



Benchmarks from selected countries

Education subcommittee of CT ReO

4/23/2020

Save a few Asian nations, universities campuses are by and large still closed and looking toward the next semester

Asia: Mix of countries closed, open, and planning to open

Country	Academic year	Close date	Re-open date
Taiwan	Feb- July	N/A	Still open
Japan	Apr-Mar	N/A	Still open
China	Sep-Jul	Late Jan	Apr ¹
Hong Kong	Sep-May	Early Feb	Still closed
India	Apr-Mar	Mar 16	May 3
Singapore	Aug-May	Apr 8	May 4
S. Korea	Mar-Feb	Late Jan	Still closed

Europe: Universities still closed for in-person classes

Country	School year	Close date	Re-open date
Germany	April-Feb	Mar 16	Still closed
France	Sep-Jul	Mar 16	Still closed
Austria	March-Feb	Mar 16	Still closed
Sweden	Aug-Jun	Mar 18	Still closed
Israel	Oct-Sept	Mar 12	Still closed

US: Universities still closed for in-person classes

State	School year	Close date	Re-open date
SC	Sept-May	Mar 16	Still closed
GA	Sept-May	Mar 16	Still closed
TN	Sept-May	Mar 13	Still closed

For K12, governments outside the US are focused on reopening this academic year in order to get parents back to work and help the economy recover

Asia: many schools open this school year

Country	School year	Close date	Re-open date
Taiwan	Sep-Jun	Mid-Jan	Feb 25
Japan	Apr-Mar	Mar 2	Apr 10
China	Sep-Jul	Late Jan	Apr ¹
Hong Kong	Sep-May	Feb 3	Apr 23
India	Apr-Mar	Mar 24	May 3
Singapore	Jan-Nov	Apr 8	May 4
S. Korea	Mar-Feb	Late Jan	NA

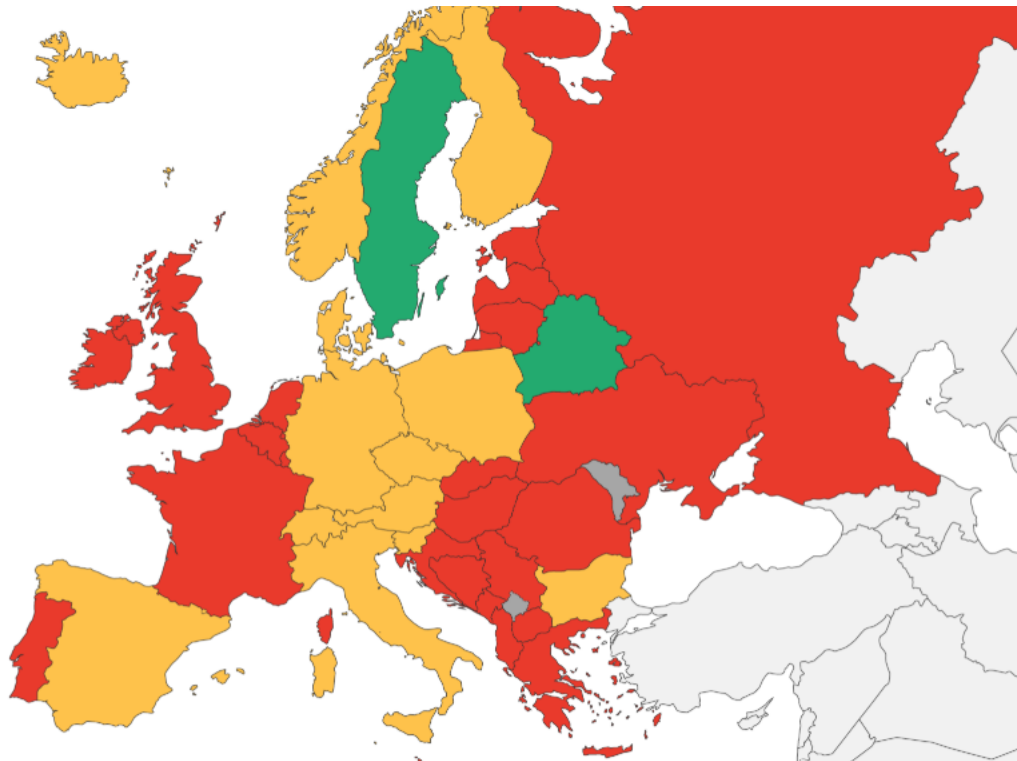
Europe: schools to reopen this year in several countries

Country	School year	Close date	Re-open date
Germany	Jul-Jun	Mar 16	May 4
France	Sep-Jul	Mar 16	May 11
Austria	Sep-Jun	Mar 16	May 15 (not u/g, primary)
Sweden	Aug-Jun	Mar 18 (HS, HEd)	NA
Norway			Apr 27
Israel	Sep-Jun	Mar 12	NA

US: states opening businesses not opening schools this year

State	School year	Close date	Re-open date
SC		Mar 16	May 1 (likely to extend)
GA		Mar 16	Closed rest of year
TN		Mar 13	Closed rest of year (districts to vote)

Several European countries beginning to discuss gradual re-openings of society



Lockdown (definitions may vary)				Easing restrictions		No lockdown	No data
Albania	Greece	Montenegro	Slovakia	Andorra	Iceland	Belarus	Kosovo
Belgium	Hungary	Netherlands	United Kingdom	Austria	Italy	Sweden	Moldova
Bosnia and Herzegovina	Ireland	North Macedonia	Ukraine	Bulgaria	Norway		
Croatia	Latvia	Portugal		Czech Republic	Poland		
Estonia	Lithuania	Romania		Denmark	Slovenia		
Luxembourg	Russia			Finland	Spain		
France	Malta	Serbia		Germany	Switzerland		

Several countries beginning to ease restrictions; keep an eye on upcoming school and university re-openings

- Andorra
- Bulgaria
- Czech Republic
- Denmark
- Finland
- Iceland
- Italy
- Poland
- Slovenia
- Spain
- Switzerland



Asian Countries



Taiwan

Taiwan quickly re-opened schools due to relatively few cases and precautionary safety measures

1 Decision to close schools

- Closed mid-January for typical month-long winter holiday, extended 1-2 weeks due to COVID-19 (to allow time for prevention supplies to arrive and be distributed)

2 School closure

- Schools only closed when a student was infected
 - All students provided masks upon return
 - Students using online resources and video instruction at home
 - Makeup dates for missed instruction planned for weekends or summer break
- Under CECC regulations, if one student at a school contracts the virus, the class will be sent into home quarantine for 14 days, and if two or more people at a school develop the disease, the school will be closed for two weeks

3 Decision to reopen schools

- Reopened on February 25, using rationale that children are less likely to transmit the disease
- Also cited relatively low number of cases, typically having <10 new cases per day
- Also cited economic impact of having children home for parental employment

4 School opening

- Health safety
 - Parents will report student temperature before coming to school, and/or temperature is recorded before entry; temperatures of teachers and workers also recorded
 - Shoes and hands are disinfected before entry
 - Students required to wear surgical masks, and eat behind plastic dividers during lunch; some sit behind barriers in class too
 - Schools with 1k+ students must have at least 10 entrance lanes
- Semester extended two weeks to July 14 to make up for lost time

Enablers throughout the process

- Minimal disease spread- mask rationing and distribution, strict testing and up to \$33,000 fines for breaching quarantine (14 days after returning from another country), widespread contact tracing, travel bans, temperature screenings, etc. have resulted in relatively few cases
- Swift action to prevent disease spread- by mid-February, the territory had increased its mask and alcoholic sanitizer production, introduced fines for raising the price of medical supplies and set cleaning standards for public transportation and other areas, such as trains and schools
- Government funds provided for substitute teachers to continue educating when teachers needed to be self-isolating outside of school

Taiwanese health protocols in schools

- Large gatherings cancelled
 - Field trips, celebrations parades
- Student requirements
 - Wear surgical masks throughout the day
 - Parents record and report student temperatures
- School precautions (before entry)
 - Monitor student temperatures
 - Disinfect shoes and hands
 - Thorough disinfecting of all frequently-touched surfaces
 - Temperatures of teachers and workers also recorded
- School precautions (in-session)
 - Wash hands before classes
 - Plastic dividers on each student's desk during lunchtime (when masks are removed)



Taiwan: higher education response to COVID-19

University cases

- Six universities in Taiwan with verified cases of the disease, but no widespread closing of universities

Prevention

- Faculty and staff to wear masks, wash hands frequently

Protocols

- Central Epidemic Command Center (CECC) conducts investigations into any new cases
- Any students in contact with an affected student moved out of dorm and doing home-quarantining

Online learning

- Courses of any infected student are moved online temporarily
- If two or more people are infected with COVID-19 on a campus, then entire campus will be shut down, all in-person lectures will stop, and online learning will be instituted school-wide

Taiwan sources

K-12

- <https://www.bloomberg.com/news/articles/2020-03-27/should-schools-close-to-fight-virus-these-countries-say-no>
- <https://www.cbc.ca/news/business/taiwan-covid-19-lessons-1.5505031>
- <https://www.ei-ie.org/en/detail/16690/taiwan-prompt-action-to-stop-the-spread-of-covid-19-and-keep-schools-open-and-safe>
- <https://www.taiwannews.com.tw/en/news/3900525>
- <https://www.voanews.com/science-health/coronavirus-outbreak/covid-19-cases-near-zero-taiwan-restrictions-remain>
- <https://focustaiwan.tw/society/202003190020>
- <https://fee.org/articles/why-taiwan-hasnt-shut-down-its-economy/>

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- <https://www.taiwannews.com.tw/en/news/3908325>
- <https://en.rti.org.tw/news/view/id/2002806>



Japan

Japan has taken a conservative approach to school closures

1 Decision to close schools

- The Ministry of Education asked all schools to close starting March 2nd. 96% of schools closed, as the decision was left to local governments ; request was that all schools nationwide shut down through spring break in April
- Affects 12.8M students across 35k schools
- Schools in 7 jurisdictions still closed until early May

2 School closure

- Schools open to students whose parents have no alternative childcare
- Alternative education (historically textbook-based system)
 - Teachers leverage free online educational materials from third parties plus offline materials
 - Overall online adoption has been low
- Zoom removed 40 minute time limit for Japanese schools
- Schools also using DingTalk app for virtual learning
- Some schools, mainly private ones, started have used ICT to resume their school process without going to school

3 Decision to reopen schools

- Expert panel suggested local governments assess school re-openings on a case-by-case basis taking into account the number of cases in the local area; some schools near facilities with outbreaks will remain closed; cited relative minimal impact of children in spreading the virus, as well as negative impacts on working parents
- 38% of K-12 schools have started the new semester on schedule as of Apr 10th
 - Only 6% started in 7 areas where a state of emergency has been declared
- Tokyo planning to keep schools closed until May 6th given high number of cases

4 School opening

- Large sports and cultural events are canceled or postponed
- Some municipalities planning to reopen but pushing start time back an hour to stagger commuting
- Education ministry (MEXT) released guidelines calling on teachers to take preventative measures such as opening windows to improve classroom ventilation; additional guidance on preventative measures is expected

Enablers throughout the process

- Financial support- country providing basic income to parents during the closure to protect against economic and health impacts on families, specifically for parents who needed to take time off to look after their children until the new academic year began, or for families facing unemployment
- Financial support for students who had sudden changes in household finances through scholarships and tuition reductions
- Financial support for school administrators who purchase hygiene products such as cloth masks, disinfectants, and contactless thermometers

Deep dive: Japan using a three-tiered system to guide re-openings



Proposed indicator:

Number of cases in the surrounding area is increasing

Suggested action:

Refrain from gatherings of 10 or more, as well as dining with many individuals outside of one's family; stay indoors if possible

Example:

Tokyo keeping schools closed until May 6 given high number of COVID cases



Proposed indicator:

No increase in number of new cases

Suggested action:

Local discretion to determine next steps that balance student learning with local safety and minimized risk

Example:

Hokkaido, where Gov. Naomichi Suzuki had declared a state of emergency, will reopen schools as long as there is no surge in COVID-19 patients



Proposed indicator:

Cases are subsiding, e.g. no new cases within the last two weeks

Suggested action:

Gradually re-introduce low-risk activities including school, sports, cultural and recreational activities

Continue avoiding activities that risk spreading the virus

Implement measures to prevent spread within schools, e.g. sanitization

Example:

Chiba Prefecture re-opening schools, with exception of those located near a care facility with a recent outbreak

Backup: Japanese schools considering several measures to prevent further spread once they re-open

- Management of health and environment
 - Checking fever at home or school: Students and teachers with symptoms of cold stay home
 - Thorough hand washing, cough etiquette, and cleaning of equipment with antiseptic solution
 - Instruction on adequate sleep, moderate exercise, and balanced diet to enhance immunity
 - Thorough ventilation
 - Use of a mask when talking or speaking at close range
- Suspension of attendance
 - Children and students identified as infected persons or close contacts, or those who may become serious due to underlying diseases, etc.
- Large sports and cultural events (e.g. entrance/opening ceremonies)
 - Evasion of enclosed spaces, crowding, and close-range conversation
- Pushing back school start times to reduce congestion with other morning commuters

Japan: higher education response to COVID-19

Semester

- Prime minister did not initially mention universities in guidance related to school closures
- No widespread changes to the academic calendar; discretion left up to universities to make any needed adjustments
- Many have cancelled non-essential extracurricular activities on campuses

International programs

- Many study abroad programs cancelled
- Many U.S. institutions with Japanese programs moved online, e.g. Temple University's Tokyo campus moving to Zoom instruction

Digital learning

- Some institutions transitioning to online, but many still offering face-to-face instruction
- Discretion left to individual institutions and professors
- One university in Tokyo, Business Breakthrough University, used robots for graduation; students used Zoom to "collect" diplomas

Safety precautions

- Individual universities suggesting measures to prevent spread of COVID, e.g. sitting apart from other students, wearing face masks, not spending unnecessary time at the university

Japan sources

K-12

- <https://www.japantimes.co.jp/news/2020/04/02/national/japan-expert-panel-extending-school-closure-japan-coronavirus/#.XpXtnshKg2w>
- <https://www.sciencemag.org/news/2020/03/does-closing-schools-slow-spread-novel-coronavirus>
- <https://www.dw.com/en/covid-19-japans-schools-close/av-52612352>
- <https://www.nytimes.com/2020/02/27/world/asia/japan-schools-coronavirus.html?auth=login-facebook>
- <https://asia.nikkei.com/Spotlight/Coronavirus/Japan-to-lift-nationwide-school-closure-ahead-of-April-new-term>
- <https://www.japantimes.co.jp/news/2020/03/02/national/japan-prefectures-shut-schools-covid-19/#.XpX04chKg2y>
- <https://blog.zoom.us/wordpress/2020/03/29/how-to-use-zoom-for-online-learning/>
- <https://www.businesswire.com/news/home/20200223005042/en/Response-COVID-19-Japanese-Schools-Adopt-DingTalk-Work>
- https://www.mext.go.jp/content/20200413-mxt_kouhou01-000006421_1.pdf
- https://www.mext.go.jp/content/20200406-mxt_kouhou01-000006156_1.pdf
- https://www.mext.go.jp/content/20200407-mxt_kouhou02-000004520-3.pdf
- <https://www.mhlw.go.jp/content/11909000/000619373.pdf>
- <https://www.mhlw.go.jp/content/000613884.pdf?fbclid=IwAR34RUdxelooHOL72tiSTK8vV6kOetWdNXAFbhd6vvsOC3EueR6cAojkQFU>
- <https://covid19.moneyforward.com/personal/supports>
-

Higher Ed

- <https://www.businessinsider.com/university-in-japan-used-robots-for-virtual-graduation-2020-4>
- <https://www.kyoto-u.ac.jp/en/about/safety/coronavirus.html>
- <https://www.inquirer.com/education/college-students-coronavirus-penn-temple-drexel-online-20200303.html>
- <https://www.nytimes.com/2020/02/27/world/asia/japan-schools-coronavirus.html>



China

China has taken a conservative approach to school closures

1 Decision to close schools

- Closed since late January, affecting 233M students

2 School closure

- **Primary schools:** classes broadcasted on public TV to prevent network congestion and protect student eyesight, students use an app to communicate with teachers
- **High school:** National cloud learning platform launched with learning materials. Provides resources, but does not replace classroom learning (50M students can use the platform simultaneously)
- Some **specialized schools** using platforms like Google Hangouts to increase student collaboration

3 Decision to reopen schools

- Most of the country continued school closures, with anticipated reopen dates undetermined but up to the provincial education departments
- Some areas (Guizhou Province and Xinjian Uygur Autonomous Region) reopened, with Shanghai reopening end of April
 - Epidemic under control, e.g. no new confirmed cases for a month, school meets prevention standards, safety of students and teachers guaranteed

4 School opening (for open schools)

- Staggered re-opening
 - Prioritizing graduate levels (12th, 9th, 6th grades) and those taking exams
- Social distancing
 - Meal times in batches to prevent over-crowding of students
 - Customized school buses and designated routes to classrooms
 - Classes are limited to 30 students with staggered seats and dismissals
 - Monitoring health of students and teachers for 14 days before school
- Prevention / sanitization
 - Masks, temperature checks and admission inspection
 - Increased sanitization of school facilities and ventilation

Enablers throughout the process

- **Teacher training and support**
 - Coaching sessions for teachers on new technology
- **Access to technology**
 - Private sector collaboration: Ministry of Industry and Information Technology brought on major telecom operators and tech companies to back up e-learning platform with servers and bandwidth to ensure student access

Backup: more restrictive measures in Wuhan, where COVID originated

K-12

- Authorities decided to close schools in January in attempt to confine the outbreak, with schools remaining closed after New Year celebrations
 - Decision was based on modeling that showed that school closures would significantly reduce new cases
- 300M students in China attending classes online
- Students used app called DingTalk to attend classes remotely
 - On the first day back, DingTalk had 50 million student users, and 600,000 teachers
 - Students could attend classes through the app and teachers could assign homework
- Schools remain closed; recent studies show that lifting current measures would lead to a new rise in cases through August
- Sanctions lifted in early April after government reported that new domestic cases were negligible, but schools remain closed
- School closures enabled by widespread lockdown measures, including forced stay-at-home, blocked transportation, reward for reporting non-obeying citizens (overall early detection, isolation, and lockdown of population's movement)

Higher education

- Ministry of Education asked higher education institutions to delay the start of the Spring semester in January
- Universities quickly responded by transferring courses online for both undergraduate and graduate students, through live and pre-recorded sessions
- Less prestigious universities having more difficulty with accessibility of technology equipment
- Reported uncertainty over how many courses to put online given unknown time frame of COVID crisis
- Some seeing this situation as an opportunity to quickly digitize university operations and offerings
- Also challenges with censorship of some university online lectures

Report deep dive: impact of school closures on COVID containment in China

The effect of control strategies to reduce social mixing on outcomes of the COVID-19 epidemic in Wuhan, China: a modelling study

School closure and management practices during coronavirus

- Intense measures of prolonged school closure reduced the cumulative infections by end-2020 and peak incidence, while also delaying the peak of the outbreak
- Reduction in incidence highest among school children and older individuals
- Physical distancing measures were most effective if the staggered return to work was at the beginning of April

- Data from the SARS outbreak in mainland China, Hong Kong, and Singapore suggest that school closures did not contribute to the control of the epidemic
- Other activities such as school temperature monitoring also thought to have minimal impact on infection transmission
- Recent modelling studies of COVID-19 predict that school closures alone would prevent only 2-4% of deaths; most effective when in combination with other social distancing measures

Backup: Country-level response to 2003 SARS outbreak can provide a look into school-based prevention

"Schools against SARS" campaign provided recommended actions to minimize spread

Environmental hygiene

- Ensure healthy air ventilation
- Provide appropriate hand cleaning facilities
- Dedicate extra capacity to cleaning bathrooms
- Dedicate extra capacity to cleaning toys, furniture, learning spaces

Prevent direct transmission

- Teachers vigilant in observing and monitoring students for signs of virus
- Investigate student absences and report any cases of disease
- Ensure students with virus are appropriately excused from school
- Only admit returning students (who were known to have the disease) with doctor's approval
- Increase frequency of disinfections

Education

- Educate students and parents on disease symptoms and spread, prevention, and school-based measures to reduce infection

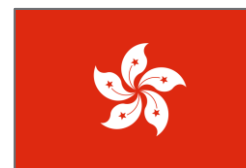
Countries responded differently to crisis



Singapore mandated twice-daily temperature screenings of all children 6-16 in schools, sending them home if they passed a threshold; efficacy has been questioned as no children were identified as having SARS through these checks



Taiwan used schools as alternative health care centers to prepare for possible overwhelming of health care system during outbreak



Hong Kong closed schools during SARS outbreak to prevent further student interaction and spread

China: higher education response to COVID-19

Re-enrollment

- Beginning with graduating students, and then gradually bringing students from other years back to campus

Digital learning

- Universities transitioning to teaching through video conferencing, including the Rain Classroom platform
- Estimated impact on 30 million learners at 3,000 institutions

International students

- Large % of students traveling from other provinces to attend universities, so increased need to implement health and safety precautions

Innovative practices

- "Smart" classrooms on campus for professors recording lectures
- Online platforms for virtual research
- Online graduate level theses to ensure on-time graduation

University enrollment changes are expected for next year

Growth in university enrollment predicted

Vice minister for education reported an expanded admissions policy for next academic year

- Predicted growth of **189k master's** students year-over-year
 - Total master's enrollment = 2.3M
- Predicted growth of **322k undergraduate** students transferring from technical colleges year-over-year
 - Total enrollment in degree-granting programs = 18.5M
 - Total enrollment in vocational programs = 9.7M

With largest increases in fields that fulfill national strategic needs

For undergraduate / graduate education:

- Clinical medicine, public health, integrated circuit design, artificial intelligence

For technical education:

- Preventive medicine, emergency management, services for seniors, and e-commerce



Case study: Digital learning and research innovation at Zhejiang University

Overview

Institution

- 47k students, research university located in Hangzhou (near Shanghai), 7 campus sites

Online learning platforms

- Transitioned over 5k courses online within two weeks
- 200 smart classrooms quickly put in place for teachers to shoot video courses or live stream their classes
- “Learning at ZJU” attracted 570k visits, and “DingTalk ZJU” live streaming app recorded audience of 300k
- “Research at ZJU” platform allows scientists and students to collaborate online despite disruption caused by the epidemic
- 2,500 grad students will still defend theses virtually

Faculty development

- Organized training sessions for 3,670 faculty members
- Focus on adapting pedagogy to online and maintaining a school community virtually



Success factors

Focus on equity

- Funded access to online learning for more than 1,000 disadvantaged students
- University negotiated deals with network providers to subsidize data plans of faculty and students
- Provides lecture playbacks and courseware packages to students without reliable Internet

Early preparation / existing ICT infrastructure

- Started creating smart campus in 2017 with “ZJU Online”, upgraded to “Learning at ZJU” online platform in 2019
- Digital services include administrative, academic resources, information bulletins, etc.
- Began building smart classrooms in 2018, which were expanded during COVID



Case study: Best practices in scaling online learning at Peking University

Overview

Major research university in Beijing, China

Leader in Chinese online education space, offering over 100 courses, traditionally through MOOCs

As a result of COVID, launched over 4,500 online courses (undergrad and graduate) for ~47k enrolled students



Best practices

- 1 **Make emergency preparedness plans**
 - Ensure servers and platforms have capacity for large numbers of students to quickly transition to online
- 2 **Divide teaching content into smaller units**
 - Adopt a modular approach to facilitate better student focus and engagement
- 3 **Emphasize the use of "voice" in teaching**
 - To combat lack of facial expression / body language, slow down speech to allow students to capture key messages
- 4 **Leverage teaching assistants**
 - Seek their support in helping students with content using digital communication platforms
- 5 **Strengthen students' active learning outside of class**
 - Modify students' homework and reading requirements to strengthen active learning opportunities
- 6 **Combine online learning and self-learning**
 - Use pre-class work for self-study and in-class work for deep discussion

China sources

K-12

- <https://www.france24.com/en/20200326-coronavirus-lockdown-won-wuhan-health-systems-crucial-response-time-study-shows>
- <https://www.theguardian.com/world/2020/mar/26/do-not-relax-covid-19-measures-in-wuhan-too-soon-scientists-warn>
- <https://www.businessinsider.com/students-wuhan-remote-classes-dingtalk-app-store-reviews-2020-3#classes-were-conducted-using-a-remote-learning-app-dingtalk-on-the-first-day-back-dingtalk-had-50-million-student-users-and-600000-teachers-3>
- <https://www.nature.com/articles/d41586-020-00741-x>
- https://www.washingtonpost.com/world/asia_pacific/china-revs-its-engine-to-move-past-coronavirus-but-its-stuck-in-second-gear/2020/03/31/13c81b20-7230-11ea-ad9b-254ec99993bc_story.html
- <https://www.today.com/parents/coronavirus-kids-wuhan-kids-try-kill-homework-app-t175586>
- <https://jech.bmj.com/content/57/12/945>
- <https://www.cnn.com/2020/02/28/asia/remote-school-education-intl-hnk/index.html>
- <https://www.npr.org/sections/goatsandsoda/2020/03/05/812557984/as-schools-close-due-to-coronavirus-nearly-300-million-kids-arent-in-class>
- http://www.xinhuanet.com/english/2020-03/30/c_138931813.htm
- <https://www.nytimes.com/reuters/2020/04/09/world/asia/09reuters-health-coronavirus-china-shanghai.html>

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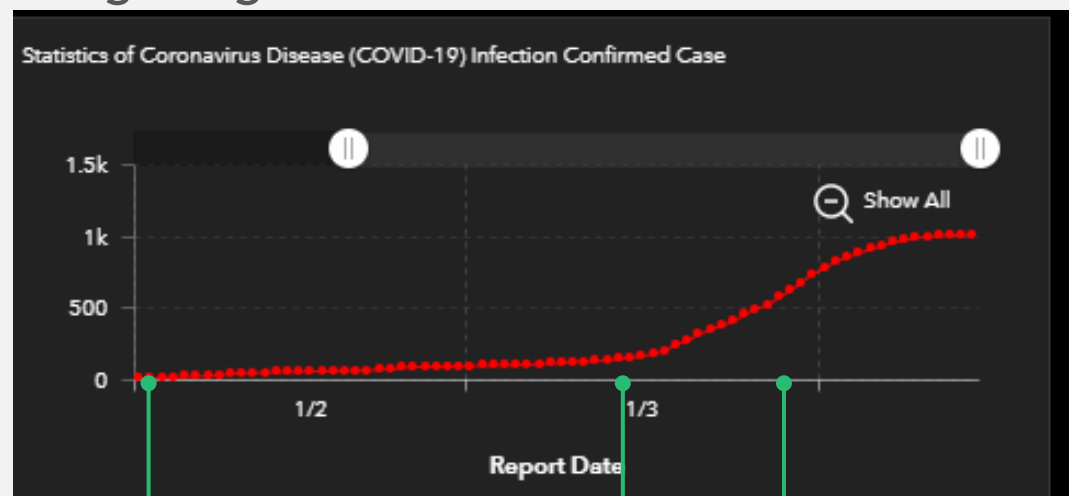
- <https://news.cgtn.com/news/2020-01-29/Wuhan-to-start-online-classes-for-primary-and-secondary-students-NDTpFdGT0Q/index.html>
- <https://www.universityworldnews.com/post.php?story=2020022108360325>
- <https://www.universityworldnews.com/post.php?story=2020031013551895>
- <https://www.timeshighereducation.com/features/will-coronavirus-make-online-education-go-viral>
- <https://news.cgtn.com/news/2020-03-09/Universities-prepare-to-reopen-in-N-China-s-Shanxi-OIK99JGv4I/index.html>
- <https://www.chinadaily.com.cn/a/202002/28/WS5e5883dca31012821727b0c7.html>



Hong Kong

Hong Kong: Imposed restrictions due to rise in cases from overseas, after 2-month success in containing virus

Hong Kong cases



2/3: Schools shutdown; 18 confirmed cases

Mid-March: Jump in number of cases due to citizens returning from other countries

3/25: Foreign tourists banned; returning residents given tracking wristbands to enforce 2-week self-isolation

3/29: Social distancing restrictions imposed & extended to 4/23

Social Distance Restrictions

- Gatherings of more than 4 banned
- Entertainment, fitness, leisure/cultural services, beauty salons, and parks closed
- Schools remain closed
- Restaurants open with restrictions; some bars closed
 - 4 diners/table, with each table 1.5m apart
 - Half capacity
 - Temperature check patrons
 - Provide hand sanitizer

Hong Kong: Aggressively closed schools 8 weeks before Singapore, and cautiously considering re-opening

Classified schools as "high risk" area and closed in early February, while keeping businesses open. Re-opening of schools depends on several factors:

Epidemiological pre-conditions must be met before re-opening...

"Schools should reopen only if **no locally transmitted coronavirus infections** had been recorded for **four weeks**," according to Medical expert advising Lam

...with re-opening likely to occur in stages and with necessary protection

Shortage of masks for children; government working to increase supply

Likely to occur in stages; some advocating to allow those taking Diploma of Secondary Education exams to sit the test first



India

India has a color-coded decision criteria system

- Divided its 700+ districts into Red, White, and Green zones
- In lockdown until May 3rd, with some activity allowed (with social distancing) in green zones (provided they don't report any cases)
- Not clear when schools will open, but when they do it will be in existing Green zones (and some white zones that become green zones in the next 14 days)
- Students of Class 1-9 will be promoted to the next grade without examinations in most states

Zone	Definition	# of Districts	Foreseeable Strategy	Change zone if
Red zone (Hotspots)	Districts contributing to >80% of cases in India or for each state in India OR Doubling rate of < 4 days	170	No activity, except for essential services. Special teams to monitor and survey cases. Test ILI & SARI patients also for Covid	no new case is reported in the next 14 days - Upgrade into a White zone
White zone (Non-hotspots)	Districts with only a few cases. No increase in number	207	Minimum activity, with limited public transport, agriculture harvesting Identify & test ILI & SARI patients also for Covid	no new case is reported for next 14 days and also the known last case tests negative - Upgrade into a Green zone
Green zone	Districts with no confirmed cases in the last 28 days	353	Enforce social distancing rules in public places & public transport Identify & test ILI & SARI patients also for Covid	

Draft



Singapore

Singapore gradually introduced Home-Based Learning (HBL), substituting in-person instruction, to prepare for total closures in early April

1 Decision to keep schools open

- Determination that closing schools does not materially contribute to the COVID-19 containment
- No case transmissions at schools

3 Decision to close schools

- Increased cases of local transmissions and unlinked infections
- Indication that previous containment approach insufficient

2 Schools Open

- **January:** travel restrictions and contact tracing limit initial cases
 - Students/staff returning from mainland China required to take Leave of Absence (LOA) with HBL
 - Students/staff required to declare travel history
- **February:** schools implement more significant restrictions
 - Large communal activities suspended; recess staggered
 - Educational packages rolled out to students to teach about virus transmission and how to prevent it
- **March:** HBL is introduced incrementally
 - Schools implemented Home-Based Learning (HBL) 1 day per week, grade determining day of the week
- **Health precautions**
 - Staggered dismissal, meal, and recess times to reduce congestion
 - Fixed seating in small groups with wipe-down routines
 - Extra-curricular activities are suspended, play areas are restricted
 - Multiple temperature monitoring for students and staff

4 Schools Closed

- HBL extended full-time starting April 6 - May 4
- School-based examinations are cancelled, but national examinations will continue
- Preschools will serve only small groups of parents unable to find alternative childcare

Enablers throughout the process

- **Access to technology**
 - HBL offers both online and offline approaches. Schools loan out devices and assist with internet access

Singapore Home-Based Learning (HBL) offers a dynamic solution to in-class instruction

Content & Delivery

- Teacher-customized depending on student needs
- E-learning, e-mail messages, hardcopy assignments

Distribution

- Singapore Student Learning Space (SLS), digital online learning platform developed by Ministry of Education
- Google Meet, Zoom

Access

- Schools lend devices or arrange internet access to students in need; assistance in purchasing own devices
- Schools open for student-teacher meetings on exception basis
- Students without appropriate child care able to visit schools

Schedule

- Grades scheduled for different log-on times to minimize server strain
- Anticipated hours spent on HBL per day: four (primary), five (secondary), six (junior college)

Communication

- Ministry of Education, schools, teachers quick to address parents and students
- Parent support groups on social media



Ministry of Education
SINGAPORE

Successes of HBL

- Multi-media
- Teacher-customized
- Limited hours/day
- Schedules by grade
- Responsive teachers

Singapore: adapting school operating system

Stay-at-home orders

- Stay Home Notice (SHN) and Quarantine Order (QO): legal order. Cannot leave residence
- Leave of Absence (LOA): essential activities allowed (e.g., grocery shopping)
 - Teachers check in with students under any order on a daily basis

Student monitoring

- Parents required to disclose if household member has been issued a quarantine order
- Health checks and more frequent temperature screening for staff, students, visitors (e.g., 2/day for kindergarten, 3/day for childcare centers)
- Individuals with temperatures above 38C or exhibit flu-like symptoms are asked to seek medical assistance immediately
- Surgical mask required if coughing or congested

In-school changes

- Large group and communal activities, excursions, fieldtrips suspended
- Staggered recess and meal times (if not in classroom)
- Smaller groups for after-school programs and play times with assigned play areas
- All external and inter-school activities suspended
- Fixed exam-style seating for Primary 3 students and above; fixed cluster seating for Primary 1 and 2 with wipe-down routines
- All Institutes of higher Learning suspended all official overseas placements (internships and exchange programs)
- Parents drop off/pick up children outside preschool; children to go directly to classrooms on arrival

Administrative

- Suspended public use of outdoor and indoor school facilities (e.g., playgrounds)
- School vendors (security guards, janitorial services, student health centers) required to follow same precautionary measures
- Limited cross-deployment of staff across centers

Reasons to keep schools open

- Younger people are less susceptible to the virus
- No evidence that young people are vectors of transmission
- Studies showing that effect of closing schools on virus containment is small
- Data from SARS outbreak suggesting school closures did not contribute to control of the epidemic
- No case transmissions in school

Reasons to close schools

- Identified Singapore to be in second wave of COVID-19 outbreak
- Routinely seeing more than 50 new cases daily over 2 weeks
- Increase in local cases; increasing number of cases with unclear origin
- Clusters of infections, though cases in wider community seem stable
- Effective reproductive number wavering, but increasing



South Korea

South Korea has taken a conservative approach to school closures

1 Decision to close schools

- Closed since late January with limited resources for students
- Even before schools closed, many forced students to wear masks and parents were not permitted to attend school events

3 Decision to reopen schools

- Continued closure due to persistence of the infection, especially at institutions, and among minors; private tutoring centers re-opened at the request of parents
 - School start date was postponed three times
- Decision to begin new semester in early April, but online; staggered start with students in final year of middle and high school beginning last week (presumably to prepare for transition to new school), followed by other middle and high school grades, and then elementary; Kindergartners will stay home indefinitely

2 School closure

- Alternative education beginning April 9
 - Online classes start dates are staggered by several days, determined by grades
- Curriculum guidelines from the Education Ministry give guidance to teachers, who ultimately choose for their students
 - Interactive and real-time learning via video conferencing
 - Content-based learning based on videos
 - Assignment-based learning
- Many for-profit "cram" schools (exam preparation schools) remain open and competitive; less than half of the ~90k private tutoring centers closed; those that closed increased homework to make up for lost instructional time

4 School opening

- Many schools did online trial run before launching; some started with pre-recorded lectures and will transition to live video instruction
- Considering range of options to reopen schools, e.g. half students online and half in-person to reduce density of students in classroom, having student desks staggered in "zigzag" pattern to increase space between students

Enablers throughout the process

- Access to technology / pre-existing digital learning infrastructure: 30% of households do not own technology necessary, but government offices loaning students equipment, e.g. laptops; EBS broadcasts lessons every day aligned to first- and second-grade elementary curriculum; many students familiar with online learning due to private tutoring programs
- Emergency child care provided, with government ordering childcare arrangements to support working parents

Backup: South Korea's online learning platforms

Online learning

The Ministry of Education giving teachers considerable leeway, but recommending conferencing app Zoom, educational website Classting, and Educational Broadcasting System, or EBS, Korea's educational TV

- Schools can choose from three modes of online learning - interactive, real-time learning via video conferencing, content-based learning based on videos produced by the school, and assignment-based learning whereby students are given projects or reports to do
- The ministry also has instituted an official, government-run Preparation and Monitoring Team to help teachers develop online classes and modify lessons

5.4 million elementary, middle, and high school students in South Korea impacted by distance learning

Devices

According to the Ministry of Education, up to 85k students are in need of devices such as tablets or laptops to take online classes, yet government is only able to provide about 38k devices

The education ministry said it would purchase extras, spending \$1.2M to upgrade the wireless internet infrastructure for some rural schools

Roughly 280k mobile devices are available at educational offices and schools for students who lack them, and authorities will also provide access to data services

Challenges

Limited guidance on how to manage student evaluations, records, and essential hands-on classes

- Education ministry has announced that it will discuss with local educational authorities to come up with the solution

EBS system has been unstable due to a sudden surge in the number of users, and some schools had to postpone their classes while waiting for system to be back online

Concerns that young students will miss out on key parts of the curriculum that will have to be modified for online learning

- E.g. group socialization and physical, hands-on activities such as painting or group games

Backup: Hagwon centers using a variety of tactics to promote student health

Considerations in re-opening decisions

- In mid-March, only ~60% of centers were open, now up to 90%
 - Some have transitioned to online but most have resumed in-person operations with modifications
- Student demand for continued instruction seems to be largest driver for continued operations
- Revenue another key driver as private tutoring centers are a \$17B industry in South Korea (more than 127k centers)

Safety measures to prevent spread of COVID-19

- Jongro, one of South Korea's largest Hagwons, implemented rules after re-opening
 - Mandatory social distancing guidelines: 24 students now sit at least one meter apart, down from the usual 60 per class
 - Adjustments have cost at least one-sixth of the academy's annual revenue
- Other health measures in place at tutoring centers: staff disinfecting classrooms, handwashing and face masks, temperature checks, minimized student interaction and physical separation; reduced student capacity of centers
- Education ministry considering inspections of cram schools to ensure safety measures are being appropriately implemented

South Korea: higher education response to COVID-19

Semester

- Ministry of Education advised universities to postpone beginning of their school years by up to four weeks
- Most universities postponed their start by two weeks from March 2 to March 16 and said they would transition to online courses

Digital learning

- Country has at least half a dozen digital universities where lecturers record classes and then use the university's online system to set assignments and grade students

International students

- Large % of students coming from China, driving revenue from international students
- No ban on travel or incoming students, but universities with international student population monitored for 2 weeks
- Many U.S. universities cancelling study abroad programs to South Korea (among other countries)

University exam

- Highly competitive annual college entrance exam postponed by two weeks to Dec. 3

South Korea sources

K-12

- <https://abcnews.go.com/International/south-koreas-drastic-measures-coronavirus-offers-glimpse-us/story?id=69383034>
- <http://www.koreaherald.com/view.php?ud=20200308000202>
- <https://www.straitstimes.com/asia/east-asia/s-korea-schools-to-stay-shut-for-two-more-weeks>
- <https://thehill.com/changing-america/well-being/prevention-cures/487465-how-south-korea-is-handling-the-coronavirus>
- https://www.washingtonpost.com/world/asia_pacific/in-south-korea-coronavirus-gives-kids-a-break-from-school-p pressures-but-also-traps-them/2020/02/27/713424f6-5896-11ea-8efd-0f904bdd8057_story.html
- <https://www.forbes.com/sites/steveprice/2020/04/10/teachers-grapple-with-online-classes-as-south-korea-goes-back-to-school/#10bbcb781386>
- <https://www.reuters.com/article/us-health-coronavirus-southkorea-toll/south-korea-puts-off-school-opening-again-goes-online-idUSKBN21I05Q>
- <https://nypost.com/2020/03/30/coronavirus-fails-to-dampen-south-koreas-fever-for-exam-success/>
- <https://www.nbcnews.com/news/world/south-korea-s-return-normal-interrupted-uptick-coronavirus-cases-n1176021>
- <https://www.voanews.com/east-asia-pacific/south-korea-restarts-school-concerns-about-online-learning>
- <https://thediplomat.com/2020/04/south-koreas-coronavirus-era-online-learning-hits-snag/>
- <https://www.straitstimes.com/asia/east-asia/s-korea-begins-online-learning-covid-19-cases-lowest-in-7-weeks>
- <https://asiatimes.com/2020/04/in-bold-move-s-korea-phases-in-cyber-schooling/>

Higher Ed

- <http://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3075054>
- <https://www.usnews.com/news/world/articles/2020-03-30/south-korea-reports-125-new-coronavirus-cases-total-9-786-kcdc>
- <https://www.forbes.com/sites/steveprice/2020/04/10/teachers-grapple-with-online-classes-as-south-korea-goes-back-to-school/#358987541386>
- <https://www.timeshighereducation.com/blog/covid-19-puts-korean-universities-anti-chinese-crossfire>
- <https://www.insidehighered.com/news/2020/02/26/programs-italy-south-korea-cancel-classes-and-make-other-changes-coronavirus-spreads>



European Countries



Germany

Germany planning to re-open in the next few weeks

1 Decision to close schools

- Schools have been closed for 7 weeks; planning to begin reopening May 4th
- Daycare centers still closed, causing childcare issues
- Decisions made due to growing COVID cases
- Closures impact 43,000 schools in Germany - including vocational schools - with 11 million pupils and 820,000 teachers

2 School closure

- German schools not accustomed to online learning; not well equipped with online learning hardware and teachers may lack knowledge of how to use it
 - Especially true in primary schools, where there is minimal centralized guidance and each teacher must adapt on his/her own
- Lot of variation by state and school; Bavaria using a larger scale platform, others using LMS systems

3 Decision to reopen schools

- Soft opening to be decided by each state- federalist approach where each state is operating differently
- Graduating and "last year" classes first (which depending on the type of school) means 4th grade (end of primary school), 9th, 10th-13th grades; otherwise plan is to begin with primary and middle school students first, with secondary students continuing online
 - More and more states are starting with their exams by the end of April
- States where the school year is ending at the end of June are more eager to open the schools than the southern German states that run until the end of July

4 School opening

- Guidance to be developed by Standing Conference of the Ministers of Education and Cultural Affairs by the end of April to ensure hygiene and security measures in place
 - E.g. keeping a recommended 1.5m distance, smaller classes (approx. 15 students), intermission during the day, students wearing masks, and school bus transportation
- Challenges with no centralized purchasing- schools may not have additional budget to buy cleaning supplies and soap needed to prevent spread
- Challenges with 1/3 of teachers not being able to teach given high-risk group (60+)
 - Senior exams will proceed as planned

Enablers throughout the process

- "Emergency groups" open from day care to schools for those with parents working in crucial jobs (i.e. medical staff, police, judges...)

Germany: higher education response to COVID-19

Closures

- Universities across Germany have closed public buildings and moved all lectures and learning online
- Decisions regarding length of university closures (just the buildings themselves) expected to be made in April

Exams

- Final-year thesis submissions and exams have been postponed at some institutions, with exams planned for March and the beginning of April put off indefinitely
 - Exams planned for March and the beginning of April put off indefinitely, but can be re-taken in summer

Summer semester

- Summer semester starts on April 20 - initially only digitally, with aim to have face-to-face events resume in coming months
- Semester dates will be flexible to accommodate changes
- Start of lectures in the winter semester 2020/21 will be postponed to November 1st as later graduation in high schools might have an impact

Enablers

- None of the students shall feel a negative impact concerning financial aid, insurance etc. due to possible longer university times / additional semesters
- More digital offerings by the libraries - some states have already opened their libraries

Germany sources

K-12

- <https://www.cnbc.com/2020/04/15/coronavirus-germany-will-begin-to-reopen-businesses-and-schools.html>
- <https://www.dw.com/en/germany-school-leaving-exams-will-go-ahead-despite-coronavirus/a-52917576>
- <https://www.thelocal.de/20200313/coronavirus-bavaria-and-saarland-to-close-all-schools>
- <https://www.dw.com/en/coronavirus-sends-class-home-estonias-ready-germany-lags/a-52830864>
- <https://www.washingtonexaminer.com/news/germany-moves-toward-reopening-the-economy-starting-with-schools>

Higher Ed

- <https://www.dw.com/en/germany-school-leaving-exams-will-go-ahead-despite-coronavirus/a-52917576>
- <https://www.kmk.org/aktuelles/artikelansicht/kmk-sommersemester-2020-findet-statt.html>
- <https://www.hessenschau.de/gesellschaft/sommersemester-startet-am-20-april-zunaechst-digital,sommersemester-beginnt-digital-100.html>



France

France re-opening despite robust online learning platform

1 Decision to close schools

- Nationwide closures starting March 16th; order affected 62,000 school establishments and 12 million pupils

2 School closure

- Students taking distance learning modules
 - Education Ministry's National Center for Distance Education (CNED) had developed e-learning platform that as of 2017 was being used by 237k students globally
 - Platform has a 15M-student capacity and that France has around 13M students from kindergarten through high school
- One study showed that school closure, in combination with parental telework, could reduce cases by 40% at the peak

3 Decision to reopen schools

- Re-opening rationale
 - De-containment planned on May 11th, announced by President Macron on Monday April 13th; was not a consensus-based decision but a presidential one
 - Rationale was based on social inequities, digital divide, and family literacy
- Guidance
 - Cross-ministry expert nominated to prepare post-containment period
 - Protocols currently being discussed with prime minister, teachers unions, parent associations, medical experts, with more guidance expected in next 2 weeks
- Prioritization
 - Plan is to re-open by region, with a focus on underprivileged areas / schools
 - Also prioritizing primary schools (citing impact of containment on young children and their parents), as well as "professional high schools" (vocation programs)

4 School opening

- Only includes children aged 0 to 18 (nurseries, primary, and secondary schools)
- Some proposed modifications include:
 - Small group of children: less hours / week for each child
 - Masks used + handwashing
 - Increased social distance + no recreation/break/play-time
- Teachers asked to propose additional (paid) e-classes during holidays (Easter, Summer)

Enablers throughout the process

- Pupils without the necessary tools for distance learning - which the minister estimated affects 5% - eligible for aid to help
- Childcare services for children of essential workers

Backup: French decision to open subset of schools

Staggered opening

Primary pupils aged from five to 7 and 10-11 would be the first to go back on 12 May, one day after the end of a strict nationwide lockdown

Following week (May 18) older children in selected years at secondary schools (ages 11-12 and 14-15) would return

All remaining classes would be back by 25 May

More transmission is expected among children and their parents, however not expected to result in much additional care and hospital admissions

Flexibility

Will be a national doctrine, but with substantial local and regional authority / autonomy to make own decisions

Expected that some areas will retain full distance learning protocols from home

Parents also have option to keep children at home even if schools re-open

- Options for being taught in small groups in classrooms, following virtual classes from afar, self-studying, and doing physical activities outside

Teachers with health conditions can remain working from home

Measures

No more than 15 students per class

Unclear if masks will be required (more guidance expected in next 2 weeks)

Pushback

Federation of French doctors pushing back on decision, citing medical concerns and over-emphasis on economic vitality

- Fears that students will not observe social distancing recommendations, posing high health risks

Also receiving criticism from teachers unions and parent groups

France: higher education response to COVID-19

Closures

- Macron ordered mass closures of universities for an undetermined amount of time
- 74 universities have confirmed that they will also close, which will affect 1.6 million students

Student financial support

- At the end of March, the Ministry of Higher Education released €10 million in “specific emergency aid” for students
- Funding is supporting 20,000 students
- Individual universities offering scholarships and delayed payments for students struggling financially

Digital learning

- Many universities transitioned to online learning, but some students having connectivity challenges with the platform
- Other universities that previously used platforms like Zoom and LMS platforms like Moodle report easier transitions

France sources

K-12

- <https://www.connexionfrance.com/French-news/Covid-19-coronavirus-in-France-All-the-questions-answered-so-far-as-Macron-and-minister-announce-school-closures-to-halt-virus>
- https://www.epicx-lab.com/uploads/9/6/9/4/9694133/inserm_covid-19-school-closure-french-regions_20200313.pdf
- <https://venturebeat.com/2020/03/13/france-embraces-distance-learning-experiment-as-coronavirus-forces-school-closures/>
- <https://www.theguardian.com/world/2020/apr/21/lockdown-eased-netherlands-and-france-plan-to-re-open-primary-schools>
- <https://www.thelocal.fr/20200421/what-we-know-about-frances-plan-to-reopen-schools>
- <https://www.express.co.uk/news/world/1270681/emmanuel-macron-news-france-coronavirus-latest-school-closures-school-reopen>
- <http://www.rfi.fr/en/france/20200414-french-teachers-push-back-against-reopening-schools-in-may>

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- <https://www.universityworldnews.com/post.php?story=2020031314312783>
- <https://www.france24.com/en/20200417-food-vouchers-and-overdrafts-covid-19-puts-france-s-poorest-students-in-a-tight-spot>
- <https://www.studyinternational.com/news/online-learning-experience-us-france-covid19/>



Norway

Norway: higher education response to COVID- 19

Planned re-opening

- Schools, **universities** and **technical colleges** will start opening their doors from April 27
- Citing relative control over the virus, with less than 70 deaths
 - Rate of new infections has slowed to a little over 100 cases a day, after peaking at 425

Prevention

- Aim is still to have as few students and staff on campus as possible, encouraging continued work and study from home if possible
- Small groups of students or staff will have access to campus if it is crucial for them in order to execute their education or research this spring

Focus on particular programs

- Some institutions limiting students on campus to particular groups / academic programs
 - Health care
 - Mathematics, natural sciences and technological subjects
 - Media and design
 - Music and performing arts

Distancing

- Keeping a physical distance of at least two meters between individuals
- Avoiding gatherings of more than 5 persons
- Washing one's hands thoroughly and often

Norway sources

K-12

- XX

Higher Ed

- <https://www.bloomberg.com/news/articles/2020-04-07/norway-starts-easing-restrictions-as-virus-seen-under-control>
- <https://eng.inn.no/about-inn-university/news-and-events/partial-reopening-of-universities-and-university-colleges-from-27-april>



Austria

Austria: Gradual reopening of small shops first, then schools, with strict containment strategy restrictions

Stable decrease in new cases since April 1; daily increase of new infections: 1.6% (April 6)



Public Restrictions

- Prolong current restrictions^{2,3}
- Reopen federal parks but strict entrance checks and police will check distancing
- Face masks compulsory in shops, public transport, and work

Containment Strategy

- Widespread testing, including random tests and antibody tests
- Isolation of infected persons
- Contact tracing: digital apps⁴ and direct conversation \
- Special protection of high risk groups: Parliament legal framework to protect their right to work from home or leave of absence

1. Strict retail restrictions: 1 customer / 20m, face masks, disinfectants; 2. Continue limited offering for children <14 whose parents work in system-related jobs / cannot supervise kids; 3. Specific decision / plan to be evaluated until end of April; 3. current restrictions include lockdown at primary residence and 2m distance to others; 4. Red Cross smartphone app not implemented yet; if implemented, will be voluntary



Sweden

Sweden has taken a liberal approach to school closures

1 Decision to close schools

- Preschool and primary schools will continue as usual
- High schools and higher education institutions are dismissed from campuses

3 Decision to reopen schools

2 School closure

- High schools and **higher education** institutions are encouraged to move curriculum completely online indefinitely

4 School opening

- In the event of preschool and primary school closures, the government has promised to arrange for child care for children with working parents
- Higher education institutions are asked to increase the number of admitted students in the coming years
 - Expanding programing to include more summer curriculum and more online offerings
- Increased internet-based, free education
- Increasing vocation training funding and programs

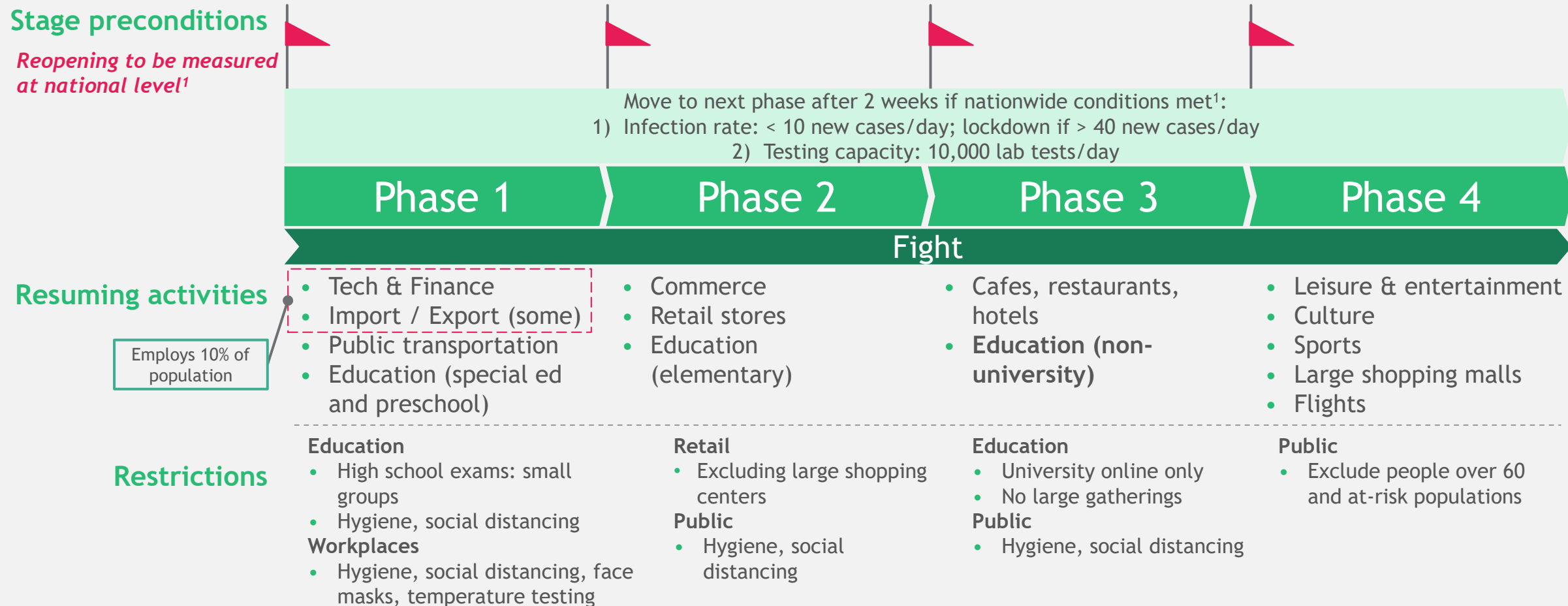
Enablers throughout the process

- Education integrity through testing and other measurements
 - Swedish Scholastic Aptitude Test will not be conducted in spring 2020
- Legislation
 - A new act will enable the Government to temporarily close preschools, schools, out-of-school centers and other educational activities



Israel

Israel: 4-phased plan to reopen 'picks winners' while protecting vulnerable



Notes: 1. Ability to measure rate of infections in each region separately to be instituted

Sources: The Algemeiner: *Israel Experts: 'Restrictions Can Be Lifted Only When We See Drop to 10 New Cases a Day'*, 13 April 2020; Haaretz: *Hi-tech and Preschools First, Malls and Sports Last: Israel's Coronavirus Exit Strategy*, 14 April 2020

Draft

Israel: 'HaMagen' (The Shield) app enables users to know if they crossed paths with someone with virus

Health Ministry launched open source smartphone app on March 23

Screen shot from Google Play download page



App tracks if user crossed paths with infected person in previous 14 days

- 1 User installs app on smartphone
- 2 App tracks movement and compares information with Health Ministry data on positive diagnosed previous locations
- 3 If app finds match, links smartphone user to Health Ministry website, including how to register self-quarantine

Previously, ministry published epidemiological history of COVID-19 patients, listing all places they have been and advising anyone at location at same time to quarantine. However, became impractical for public to review listings



Appendix: draft framework for re-opening schools

B. Operating Model – Menu of Options from benchmarking

Reopening schools will require changing current operations to ensure the safety and efficacy of K-12 education

Health and Safety	Learning	Services	Personnel
<p>① Monitoring</p> <ul style="list-style-type: none">Monitoring teacher/student health for 14 days before school openingFrequent temperature checks for students, staff, and visitors (before entering and in-session)Student temperature and health reports from parents before schoolSurgical/cloth masks required at all times throughout the dayIndividuals with flu-like symptoms or high temperatures dismissedDoctor's note before returning after sick <p>② Measures</p> <ul style="list-style-type: none">Large gatherings, inter-school events cancelled/postponedDisinfect hands and shoes before entry; frequent hand washing and disinfecting throughout the dayIncreased facility ventilation and sanitation with wipe-down routines in classroomsLimited class sizes; fixed seating in small groups; staggered or zigzag seatingDelayed or staggered school schedules, including dismissal and recesses	<p>③ Remote</p> <ul style="list-style-type: none">Multi-media (online, paper, textbook, app, television)Live and pre-recorded videos with teacher instructionStaggered scheduled log-ons to reduce strain on serverHours limited per day <p>④ Curriculum (Remediation)</p> <ul style="list-style-type: none">Extending school yearIncreasing summer school capacityHybrid (in-person and online) programming <p>⑤ Special Education</p> <ul style="list-style-type: none">Instructors with frequent contact with students (e.g., daily phone calls)Increased interaction with parents to provide instruction <p>⑥ Extra-curriculars</p> <ul style="list-style-type: none">All cancelledInter-school gatherings cancelledHeld in smaller groups	<p>⑦ Food</p> <ul style="list-style-type: none">Scheduled meal times, alternating for classes/grades to reduce exposure in large areasLunch in classrooms at desks<ul style="list-style-type: none">Dividers around each desk during mealtimeDelivery to homesPick-up from school <p>⑧ Transportation</p> <ul style="list-style-type: none">Customized bus routes with social distancing guidelinesAssigned walking paths to classParents forbidden past certain point; students walk straight to class <p>⑨ Other Services</p> <ul style="list-style-type: none">Communal spaces closed (playgrounds, cafeterias, libraries, etc.) to public and sometimes studentsDistance/virtual counseling to students, families, and teachers	<p>⑩ Teachers</p> <ul style="list-style-type: none">Reduced rotation of teachers within schoolSuspending cross-deployment of staff across schoolsSpecialized training on adapting curriculum for distance learning and using digital tools <p>⑪ Staff/Admin</p> <ul style="list-style-type: none">School vendors or third-parties (security guards, janitorial services) required to follow school hygiene guidelinesSuspending cross-deployment of staff across schools