

THE OPPORTUNITIES AND CHALLENGES OF LEARNING ONLINE DURING THE PANDEMIC: THAI HIGH SCHOOL STUDENTS' PERSPECTIVE

Miss Pichsinee Oimpitiwong

Triam Udom Suksa School, Bangkok, Thailand

ABSTRACT

This paper investigates students' online learning experience during COVID-19, specifically aiming to identify points of improvement within the current distance-learning infrastructure in Thailand. The research consolidates students' opinions toward online learning, their ease in adapting to the new learning environment, which depends not only on each student's learning style but also on their teachers as well as social and economic factors. Identifying the advantages and disadvantages of learning from home, the research presents students' needs and suggestions for improvement. As such, this work may guide future adjustments to online learning.

KEYWORDS

Learning Online, Students, Factors, Advantages, Disadvantages.

1. INTRODUCTION

Nobody anticipated that the beginning of a new decade would put humanity and the world through one of the most significant tests in recent decades. In 2019, a global pandemic originating from Wuhan, China, called the Coronavirus (COVID-19), spread worldwide. In 2020, the Ministry of Public Health (MoPH) in Thailand reported the first infected patient found in the country.

According to various medical journals, this infectious disease spreads from the patient's respiratory tract. Consequently, Thailand has since been on multiple lockdowns, as the government promotes social distancing at all times. Even so, cases have continued to rise negatively impacting the health, economy as well as education of the community.

However, education is a crucial foundation of every nation, directly impacting the future of the younger generations. Many countries have contemplated using innovative technology as part of an effective educational system. It is at this perfect moment that we see the greatest purpose and function of the internet and various learning communications.

As a student myself, I can see the changes and continued adjustments in the teaching and learning process during this pandemic. Studying online from home is one of the main solutions deployed to reduce widespread infection. Using online platforms is not new in Thailand. In 1995, King Bhumibol Adulyadej started the Distance Learning Television program to provide fundamental

education specifically for students living in remote areas. Nevertheless, country-wide online learning still requires both teachers and students to quickly adapt in major ways. Many students still prefer face-to-face learning while others are more willing to accept and make adjustments due to the pandemic, finding ways to learn more effectively through the screen from electronic devices instead of using a blackboard or whiteboard. This study investigates and reports on high school students' perspectives regarding the benefits and drawbacks of online learning. The resulting report can be used as a reference on how to address the problems of online learning.

This research aims to understand students' perspectives toward online learning and use the information as a guide to improve knowledge online learning. The broader goal of this research is to advocate for the need of schools as well as the Thai Ministry of Education to seek and reflect on teachers and students' feedbacks when it comes to online learning, whether it be the need for teacher training in creating online curriculum and using online applications or helping students to learn more effectively online during the COVID-19 pandemic.

2. REVIEW OF RELATED LITERATURE

“Following the pandemic-induced, sudden shift to online learning in Thailand, Hiranrinthikorn [1] cautioned that online learning, while beneficial in reducing health risks during the pandemic, may be inaccessible to many students.” Furthermore, interviewing managers of small businesses, academics and policymakers, the study concluded the major advantage to online learning to be the additional amount of time students have as commuting and various in-school activities have been eliminated. “On the other hand, drawbacks included a lack of social connection between students and teachers and insufficient learning time [1].”

Even prior to the COVID-19 pandemic, the rise of online learning in recent years has led to various studies on its advantages and disadvantages. The primary advantage of online learning over the traditional method lies in the use of technology to aid learning. “Alghizzawi et al. [2] suggested that the ability to conveniently share digital content among teachers and students in online education led to more effective learning.” Moreover, the use of online forums could also encourage more effective interaction and discussion. “However, Gilbert [3] stressed the importance of face-to-face social interactions in students' learning satisfaction.” The study showed that most students preferred to have more in-person interactions with their peers and teachers than their online curriculum allowed. Students reported their online classes to consist mainly of assigned independent work with limited help from their teachers and discussion with their peers. Emailing teachers for help and using discussion forums often involved longer response-time than ideal for most students, resulting in an interrupted flow of learning Gilbert [3].”

“Nevertheless, Dumford and Miller [4] proposed that online education had more potential to serve students with different learning styles, compared to traditional classrooms.” Online learning platforms with all their features may be more suited to interactive exercises, the use of animations, or videos. While the ability to conveniently present subject matter in a more diverse manner will benefit learners, certain online-learning limitations may disadvantage some students. Learning outcome evaluation is one area in which online classrooms face complications. “Yilmaz [5] reported two main methods of evaluation: online exams with multiple choice or short answer questions and project assignments. Both forms of evaluation may be problematic for different reasons.” “As online exams were more difficult to monitor for cheating and plagiarism, teachers had limited ability to accurately assess students' learning outcomes Arkorful and Abaidoo [6].” “Even with project assignments, Sarrab, “Al-Shihi & Rehman [7] found students who struggled with organizational skills to perform poorer, as they failed to allocate the appropriate amount of time for each task.” Such students may benefit more from the traditional classroom setting where

teachers are able to assess their progress more closely in person, as well as provide help with organization and motivation.” “This notion was confirmed by Sarkar [8], who found students with lower self-motivation to be less successful in their online learning.”

While many disadvantages to online learning such as reduced in-person interaction and increased reliance on students' self-motivation are inevitable, its advantages are more open to possibilities depending on the design of the online program. “Gautam and Tiwari [9] named five areas of consideration in designing an effective online program: audience, course structure, page design, content engagement, and usability.” When done correctly, the authors argued that online learning could allow students to study interactively, according to their individual needs and pacing, as well as give them the confidence to self-regulate and organize their learning. As the pandemic necessitates online education, evaluation of current online curriculums must be done to ensure that arising problems are being addressed and potential advantages are being pursued.

3. METHODOLOGY

To gain insight into the perspectives of Thai high-school students on the advantages and disadvantages of online education during the pandemic, an online survey followed by one-on-one interviews was conducted from May to June of 2021. Participants consist of 100 Thai high-school students from Bangkok and nearby provinces. In Thailand, the high school covers grades 7 to 12 and is divided into two levels: lower high school (grade 7-9) and upper high school (grade 10-12). Figure 1 shows the percentage of participants by grade. At 43%, the majority of the participants were in grade 9, followed by grade 10 (28%), 11 (10%), and 7 (9%). The remaining 10% was from grades 8 and 12.

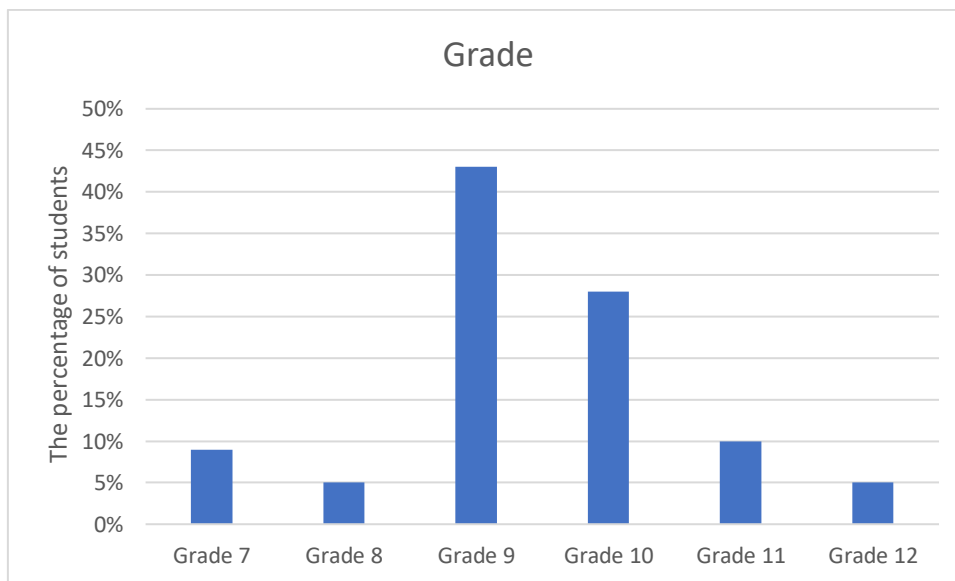


Figure 1. Percentage of participants by grade level

To investigate the impact of online learning on students from different academic concentrations, also known as "curriculums" in Thai high schools, participants were also asked to specify their curriculums. As shown in Figure 2, students in the Science-Mathematics curriculum (Sci-Math) make up 76.4% of the participants, followed by those in the Art-Language curriculum (Art-Lang) at 15.3%. The remaining 8.3% comprised those enrolled in the Art-Mathematics, Art-Science,

and Art-Computer curriculums, which are similar in course structure and will be collectively referred to as the Art-STEM curriculum in this study.

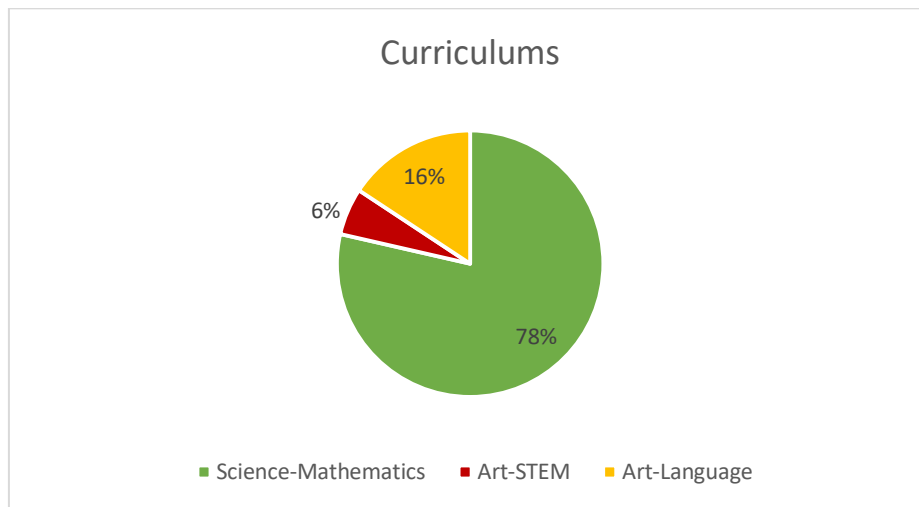


Figure 2. Percentage of participants by curriculum

The online survey consisted of 23 multiple-choice and seven short-answer questions. Multiple-choice questions were used to collect the following data; participants' grade level and curriculum, feelings towards various aspects of the online classroom, and after-class activities. Participants answered closed questions on whether or not they experienced the following five common problems in their online curriculums; assignment overload, schedule overload, attention, comprehension, and health problems, which they then elaborated on in the short-answer questions. Assignment and schedule overload refers to the excessive number of assignments given and the overly packed online class schedule respectively. Attention and comprehension problems refer respectively to the difficulty in focusing during class and in understanding the subject matter. Health problem encompasses the decline in mental and/or physical health as a result of online learning. Upon submission of online survey responses, one-on-one interviews were conducted to allow participants to discuss in greater depth the benefits and drawbacks they had experienced so far in online learning. Lastly, their recommendations on how to improve online education were noted.

Data collected from the online survey were computed into bar and pie charts, using Google Forms and Microsoft Excel graphing functions. Interview notes were compiled and analyzed for common themes among the reported problems and improvement recommendations.

4. RESULTS AND FINDINGS

4.1. Students' perspective on the advantages of online learning

During their interviews, most students named the convenience of studying from home without having to commute as one of the first advantages of online learning. Some students invested the time gained in hobbies that helped them destress from the packed schedule. A few students even reported turning their hobbies into small enterprises, some selling baked goods online while others picked up online work from home to help earn some income for their household during COVID-19 which has been financially difficult for many families.

In terms of academics, more time at home allowed some students to review and better prepare for each class. Certain time-consuming daily rituals such as morning assemblies had been replaced by each student prepping individually in front of their devices for their day of learning ahead. Some also benefited from the freedom of choosing their own time and place of study, if such options were available for their school's online learning program. Even though flexible class schedules are rare, many students still highly appreciate being able to learn in a more flexible manner, being free to move about, wearing their clothes of choice, or even doing something as inconsequential as snacking during class.

Some students proposed that online learning had resulted in improved student-teacher interactions. Pre-recorded lessons offered by some teachers allowed students the added flexibility of learning at their own pace. Students also preferred digital assignment submission to the less eco-friendly and inconvenient use of physical copies. Moreover, student-teacher communications became much more direct and efficient than pre-COVID where emailing teachers was uncommon in Thailand. In class, students were now encouraged to communicate with their teachers much more than before, making use of features like emoji buttons or virtual hand-raising to participate actively.

4.2. Common challenges faced by students learning online

The online survey revealed five main challenges students faced in their online learning, namely assignment overload, schedule overload, attention, comprehension, and health problems. Moreover, the prevalence of these problems varied across the three academic curriculums students is divided into starting in grade 10, namely Science-Mathematics (Sci-Math), Art-STEM, and Art-Language (Art-Lang). Figure 3 shows the percentage of grade 10-12 students in each curriculum who experienced the five common problems aforementioned. The blue bar represents all students while the green, red and yellow bars represent those enrolled in the Sci-Math, Art-STEM, and Art-Lang curricula respectively.

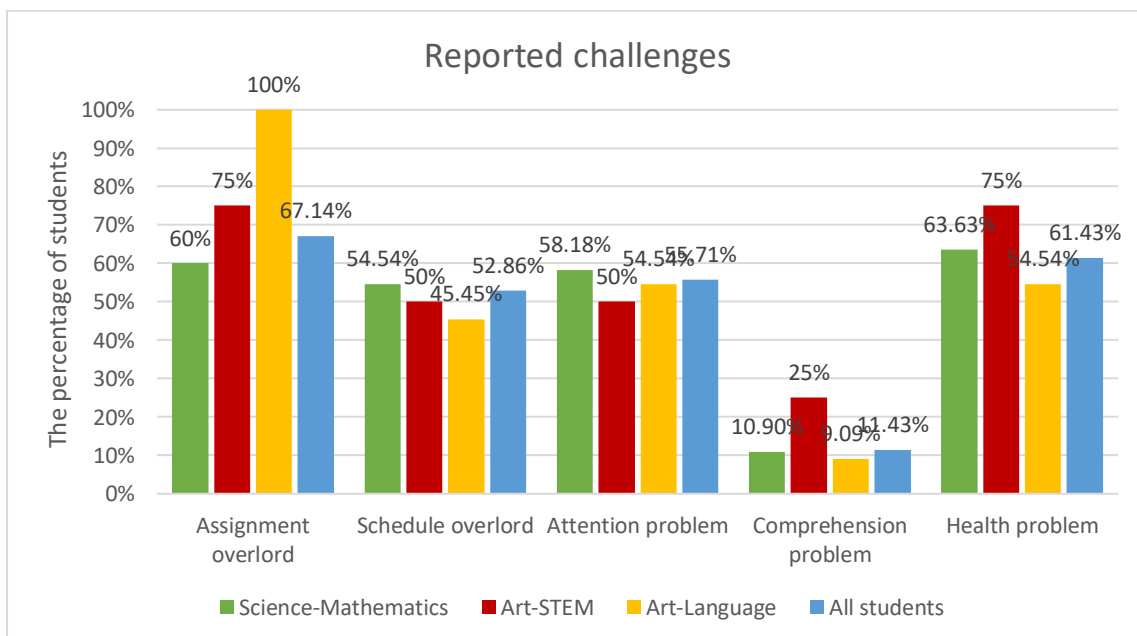


Figure 3. The percentage of grade 10-12 students experiencing five common online-learning problems

As shown by the blue bars in Figure 3, the most prevalent online-learning problem was assignment overload, experienced by 67.14% of students across all curriculums. This result was consistent with interview findings in which the majority of students complained of increased assignment load compared to learning in school. As the elimination of in-school activities and daily commute led to more free time, individual teachers were eager to fill it with assignments. However, the student argued that the lack of communication between teachers led to an uncoordinated increase in assignment load from all subjects, leaving students feeling overwhelmed without adequate daily rest. As a result, issues like backaches, eye problems, and stress began to deter students from their usual study habits. Seemingly simple tasks such as staring at their computer screens for eight hours daily had proven to be challenging for many. As such, it is unsurprising that mental and physical health issues would follow as the second most prevalent problem affecting 61.43% of the students studying online.

While some students shared that they were able to concentrate on their online lessons due to their passion for learning and high level of self-regulation, these were the minority. Figure 3 shows attention problems to affect more than half of the students at 55.71%. Many reported difficulties focusing while learning online since they were forced to do so from their homes. According to the online survey conducted, 51.5% of students deemed their home environments unsuitable for learning.

As seen in Figure 3, schedule overload was reported to be a problem for 52.86% of the students. During their interviews, students were asked to consider which subjects should be added or removed for online learning. First and foremost, students agreed that no subject must be added to the schedule because the existing curriculum was already too time and energy-intensive. Most agreed that subjects like physical education must be removed for the time being, as students cannot reap full benefits from PE lessons through learning theories online as opposed to actually exercising and practicing skill sets in different sports in traditional PE classes. This same argument was extended to other subjects requiring hands-on learning such as health education and music.

Figure 3 shows that comprehension problem was the least prevalent, affecting only 11.43% of students in grades 10-12. This surprisingly low percentage may reflect the fact that grade 10-12 students had gone through a selection process, evaluating their aptitude for their chosen curriculum. This selection process is particularly intensive for the most well-established and popular curriculums for Thai students, Science-Mathematics and Art-Language, both having fewer students with comprehension problems at 10.90% and 9.09% respectively.

In contrast, 53.3% of unspecialized students in grades 7-9 reported difficulties grasping the material being taught online, naming teachers' style of instruction as the main culprit. Students stated that some teachers went through material too quickly, perhaps as a result of not being able to gauge comprehension due to the lack of feedback in real-time from students. Unless the teacher has planned for an interactive portion of the lessons, most students will not feel comfortable interrupting the flow of the lectures to let the teacher know that they are not comprehending. Some complained that their teachers did not prepare sufficiently for class, resulting in disorganized lessons that were difficult to follow.

4.3. Challenges faced by students from different academic curriculums

Exploring the problems by the curriculum, Figure 3 revealed that more Art-STEM students suffered from comprehension problems compared to their peers. 25% of Art-STEM students reported having difficulties understanding the subject matter, a percentage twice as high as other

groups. As mentioned previously, the high level of selectivity for popular curriculums like Sci-Math and Art-Lang may contribute to their reported lower comprehension problems.

As for Art-Lang students, a striking 100% reported experiencing assignment overload. Art-Lang students reported spending a lot of time on project-based assignments, from extensive independent research and review of the literature to group playwriting. However, this group struggled the least in schedule overload, suggesting that online studies in arts and languages relied on more independent learning. Therefore, teachers must be more cautious of the learning burden placed on students when choosing this method of teaching.

Sci-Math students reported a moderately high prevalence (54.54-63.63%) for all problems except comprehension, where only 10.9% of the group had trouble as previously explained. Particularly of interest, Sci-Math students reported the highest level of schedule overload and attention problems. The former is unsurprising as this curriculum is made up of more subjects than others, as science is broken down into biology, chemistry, and physics. As for their shifting attention, Sci-Math students reported having difficulties staying engaged during online lessons especially when science was taught in lecture style without experiments or demonstrations. Passively learning about abstract concepts and going through numerous problem sets resulted in monotonous science lessons that failed to capture the attention of the 58.2% of Sci-Math students.

4.4. Students' behaviors and attitudes towards various aspects of online learning

Figure 4.1-4.3 shows students' perceptions towards compulsory use of camera, lesson content, and teachers' IT skills respectively, while Figure 4.4 shows activities carried out by students following online classes.

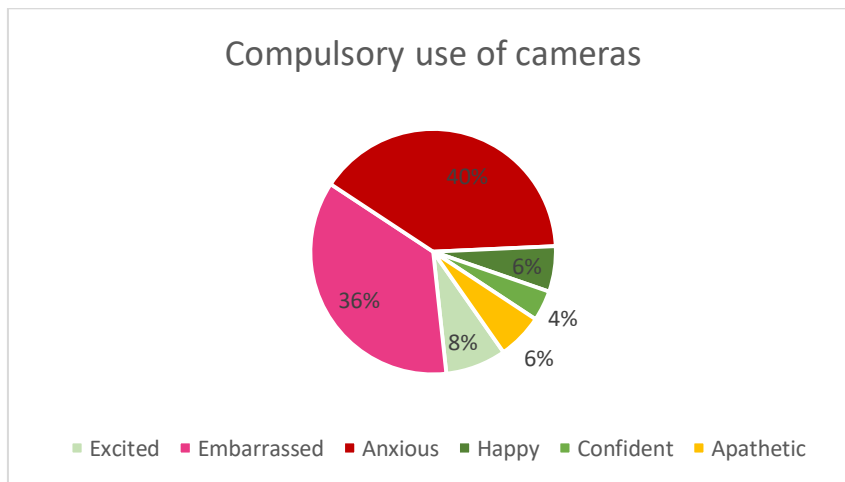


Figure 4.1. Compulsory use of cameras

Figure 4.1 illustrates that most students have negative feelings towards compulsory use of the cameras when learning online. 40% reported feeling anxious followed by 36% who felt embarrassed. Interviews revealed that students felt anxious knowing that teachers would penalize those who did not turn on their cameras as well as those who did but showed signs of inattention. Many reported feeling embarrassed as a result of their peers seeing their less-than-ideal living conditions or their private space as most students would study from their bedrooms. On the other hand, 8% and 6% of students were excited and happy to turn on their cameras, being able to see their friends' faces and expressions. Only 4% stated that they felt confident turning on their

cameras, showing their faces and living spaces. Those who performed well in the class also reported feeling confident on camera, being seen and addressed by their teachers. While some teachers permitted students to keep their cameras off so long as they stayed in class, most made the use of cameras compulsory in their online classrooms in order to monitor students' attendance and attention.

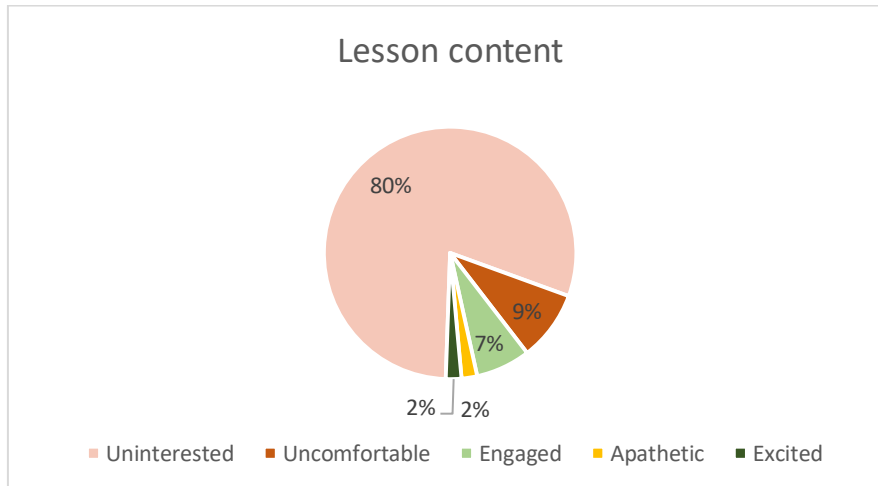


Figure 4.2. Lesson Content

Figure 4.2 shows that a vast majority of students, namely 81%, were uninterested in their online class contents. These students felt overwhelmed and desensitized by a large amount of information thrown at them daily, in the form of mundane slides. Most felt that teachers failed to put in the necessary efforts to present the subject matter in new and engaging ways. Still, 7% of students found their online classes to be engaging and 2% even found them to be exciting when teachers used well-made presentations incorporating pictures, videos, or live demonstrations. Additionally, incorporating interactive activities can also increase engagement. In their interviews, most students lamented the lost opportunity of learning alongside their peers. While a well-prepared presentation on the screen is appreciated, one student echoed the sentiment of many in saying that "it is not enough." Students expressed the need to learn in group settings, "with real people and real discussions". Online learning that did not incorporate these in-person elements made for lackluster learning. To make matters worse, demanding attention, teachers had resorted to disciplining the students through a point system or forcing them to keep their cameras on at all times. While this approach may successfully prevent students' attention from straying, it took away from the joy of learning, exacerbated stress, and led to online learning burnouts.

9% felt uncomfortable during class, citing ineffective equipment and a poor learning environment. This last finding also emphasized the importance of ensuring that online learning is accessible to all, as the lack of appropriate devices and means to learn from home meant some students' primary emotion to learning might be discomfort as opposed to any kind of engagement at all with what was being taught. According to the online survey, 63% of the respondents felt well supported by their families in terms of devices' internet connection.

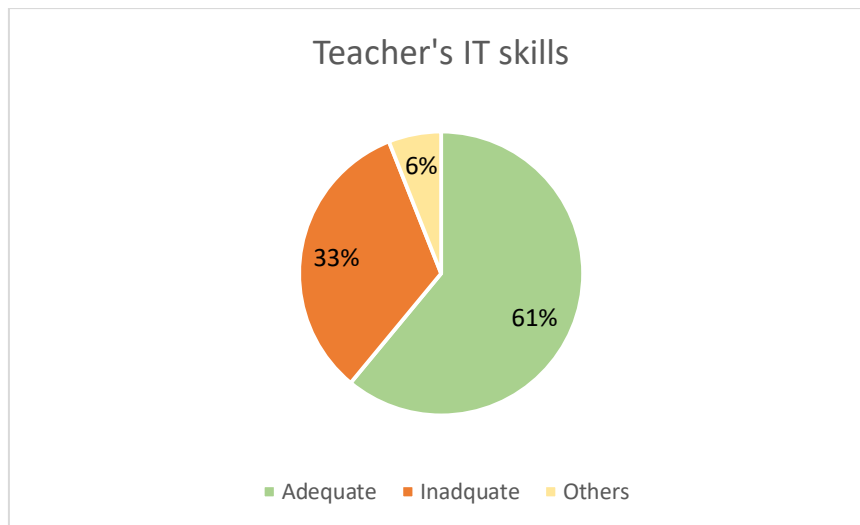


Figure 4.3. Teacher's IT skills

Figure 4.3 shows that at 61%, the majority of students believed most or all of their teachers to have adequate IT skills and/or readiness, while 33% believed most teachers did not. The 6% who chose 'other' further elaborated that they felt the numbers of skilled and unskilled teachers were similar. This result suggested that, even within the same school, there was a wide range of IT skill levels among the teachers. Students reported complicated class attendance rules as different teachers choose to use different meeting platforms. Some may not have the IT training necessary to manage an online classroom by themselves resulting in disjointed lessons or at the very least ones where the online learning platform's capabilities were not used to the fullest. Students also noticed that some teachers did not have stable internet connectivity and often disconnect from time to time during class.

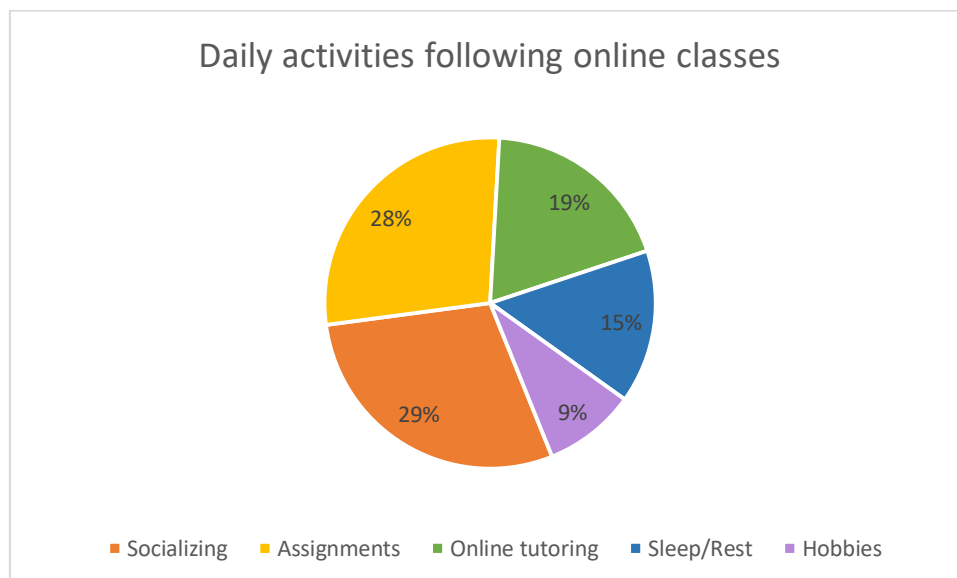


Figure 4.4. Daily activities following online classes

Figure 4.4 shows that following their online lessons, 29% of students socialized with their friends online or used social media. This is consistent with the majority of students sharing that they

missed in-person interaction with their friends, but could only substitute for it by doing so on social media. In addition, students complained of having a large number of assignments due each day. This was reflected in the 28% of students who spent the majority of their evenings on assignments. 15% chose to rest or sleep right after class, while 9% looked to their hobbies to recover from both physical and mental exhaustion. Still, the majority of students shared during interviews that they did not feel they had enough time to relax or unwind before the next day. They also did not have time to prepare for their university applications, which are particularly crucial for grade 11 and 12 students. As such, 19% of students chose to take online tutoring lessons after class in order to prepare for university entrance examinations. In any case, 76.8% of the students believed they were able to manage their time wisely with good planning strategies and organizational skills.

4.5. Students' reflection on the Thai educational system and its management of online education

Students were proactive in their effort to adapt to the sudden shift to online learning. However, they were also frustrated by the poor management and organization of the online programs being provided. One-on-one interviews revealed one theme less emphasized by the online survey; inequality meant online learning is not accessible to all students. Students were made acutely aware of the socio-economic disparity amongst themselves through online learning. Some families may not have the capacity to support their children's online education be it in providing electronic devices, internet, supervision, or even a suitable home environment to learn in. In families with many children, this burden is only multiplied. Economic instability during the pandemic means many parents are now unemployed, but information on financial aid is not readily available both from the government and schools.

In one interview, a student shares that "the Thai educational system doesn't support students, parents, and teachers as much as it should." During the pandemic, students and teachers alike must adapt to new ways of learning and teaching. Some struggled on the way to making the shift, but many students and teachers are still left behind with no access to devices, stable internet, technological skills, or training. Nevertheless, students still tried to turn the crisis of COVID-19 into an opportunity to grow. Those in grades 7-9 who wished to enter a new school had prepared so by looking outside their curriculums - purchasing textbooks to study by themselves, practicing admission exams, or taking online tutoring courses, in hope of transferring to a new school with better learning environments. Meanwhile, grade 10-12 students struggled to prepare for universities with limited guidance from teachers who were equally struggling to master online teaching. As admission requirements are changed almost annually, students must educate themselves on the application process and prepare as early as possible. From choosing the right course and university for themselves, preparing for all the necessary exams to putting together a strong application, the process had left many students feeling overwhelmed and unsupported by their teachers and schools during the pandemic. Nevertheless, students tried their best to prove to themselves that their learning had progressed despite the hindering effects of the pandemic.

5. CONCLUSIONS AND RECOMMENDATIONS

COVID-19 has thrust schools, teachers, parents, and students alike into a new makeshift world of online learning with little preparation. As such, it is no surprise that there remain many kinks in the system that need to be worked out. This study investigates high school students' experiences and evaluations of online learning, naming both advantages and disadvantages compared to in-school learning. On the one hand, students from resourceful schools, with sufficient equipment and access to high-quality teachers will stand to reap the full benefits of online learning, be it the

convenience and the more customizable nature of the platform. On the other hand, students with limited access to the same resources stand to lose some opportunities to learn effectively during this vital period of their education. For either group, COVID-19 requires students to make major changes in the way they learn and socialize. This burden on the physical and mental wellbeing of students cannot be overlooked and support systems need to be put in place both at home and in school.

The interviews conducted show that students are quickly learning from previous years' experiences and constantly evaluating the benefits and drawbacks of the online curriculum provided by their school. As a result, when it comes to improving online learning, students are a mine of knowledge. While some commend the extra free time, they gain from cutting down on commuting to and from schools daily, others complain of that time being taken by schedule and assignment overload. In the area of academics, some report learning benefits such as having more time to review their lessons at their own pace, while others complain of low-quality lectures provided by their teachers.

All in all, it is evident that online learning can either be a curse or a blessing, depending on its structure and management. Schools, teachers, and students must come together in sharing their struggles, evaluations, and recommendations to improve learning efficacy during the pandemic.

First and foremost, schools should be the official point of contact between students and the necessary governmental organizations, advocating for students with financial needs, ensuring that all students can afford online learning. For those who cannot, financial aids, devices, or any necessary teacher support should be provided. Additionally, schools must also advocate the government for their students' well-being, especially those who cannot access vaccines easily.

The majority of students suggest improving the teaching quality. Teachers should make more engaging presentations, fully utilizing the interactive capabilities of online learning platforms. The school must organize adequate training for teachers, allowing all of them to share knowledge and tips on creating a good online lesson, be it in regards to the use of technology or style of teaching.

Moreover, the school greatly help teachers communicate with each other as a whole in order to plan class, grading system, and assignment schedules that are practical and well-balanced for students, taking into consideration the physical and emotional burdens the pandemic has placed on students. Schools should further organize regular meetings between teachers and parents, in order to best understand how students are coping at home and in class and what measures should be in place to help support them. To help lessen the load of the overly packed schedule, students suggest that some subjects such as PE or music may be put on hold until they can return to school or perhaps reduced to weekly hours. Ideally, students would like the option of choosing to spend more or less time on different subjects in accordance with their interests and educational goals.

Basic rules of online classroom conduct should be set on a school basis, rather than left to individual teachers. Specifically, rules that students feel are insensitive to their privacy, such as those requiring their cameras to be on at all times or that they add their teachers on their personal messaging apps should be open to school-wide discussions and up for reconsideration of students' petition for it. Moreover, online exam-taking rules should be discussed between students and teachers in order to find an agreed-upon format that is practical as well as fair for all students.

As we inch closer to the two-year mark of life during COVID-19, students are eager to return to schools while trying their best to adapt to learning online. The evaluation of these advantages and

disadvantages can lead to new progress in technologies, education, and social media, resulting in a new normal for learning and teaching and also for a generation of students. As such, governmental organizations, schools, teachers, parents, and students must come together in an effort to help one another best adapt during this trying time.

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AUTHORS

Pitchsinee Oimpitiwong has been a high school student since 2020 at Triam Udom Suksa School, Bangkok Thailand. She studies the Science-Mathematics curriculum. Furthermore, she is one of the members of the school's oracle club, and has experience in writing reports for publication in school. In 2020, she participated in the school writing essay competition.