiction, 17(1), 112–119. https://doi.org/10.1007/s11469-018-0001-y

[8] Torinomi, C., Lindenberg, K., Möltner, A., Herpertz, S. C., & Holm-Hadulla, R. M. (2022). Predictors of Students' Mental Health during the COVID-19 Pandemic: The Impact of Coping Strategies, Sense of Coherence, and Social Support. International Journal of Environmental Research and Public Health, 19(24), 16423. https://doi.org/10.3390/ijerph192416423

[9] Wallace, C. S., Prather, E. E., Milsom, J. A., Johns, K., & Manne, S. (2020, April 21). Students taught by a first-time instructor using active learning teaching strategies outperform students taught by a highly-regarded traditional instructor. arXiv.org. https://arxiv.org/abs/2004.09684

[10] Weist, M. D., Hoover, S. A., Daly, B. P., Short, K. H., & Bruns, E. J. (2023). Propelling the global advancement of school mental health. Clinical Child and Family Psychology Review, 26(4), 851–864. https://doi.org/10.1007/s10567-023-00434-7

[11] Widyastari, D. A., Kesaro, S., Rasri, N., Saonuam, P., & Katewongsa, P. (2022). Learning methods during school closure and its correlation with anxiety and health behavior of Thai students. Frontiers in Pediatrics, 10. https://doi.org/10.3389/fped.2022.815148

[12] Yan, K. K., MA, Burn, A., & Anderson, J. K. (2022). Review: School-based mental health literacy interventions to promote help-seeking – a systematic review. Child and Adolescent Mental Health, 28(3), 408–424. https://doi.org/10.1111/camh.12609

[13] Zhai, Y., & Carney, J. V. (2024). The role of mental health and protective factors in student academic persistence and retention during a global crisis. Cambridge Prisms Global Mental Health, 11. https://doi.org/10.1017/gmh.2024.12

[14] Zhang, X., Dimitriou, D., & Halstead, E. J. (2021). Sleep, anxiety, and academic performance: a study of adolescents from public high schools in China. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.678839

AUTHOR

Pariyakorn Rueangarak , A senior at Assumption College Samutprakarn School . She majors in Health-Science and studies the Science- Mathematics program. Additionally, she served as the vice president of the student council the previous year, which aided in recruiting volunteers and getting experience working all year long. She was getting ready for a higher degree of schooling as she was writing her research.