Online Education Weekly Newsletter (Higher Education)
Issue 2
2020 March 30

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Editorial Letter

It is astonishing to see how outdated the statistics were in our newsletter last week, as the number of affected learners has doubled to over 1.5 billion [1], impacting over 87% of the world's student pollution. Though it is very likely that this number will drop in the coming weeks, as China is reopening schools again to millions of Chinese students.

Thanks to the positive responses and great feedback for the newsletter, we are committed to continuing to share good practices of online education regardless of the situation in China, as "*the responsibility to act is a collective one,*" stressed by UNESCO Director-General Audrey Azoulay last week in front of a panel of education ministers.

As we face the unprecedented global challenge, many of us have witnessed more changes in higher education in the past ten days

than in the past ten years, therefore you might have the same question emerged in your mind: **What is a university? Or better yet, what makes a university great?**

- *"Great universities should proactively respond to the challenges and shoulder responsibilities to demonstrate their commitment to the society*," said Prof. Yong Qiu, President of Tsinghua University, in a recent CGTN news article. "*Universities serve as the lighthouse of human civilization inheriting knowledge and culture, as well as educating young talents. We share a common objective, which is to make the world a better place. At this critical moment, universities should play an essential role in promoting confidence, trust and unity among people, and collectively call for humanity to rise to its highest potential. Despite the uncertainties and challenges that lie ahead, there remains hope for a brighter future. **Together, Stronger.**"*

"Without a doubt, this crisis will change the way we think about the provision of education in the future," said Egypt's Minister recently during a recent UNESCO meeting, while France's Minister underlined the impact of new approaches and mindsets. *"Education is a key answer to the crisis and to the rebuilding of our societies after."* And for us, we are grateful to be a part of this incredible journey together with you, and sincerely hope that at least one or two items from the newsletter are also somewhat ushering new thinking around online education, thus helping you to build stronger practices at your institution.

[1] https://en.unesco.org/themes/education-emergencies/coronavirus-school-closures *accessed March 29, 2020*

Yours,

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If you haven't already, remember to subscribe to receive weekly updates from us, and to be a part of this awesome higher education community for online learning!

Subscribe to get weekly updates!

MOERCOE Joined BNU, ZJU, UNESCO on Higher Education Roundtable

On March 17th, 2020, PRC Ministry of Education Research Center for Online Education was invited to speak at an online roundtable alongside with fellow Chinese, Russian, American experts and UNESCO representatives on "Higher Education Under Epidemic: Digital Technologies as a Remedy?" The discussion had a live audience of 200 and was hosted by Prof. Froumin, who is the Head of the Institute of Education at National Research University "Higher School of Economics" (HSE)— first graduate school of education in Russia.

Beijing Normal University (BNU)

Today while tackling the outbreak of COVID-19, China has undertaken resolute measures, and mandated transition to the distant online education both in schools and universities. "**In order to realize the objective of Class Stop, Yet Not Teaching and**

Learning, the Chinese higher education systems reacted very fast. By February 2nd, 22 online learning platforms made available 24,000 online courses free of charge for higher education institutions to choose from" said Prof. Zhu, Dean of the Faculty of Education at Beijing Normal University, as he provided an overview of the current situation of Chinese higher education and of Beijing Normal University. "**Providing online learning platforms and courses for students is the easiest part of the transition**," as the main obstacles and biggest challenges focus on how to improve teachers' online teaching capacities and how to evaluate the quality of students' online learning as well as to promote authentic interactions between teachers and students.

Education in Emergency
Zhu Xudong

Prof. Zhu's presentation can be downloaded on UNESCO-IITE's website.

MOE Research Center for Online Education (MOERCOE)

Responding to some of the important questions raised by Prof. Zhu regarding online interactions and teaching capacity, Ms. Xiaoxiao Wang (General Secretary, Ministry of Education Research Center for Online Education; Associate Dean, Tsinghua University Office of Lifelong Education Management; and Associate Dean, Tsinghua University Undergraduate Academic Affairs Office) started by illustrating how the speedy online shift during the COVID-19 outbreak was enabled by the strong foundation formed from the rapid MOOCs development led by the Ministry of Education. She then continued by sharing specific statistics and

data of recent actions in online learning by provinces and universities in China.

PROVINCIAL ACTIONS IN ONLINE LEARNING UNDER COVID-19

Sichuan

- **20,000 faculty** and **4.28 million students** were online
- Attendance rate: **94.3%**
- Students' online learning satisfaction rate: **94%**

Heilongjiang

- On March 3rd, **12,000 classes** were taught online (live broadcast lessons 54.4%)
- **11,000** (24.2% of the total) **faculty** and **677,000** (85.2% of the total) **students** were online

Beijing

- **0.9 million HEIs students** were online

For example, in the case of Kunming University of Science and Technology, they use Rain Classroom, a WeChat-based mobile application by xuetangX for the

UNIVERSITIES' ACTIONS IN ONLINE LEARNING UNDER COVID-19

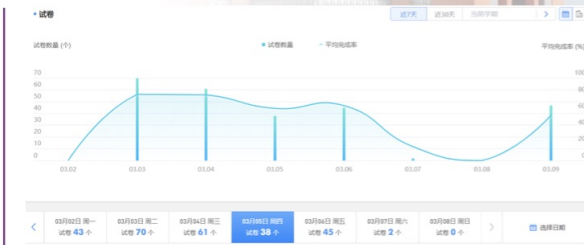**Case #3: Kunming University Of Science And Technology**

majority of their online teaching and learning. "Auto-generated report by Rain Classroom shows that there were more than 185,000 classroom interactions during the first week of online teaching, with some days averaging 150 times per class — these interactions include in-class quizzes, real-time "bullet-screen comments", random cold calls, and "bonus red packets" for teachers etc." Ms. Wang added that, "**Rain Classroom is a mobile-friendly application, which do not require students to have access to a laptop, while enabling students to preview courseware before class, watch live broadcast during class, complete quizzes after class, and much more**."

Among many challenges Tsinghua University worked to overcome successfully, Ms. Wang credited "**the 400+ technical teaching assistants and volunteers who have been helping faculty to get ready to teach online within just 2-3 days and to deal with online-teaching related issues**" as one of the easily-

State of online learning for the first teaching week (March 2nd to March 6th): The following charts were automatically generated by *Rain Classroom* for the university.

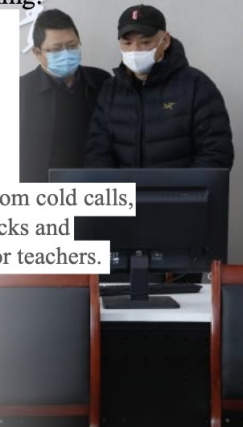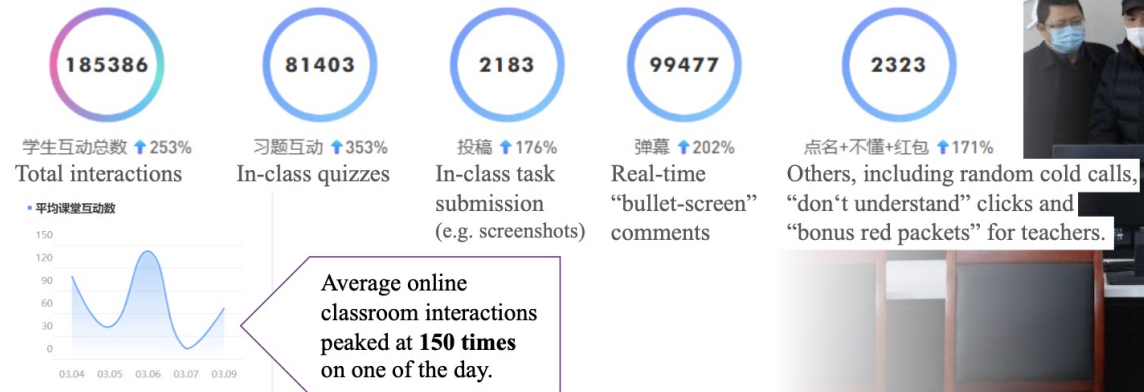**1,278 preview courseware** were issued by faculty, and the average completion rate by students was **54.03%**.

Faculty issued **319 sets of quizzes/ tests/ exams**, **3,949 questions** in total. 61.5% were answered correctly.

UNIVERSITIES' ACTIONS IN ONLINE LEARNING UNDER COVID-19

Case #3: Kunming University of Science and Technology

There were **185,386** classroom interactions recorded during the first week of online teaching:

185386	81403	2183	99477	2323
学生互动总数 ↑253%	习题互动 ↑353%	投稿 ↑176%	弹幕 ↑202%	点名+不懂+红包 ↑171%
Total interactions	In-class quizzes	In-class task submission (e.g. screenshots)	Real-time "bullet-screen" comments	Others, including random cold calls, "don't understand" clicks and "bonus red packets" for teachers.

Average online classroom interactions peaked at **150 times** on one of the day.

achievable and often-overlooked critical success factors. Ms. Wang also added how a university-level Online Learning Advisory Committee was able to cut through red tape and offers a series of timely and focused virtual **faculty training on techniques, pedagogy, and examinations for online learning**.

Ms. Wang's presentation can be downloaded on UNESCO-IITE's website.

UNESCO-IITE

Next, we had Prof. Tao, Director of the UNESCO Institute for Information Technologies in Education (IITE) and former President of Shandong University and of Jilin University, who echoed Ms. Wang's message of working together on online learning research and initiatives, "because there is no better time than now." He then shared good practices from private companies like Google and urged research institutions and universities to be "**more entrepreneurial**" and "**move from long-term planning and perspectives to immediate actions that we can take right now**". He also brought up the recent UNESCO publication, Handbook on Facilitating Flexible Learning During Educational Disruption: The Chinese Experience in Maintaining Undisrupted Learning in COVID-19

Outbreak. He strongly appreciates the precious experience and commend the incredible effort by the Chinese education system, and believes these lessons will remain with us for a long time as we turn the page on online learning.

Zhejiang University (ZJU)

Later, Prof. Liu, Vice Director of Research Center for International Education at Zhejiang University, built on the idea of the epidemic as a turning point and "anticipated upcoming reforms in national policies and institutional strategies for online learning". However, she believes that "**moving to comprehensive or total online learning will be a long process**" even with this current push and future capital injections, but instead expects "**a hybrid model of online and offline education**".

Forced Transition to Online Education under Epidemic in Zhejiang University

Dr. Shuhua Liu

Vice Director of Research Center for International Education,
Associate Professor in College of Education, Zhejiang University

Prof. Liu's presentation can be downloaded on UNESCO-IITE's website.

Cal State & UC Berkeley

So moving beyond China, the roundtable was joined by two experts in the US: Prof. Sidorkin, Dean of the College of Education at California State University; and Dr. Chirikov, Director of the Student Experience in the Research University (SERU) Consortium and Senior Researcher at Center for Studies in Higher Education (CSHE) at University of California, Berkeley. Prof. Sidorkin reminded us that "**although every US universities have an IT department, but we should not mistake them for online learning support;** as competent as IT staff are, most of them are not trained as an education or learning specialist", and believes the **"technical TAs" solution by Tsinghua University** is much more appropriate and effective when transitioning to online education. However, Dr. Chirikov shared one of his recent blog posts and shifted our attention away from the technical details. He believes, "**the priority when moving abruptly and non-voluntarily to online learning is the psychological health and well-being of faculty, students and supporting staff**."

Towards the end, the roundtable gave all the rest of us from around the world with plenty of food for thought as well as questions such as:

- Is our higher education system ready for such transition?
- Do we have appropriate educational facilities and amenities?
- How best to assess the risks and prospects of our university system in case of emergency?
- Or maybe most important of all, how can we improve the outcome of online teaching and learning while taking into consideration of the teachers and learners?

In the following section, we will share three case studies we received from universities across China:

- [Picking and mixing internal and external platforms](#) (by Xi'an Jiaotong University)
- [A university in Wuhan mobilized students to improve teaching quality](#) (by Yangtze University)
- [Formative assessments that focus on improving teaching quality](#) (by Guizhou Medical University)
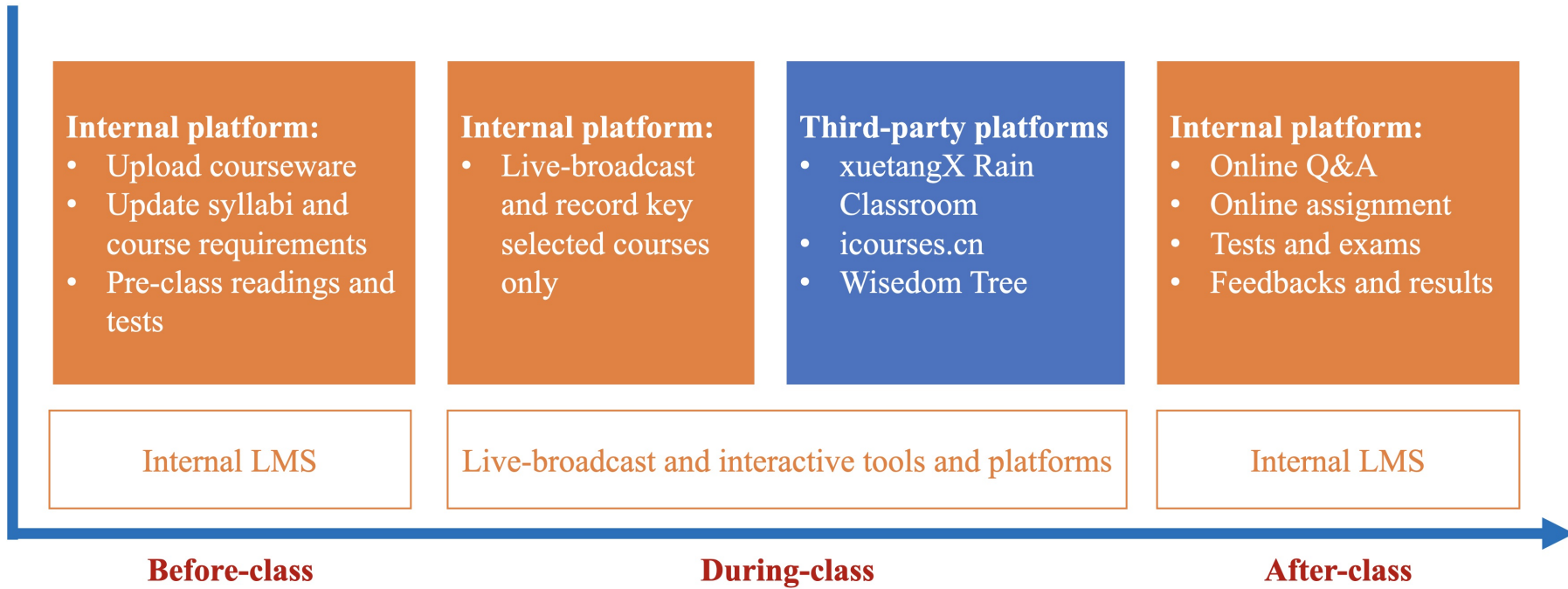
Picking and mixing internal and external platforms

This is a case shared by [Xi'an Jiaotong University (XJTU)](#), a C9 League university with strengths in engineering, technology, management, and life sciences located in Xi'an, Shaanxi, China. It is a Chinese Ministry of Education Class A [Double First Class University](#). XJTU's twenty schools comprise a comprehensive research university offering programs in nine areas: science, engineering, medicine, economics, management, art, law, philosophy and education.
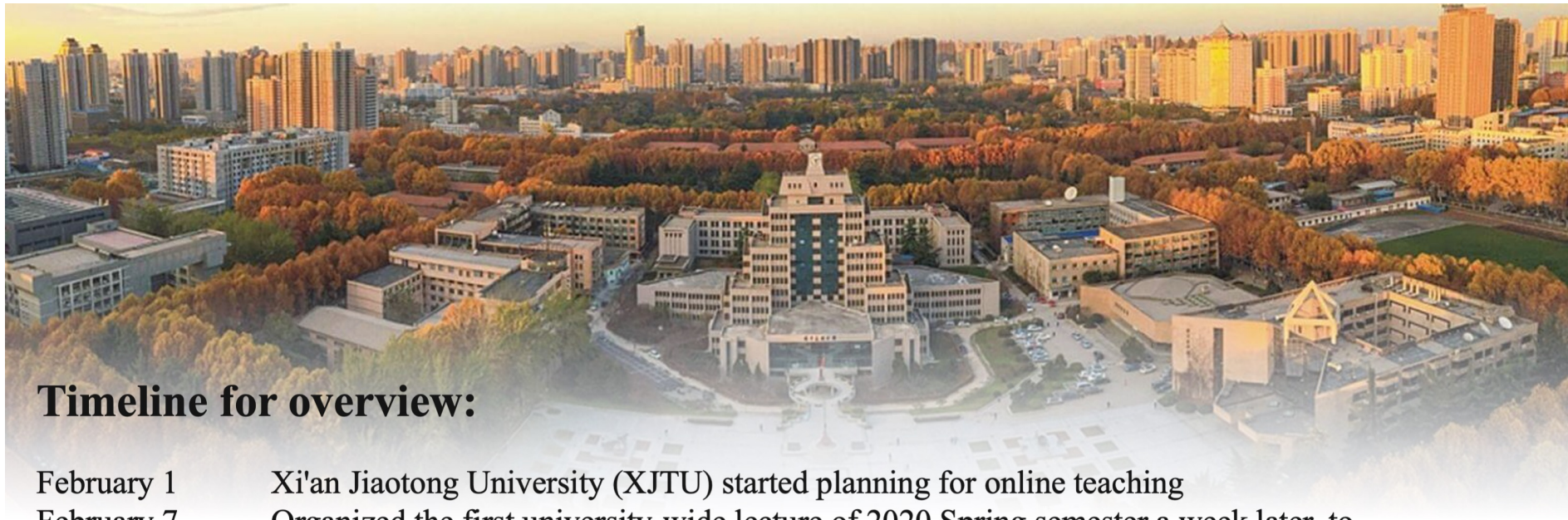
Timeline for overview:

February 1	Xi'an Jiaotong University (XJTU) started planning for online teaching
February 7	Organized the first university-wide lecture of 2020 Spring semester a week later, to launch the implementation plan for online learning
February 11	Mobilized more than 2000 staff for virtual trainings and customized planning support for online teaching.
February	947 undergraduate courses, total 1940 lectures, taught by 1,234 lecturers
	107,336 students joined online classes
	60% lecturers decided to use Rain Classroom, 360,000 unique interactions were recorded (including in-class quizzes, real-time on-screen comments, in-class task submission, "red packet bonus" for faculty)

XJTU decided to pick and mix internal and external platforms for online teaching (depending on the strengths and weaknesses of platforms) with clear **"before-class, during-class, and after-class" considerations** as well as **"teachers, learners, managers" perspectives** to ensure the delivery of coherent learning experiences:

Internal platform:	Internal platform:	Third-party platforms	Internal platform:
• Upload courseware • Update syllabi and course requirements • Pre-class readings and tests	• Live-broadcast and record key selected courses only	• xuetangX Rain Classroom • icourses.cn • Wisedom Tree	• Online Q&A • Online assignment • Tests and exams • Feedbacks and results
Internal LMS	Live-broadcast and interactive tools and platforms		Internal LMS

Before-class   **During-class**   **After-class**

In addition to the specialized support provided by the platforms, the university policy states:

• **It is mandatory that every online class will be assigned a postgraduate as a teaching assistant, and for classes with over 100 students, the university will assign at least one tutor (usually an assistant professor or post-doc).**

Below, we are going to take a look at the user-friendly and data-rich interfaces of Rain Classroom — which is why the platform was chosen and used by 60% of the faculty.

The is a course page for "Finance", displaying the number of students enrolled (54), attendance rate (100%) and preview completion rate (84%); as well as the top five performing students.

The course page also displays all the notes of previous classes (left table) and students worth paying attention to (right table) — which includes students with a high number of wrong answers during in-class quizzes, after-class tests, unsubmitted tests, absences, incomplete pre-class previews.

This sub-page displays top-performing students with their time spent on problem sets VS results.

Another sub-page displays a summary table showing breakdown of all the students and their class performance.

This page shows all the in-class quizzes and their analytics.

Finally, log records of real-time on-screen comments, in-class task submission portal, names of cold-called students, "bonus red-packet".

A university in Wuhan mobilized students to improve teaching quality

Yangtze University (YU) is located in Jingzhou and Wuhan, Hubei province, the initial epicenter of the COVID-19 outbreak.

Timeline for overview:

February 10	start of Spring semester
February 15	experienced network capacity and switched to new server
March 7	1,620 faculty and 33,663 students registered
4 weeks of teaching	4174 classes were taught online
	Only 4.2% of classes were cancelled or postponed
	321,781 interactions: including 86,259 in-class quizzes, 9,863 in-class tasks submitted, 217,638 real-time on-screen comments, 8,021 cold calls and others.

Besides daily faculty meeting in the first four weeks of teaching, to review progress and gather feedback. The university has also reached out to students and surveyed their feedbacks too, and these inputs were seriously and were included in the university-wide work report.

The following are the key recommendations from students:

1. online platform

- While working to increase stability and network capacity of Rain Classroom, recommend considering using a combination of other platforms to supplement part of the Rain Classroom.
- Consider combining existing MOOCs and live broadcasting of classes to offer more flexibility and options for students.

2. online teaching

- Consider distributing lecture slides ahead of the class, allow 5-10 minutes to finish preview and pre-class assessment, focus in-class time for interaction and discussion, while leaving at least 10 minutes for Q&A at the end
- As the internet could be unstable for those who live in rural areas, recommend teachers to slow down slightly and, where possible, avoid scheduling online classes during "traffic-heavy rush hour".
- Recommend teachers to increase more after-class test, for reinforcing content covered during class

- Consider spending 5-10 minutes before class or at the beginning of class to attend to and strengthen students' ideological, physical and mental health.
- Refer students who are often late in attendance or completing assignments to tutors for special attention, and to provide them with appropriate feedback

3. after returning to campus

- As the internet condition of students varies widely, recommend teachers to pay attention to students who are from near-poverty-line and rural areas.
- Recommend teachers to increase the number of face-to-face Q&A sections
- Recommend teachers to repeat important and difficult knowledge points
- Recommend the university and schools or departments to help facilitate peer learning and study group to relieve pressure for faculty

4. others

- Reimbursement for students who do not have wifi at home and used a cellular data plan to attend classes online

Formative assessments that focus on improving

teaching quality

Guizhou Medical University is a public university based in Guiyang, capital of Guizhou province in China that offers courses in pharmacy, medical laboratory science, preventive medicine, nursing and clinical medicine, as well as other subject areas. It is approved by "WHO" and Indian students can take admission in Guizhou Medical University and take the MCI screening test after a 5-year course.

Timeline for overview:

March 2   Spring semester commence online
Until March 25   997 faculty members and 16,926 students taught and learnt online
                 Online attendance = 98.2%
                 2,053 course were taught online
                 186,000 interactions were recorded
                 47.7% of classes use Rain Classroom
                 Various ways of teaching were used: *recorded lectures, live broadcast lectures,*
                 self-study + live Q&A with faculty were the three most popular ways.

(1) Focus on formative assessment

Different faculty have different preferences towards before-class (98.21%), during-class (93.24%) and after-class (90.04%), to provide constructive feedback to students and to gather data for improving teaching practice. Regardless there is definitely an

(3) Focus on student feedback

Online learning is as novel to students as online teaching is to faculty, but meta-analysis using word-cloud could provide a quick overview of the sentiment among students.

increase of formative assessment — which is a welcoming trend for both students and faculty — as opposed to the high-stake summative assessment.

(2) Focus on self-assessment

Another way to assess progress is through regular self-assessment, and keeping track of the progress throughout the semester.
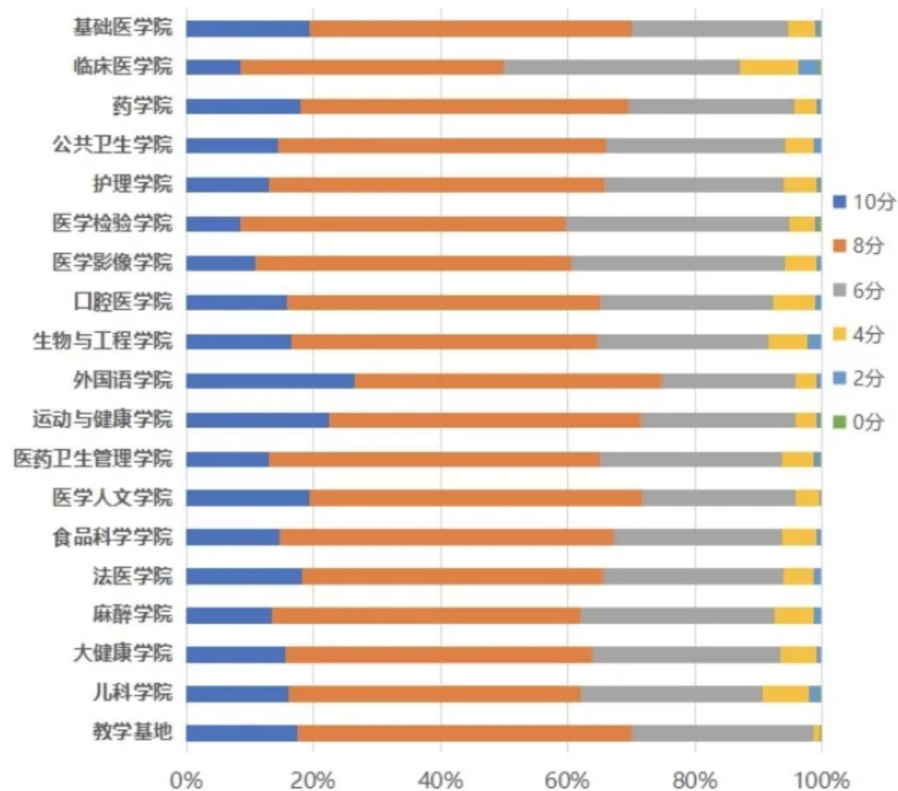
For example, students felt most teachers were well-prepared and organized, and the online portion added value to their learning; though there are too many platform-switching which ended up wasting valuable time during class, and for those who experienced internet problem, they suggested to enable the play-back function for the live broadcast lectures.

Using online quizzes for better engagement.

Because we have such encouraging feedbacks on Prof. Yu, we will end this week's newsletter with another personal sharing of online teaching too.

Prof. Yumei Ge is a Professor of Mechanics and Engineering at Southwest Jiaotong University, and has been teaching Theoretical Mechanics for more than 30 years. This highly abstract specialized foundation course is the first mechanical engineering course of year-one engineering students and forms the basis for subsequent mechanics courses.

The aims of this course are to enable students to master the basic laws of motion, prepare students on the necessary foundation for follow-up courses (such as material mechanics, structural mechanics, etc.) and get students to apply theories and analytical techniques to solve engineering problems.

As a result, students should be developing the following skills:

1. Logical thinking (including reasoning, analysis, evaluation);
2. Abstract thinking (including converting simple practical problems into abstract mechanical models, making appropriate mathematical descriptions, and applying mechanical theory to problem solve);
3. Self-learning and lifelong learning;
4. Communication (including using words, formulas and figures to express concepts and describe problems);
5. Quantitative computation and qualitative analysis

A four-step checklist for better preparation

In order to achieve the teaching goals of the course, various methods have been adopted since online teaching began 4 weeks ago. Here are four steps that Prof. Ge suggests faculty to keep in mind when preparing for online teaching:

1. First, spend time studying and be familiar with the various features and functions of the Rain Classroom platform (try to do this before every class, in case of platform updates or changes);
2. Upload a recorded video of the class in case of connection problems
3. Prepare the slides for live broadcast, with a variety of interactive questions to activate the classroom atmosphere. Objective questionings are mainly used during class for practices and obtain formative feedback, whereas subjective questionings are mainly used as test after class.
4. Coursewares are used for before-class preview (usually simpler concepts; will only go over the materials briefly and use quiz during class to get feedback) and after-class revision (usually more complicated concepts; will go over them in detail, and ready to take questions from students).

Seven ways to ask better questions when teaching online

Interaction with students in the classroom often helps to shift the focus from teaching to learning. The advantage of traditional classrooms is that teachers and students are face to face, and communication is more straight-forward and simple. However, when teachers ask questions, it is difficult for all students to have the opportunities to participate. Even if the class is small, it is not easy to do so before you ran out of time. Not only you can't hear clearly when everyone shout out their answers, it is difficult to exercise students' ability to express independently, as it is time-consuming to have everyone speak one after another, and that later students are likely to be affected by earlier responses. Therefore, using the test function of the Rain Classroom can help me to solve this problem: all students can answer at the same time, participate independently and get feedback in real time, etc. Prof. Ge also likes to display students' respectively participation rate to act as an incentive and encourage everyone to participate more during classes. Besides, students can also interact by using the real time on-screen comment function and the chat function of the platform; for my small classes, Prof. Ge is able to respond to all of them myself, but for my bigger classes, Prof. Ge usually defers

to her TAs.

In order to maximize the learning outcome, and promote students' continuous thinking, Prof. Ge concluded the following types of questions:

1. Turn narratives or statements into (objective) questions: let the students think and discover the answer, thus cultivate the ability of the student to identify the correct answer. As this often deepens the impression for students, Prof. Ge also used this technique to attach importance to specific knowledge points.

2. "Learning from time to time" (学而时习之): This does not mean learning is achieved by drill-like repetitions, but instead through connecting theories to meaningful and insightful practices. We should be able to design questions to guide students to think more instead of to answer intuitively or by impression or memorization.

3. Turn difficult and important knowledge points into (subjective) questions: here, ask more "why" and "how".

4. Give students a second chance: sometimes, it is not necessary to give students the correct answers right away; Prof. Ge likes to display the wrong answers (particularly those where most students answered incorrectly) and give time for students to draw their own conclusion, figure out why this is the wrong answer and what should be the correct answer instead.

5. Gradually introduce complex problems with smaller questions: this way you are able to train students on how to approach bigger problems, which can be very useful for solving other engineering problems too.

6. Use real-time on-screen comments for informal questions: particularly items that you may not want to definitively respond right away, but would like to get a quick bird's-eye view from the students. As Rain Classroom records corresponding on-screen comments sent, lecturers can always go back for deeper analysis afterward.

7. Question for evaluating the outcome of preview: class time is very precious, not all content needs to be covered during class. But at the same time, you can't simply assume all preview tasks are completed and are understood fully by all students. Mastering self-learning requires constant practice.

Last but not least, remember to **pause** and give enough time to think and respond. This is usually much longer and more awkward than you imagined

Benefits for online assessment

For theoretical classes, students often think "they fully understand the theories until they start doing the problem sets". The biggest challenge for year-one students is how to logically and clearly express their ideas in a written format. Subjective questions after classes were a great help. Prof. Ge gives students two after-class tests or assignments per week, and set the same timing for deadline. This way, it helps train the students to develop healthy habits and to become disciplined and organized.

The most common praise about learning online is that everything is online. Once submitted, students will no longer lose or misplace their assignments, and teachers will also have all the assessment records of all the students saved in one place. This way, it is easier for teachers to analyze performance and provide useful feedback to improve learning outcome; and it is also quicker for students to pick out all the wrong answers during the revision. With all these data available, it is now much easier to provide evidence and evaluate for participation grading.

Thoughts about choosing a platform

Try to avoid unexpected or uninstructed pauses. Classes may have different needs, though not necessary the more complicated the better, some need audio live-stream, video live-stream, screen-sharing, whiteboard annotation, etc. Choose a platform that fits your teaching needs best, as well as creates a quality learner experience. In this case, Rain Classroom works well, as it enables a smooth transition between different features and that all learners' data are in one place.

Try not to switch between different platforms in one class. It is okay to use more than one platform for your course, as some platforms are better at live-streaming classes, and some are better for break-out discussions, etc.

Messages/ news from the community

Call for contribution for future newsletter
One of our aims is to create a community where we can learn from each other. If you have any input, feedback, questions, or success stories that you would like to share, we want to hear from you at **office@rcoe.edu.cn.**

I want to contribute for future newsletter

Next week spotlight: good practices from Asian universities

As you are reading this, we would have just finished our webinar on online learning in response to COVID-19 with a dozen Asian universities across eight different countries. We can't wait to share the output of our sharing with you next week! Stay tune.

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(Higher Education)

Each week we will share good practices on "online education policy" and "online teaching & learning" for higher education. We aim to create useable knowledge, for both administrators and teaching staff, that can be applied immediately.
We invite you to build a stronger community together, to learn from each other, and to join us in this digital revolution!

Email Address

First Name

[   ]

Last Name

[   ]

Name of Higher Education Institution

[   ]

Job title

[   ]

Which of the following best describes you?

○   University administrator/ leadership

○   University teaching staff

○   University researcher

○   Student

○   Others

You are interested in ...

☐   Online Education Policy (national-level)

☐   Online Education Policy (city-level)

☐   Online Education Policy (university-level)

☐   Online Teaching (pedagogy)

☐ Online Teaching (platforms or tools)

☐ Others

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