



**Mahidol University**  
Institute for Population  
and Social Research

**The 16<sup>th</sup> Thailand National Conference  
on Population and Society 2022**

# **School closure during COVID-19 pandemic: which learning method is the most appropriate for Thai students?**

**Dyah Anantalia Widyastari, Piyawat Katewongsa**





# 1.6 billion students in 190 countries

were unable to attend schools as usual



#StayAtHome

# Online learning

Flexibility  
Cost, time saving

x

Internet connection  
Facilities  
Space  
Supports





Is it true that online learning is the most appropriate method?

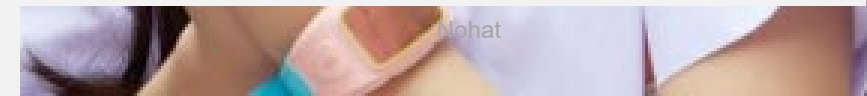


Among the available learning alternatives, which one provide more supports and opportunities for Thai children and youth in achieving the desired academic and health outcomes?

Changes in learning environment and policy



Children happiness and well-being

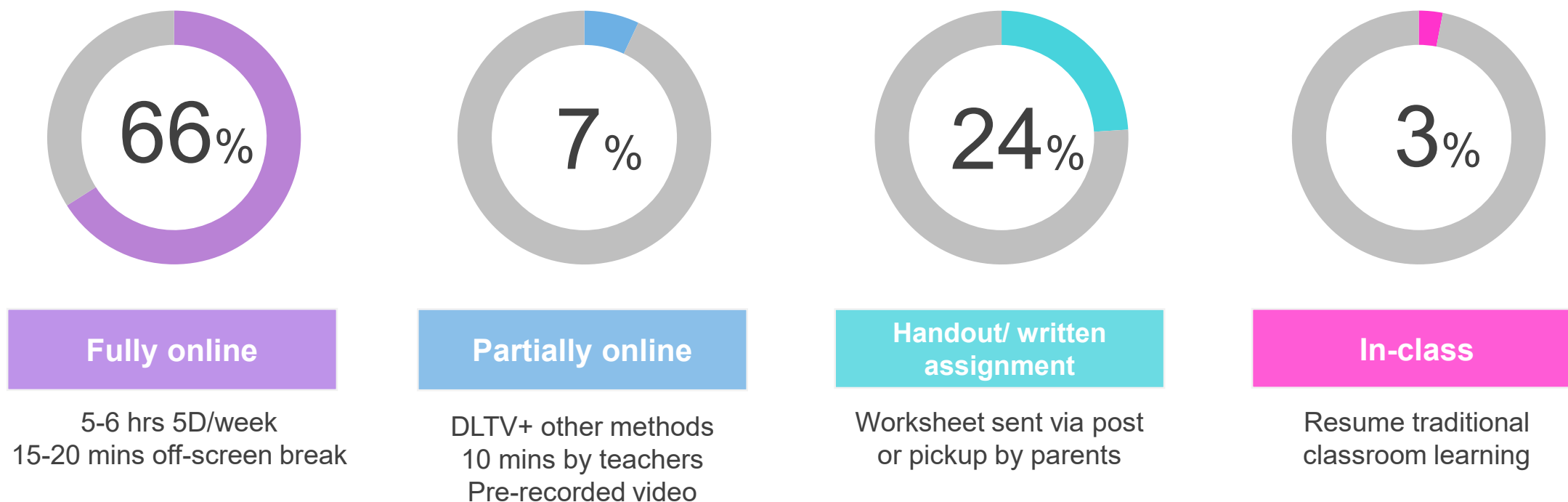


# 6,078 Thai students

- 64% primary school students นักเรียนประถม
- 36% secondary school students นักเรียนมัธยมต้น
- On-screen face-to-face data collection
- National representative



# Learning methods during school closures

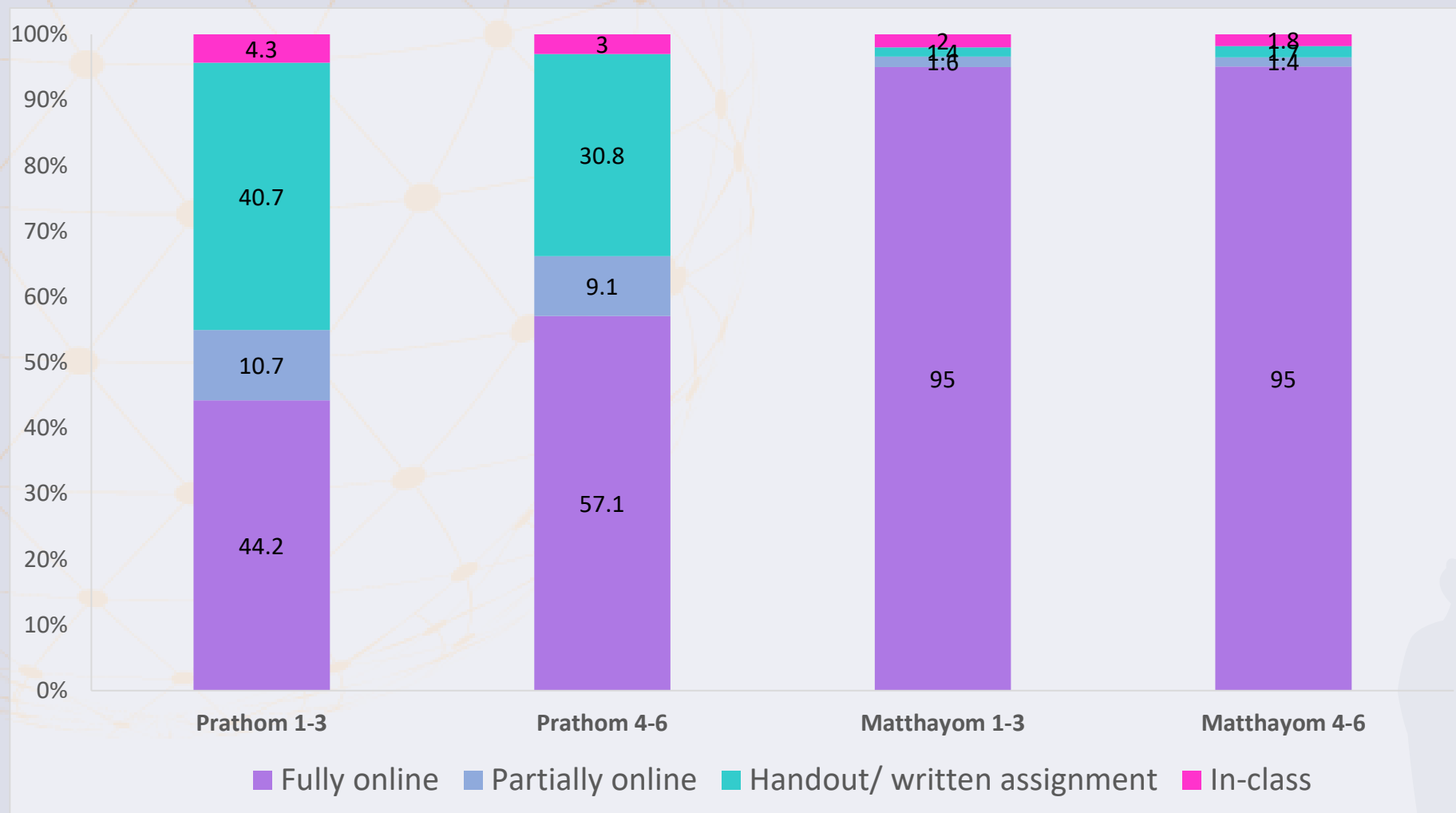


---

During the school closures, Thai students experienced various learning instructions – shifted from their routines  
Required multiple adjustment strategies

---

# Learning methods during school closure classified by grades





# 32.8%

of Thai students experienced anxiety of a **moderate-to-severe level** due to school closures and the implementation of various learning methods.

*Moderate-to-severe anxiety was most frequent among students who learnt fully (38.0%) or partially (29.9%) online.*

*Students who learned in traditional classroom were 37% less likely to report moderate-to-severe level of anxiety.*







1

The absence of supports and intensive discussion with teachers particularly on the practical subjects (i.e., math, physics)

2

Long duration (5-6 hours a day) of on-screen learning which imposed the students to visual fatigue

3

Increasing load of homework and assignments

4

Lack of peer supports and interaction

**Fully online learning increases the  
risk of anxiety**





Photo courtesy: who.int

**Learning methods during school closure  
were also significantly correlated with  
poor health-related behaviors**

- Screen time
- Physical activity
- Active Play
- Sleep





## Online learning required students to engage with screen media longer than its recommended



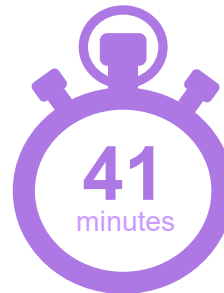
The highest duration of recreational screen time reported among students who attended fully online learning (421 minutes) or partially online learning (385 minutes)



Students who  
experienced a full- or  
partially online learning  
methods reported  
**lower physical activity**

WHO guideline for children and youth 5-17 years:

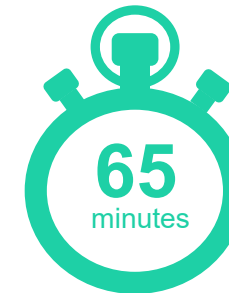
Children and adolescents should do at least an average of **60 minutes per day** of moderate to vigorous-intensity, mostly aerobic, physical activity, across the week.



Fully online



Partially online



Handout

OR 1.49



In-class





# Active Play

Students who received handouts/written assignments or attended traditional classroom learning have more opportunities for outdoor active play



Traditional classroom

102

minutes  
OR 2.10



Handout/ written assignment

104

minutes  
OR 1.72

Fully online learning: 53 minutes | Partially online: 61 minutes

Photo courtesy: Sanook





Learning methods also had a significant correlation with meeting sleep recommendation, with the highest compliance among students who received handout/written assignment

**>80%**  
of Prathom and  
Mathayom students met  
the recommended  
sleeping guidelines



Guidelines of the National Sleep Foundation:  
Recommended sleep duration for children aged 6-13 years (9-11 hours) & aged 14-17 years (8-10 hours)

# Learning methods - Anxiety - Health Behaviors



Online learning as the most feasible approach, but led to anxiety and poor health behavior of Thai children and youth



The offline remote learning (handout/written assignment), provided more opportunities for students



Evaluate and redesign the learning methods to prevent aggravated learning loss and adverse health outcomes



Reduce the duration of online learning  
Provide more opportunities for physically active learning methods in home settings

