

# Introducing a Remote Pre-graduate Medical Education Curriculum Planning Workshop During the COVID-19 Pandemic

Banri TSUDA<sup>\*1</sup>, Tetsuya URANO<sup>\*2</sup>, Ippei YAMATO<sup>\*2</sup>, Ryota MASUDA<sup>\*3</sup>, Toshiro SEKI<sup>\*4</sup>,  
Yoshihide NAKAGAWA<sup>\*5</sup>, Syunichiro IZUMI<sup>\*6</sup> and Masashi HAMADA<sup>\*7</sup>

<sup>\*1</sup>*Department of Breast and Endocrine Surgery, Tokai University School of Medicine*

<sup>\*2</sup>*Department of Medical Education, Tokai University School of Medicine*

<sup>\*3</sup>*Department of General thoracic Surgery, Tokai University School of Medicine*

<sup>\*4</sup>*Department of Nephrology, Endocrinology and Metabolism, Tokai University School of Medicine*

<sup>\*5</sup>*Department of Emergency and Critical Care Medicine, Tokai University School of Medicine*

<sup>\*6</sup>*Department of Gynecology, Tokai University School of Medicine*

<sup>\*7</sup>*Department of Otolaryngology, Tokai University School of Medicine*

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**Purpose:** To conduct a thorough online workshop on infection control under COVID-19 and to conduct a questionnaire survey on the online workshop.

**Objective:** The Tokai University School of Medicine has held 39 workshops to acquire the curriculum planning ability required as a faculty member of the School of Medicine. Due to the COVID-19 pandemic, this year (2020) we were unable to hold a workshop. Therefore, we attempted an online workshop using Zoom.

**Methods:** To shorten the amount of time required for the workshop, we excluded some content that was used the previous year. The day passed without any major problems, and both the participants and the individuals in charge of the workshop filled out a questionnaire at the end of the day.

**Results: Conclusion:** Online workshops appear to be a very useful tool in terms of infection control under the COVID-19 pandemic.

**Key words:** medical education, online workshop, curriculum planning, COVID-19

## INTRODUCTION

In Japan, a new clinical training system for doctors was established in 2004. Since then, it has been considered desirable for clinical training instructors to attend training sessions. The 2020 edition of the Guidelines for Physician Clinical Training Guidance emphasize that attending a doctor training course is “essential” for doctors [1]. The guidelines on holding such training specifically include the formats and themes to be covered, and it is recommended that these be followed [2]. At the Tokai University School of Medicine, education is aimed at developing “good doctors,” not only equipped with substantial medical knowledge but also with high problem-solving and medical skills that support them in their practice of patient-centered medicine [3]. We continuously improve the ingenuity of our courses and educational methods; since 1998, we have been holding a pre-graduate medical education workshop for doctors from the 7th year after graduation, lasting for 2 nights and 3 days. In 2019, the 38th curriculum planning workshop and the 39th problem-based learning tutorial workshop were held. These workshops contribute to the improvement of medical education.

However, due to the COVID-19 pandemic, it was

determined that an in-person workshop would be dangerous in 2020. Rather than postponing it, we opted to conduct our first online pre-graduate medical education workshop using the videoconference software Zoom.

## MATERIALS AND METHODS

### Previous pre-graduate medical education workshop

The 2019 workshop was attended by 24 participants and included 18 tasks (4 off-campus, 11 on-campus, 3 from the secretariat). It was held for 2 nights and 3 days. The schedule is shown in (Fig. 1).

### 2020 workshop

#### *Workshop preparation*

Since this was the first online workshop, we had three meetings in advance for preparation. The task force consisted of seven clinicians and one medical education specialist. The secretariat comprised two educational department staff. Workshop participants were selected in the first meeting. The number of participants was 24, as in the previous year.

In the second meeting, we examined the schedule, location, and content of the workshop. The duration was shortened from 2 nights and 3 days to 1 night and 2 days.

38th in 2019				40th in 2020			
day 1				day 1			
9:00 ~ 10:00	60 min	Staff meeting		8:30 ~ 9:50	80 min	Staff meeting	
10:00 ~ 10:20	20 min	Opening, orientation, task force introduction		9:50 ~ 10:00	10 min	Access to ZOOM	
10:20 ~ 10:40	20 min	Lecture; What is a workshop?		10:00 ~ 10:05	5 min	Opening	
10:40 ~ 12:25	105 min	World Cafe; About Professionals①		10:05 ~ 10:25	20 min	Lecture; What is a workshop?	
				10:25 ~ 10:55	30 min	Lecture; Aims of medical education at Tokai University	
				10:55 ~ 11:45	50 min	World Cafe; What is Professionals?	
				11:45 ~ 12:15	30 min	Lecture; What is a Professionalism?	
12:30 ~ 13:20	50 min	Lunch		12:15 ~ 13:15	60 min	Lunch	
13:20 ~ 13:50	30 min	World Cafe; About Professionals②		13:15 ~ 13:45	30 min	Lecture; Overview of Outcome Based Education	
13:50 ~ 14:20	30 min	Lecture; What is a Professionalism?		13:45 ~ 16:05	140 min	Work; Required ability (competency)	
14:20 ~ 14:50	30 min	Lecture; Overview of Outcome Based Education		16:10 ~ 17:10	60 min	Work; Strategy① (setting of subjects / learning methods)	
14:50 ~ 18:20	210 min	Work; Competence and Competency		17:10 ~ 18:10	60 min	Special Lecture; Practice of professionalism education	
18:20 ~ 19:20	60 min	dinner		18:10 ~ 18:30	20 min	staff meeting	
19:20 ~ 20:00	40 min	Lecture; Aims of medical education at Tokai University					
20:00 ~ 20:30	30 min	staff meeting					
day2				day2			
8:30 ~ 8:40	10 min	staff meeting		8:00 ~ 8:20	20 min	staff meeting	
8:40 ~ 13:40	240 min	Work; Strategy (setting of subjects / learning methods)		8:20 ~ 8:30	10 min	Access to ZOOM	
11:20 ~ 12:00	40 min	Lecture; What is a Simulation education?		8:30 ~ 10:20	110 min	Work; Strategy② (setting of subjects / learning methods)	
12:00 ~ 13:00	60 min	Lunch		10:25 ~ 13:05	160 min	Work; Evaluation①	
13:00 ~ 15:10	130 min	Work; Strategies / evaluations using simulated patients		13:05 ~ 13:10	5 min	Closing	
15:20 ~ 17:50	150 min	Work; Evaluation①		13:10 ~ 13:30	20 min	staff meeting	
17:50 ~ 18:50	60 min	Lecture; Professionalism education before graduation ~concrete strategy~					
19:00 ~ 21:00	120 min	General debate (social gathering)					
21:00 ~ 21:30	30 min	staff meeting					
day3							
8:30 ~ 8:40	10 min	staff meeting					
8:40 ~ 11:10	140 min	Work; Evaluation②					
11:20 ~ 11:35	15 min	Lecture; Tokai University roof tile type education					
11:35 ~ 12:10	35 min	Impressions, manifestations, closing					
13:00 ~ 13:30	30 min	staff meeting					

**Fig. 1** Schedule of the 38th Tokai University School of Medicine Pre-Graduate Medical Education Workshop in 2019 (left side) and schedule of the 40th Tokai University School of Medicine Pre-Graduate Medical Education Workshop in November 2020 (right side).

	38th in 2019	40th in 2020	Time comparison
Lectures			
What is a Professionalism?	30 min	30 min	±0
Overview of Outcome Based Education	30 min	30 min	±0
Aims of medical education at Tokai University	40 min	30 min	- 10 min
What is a Simulation education?	40 min	—	- 40 min
Professionalism education before graduation ~concrete strategy~	60 min	—	- 60 min
Tokai University roof tile type education	15 min	—	- 15 min
Works			
Required ability (competency)/Competence and Competency	210 min	140 min	- 70 min
Strategy (setting of subjects / learning methods)	240 min	170 min	- 70 min
Strategies / evaluations using simulated patients	130 min	—	- 130 min
Evaluation	290 min	160 min	- 130 min
World Cafe; About Professionals	135 min	50 min	- 85 min
General debate (social gathering)	120 min	—	- 120 min
staff meeting throughout the work shop	170 min	140 min	- 30 min

**Fig. 2** Differences in content and time between the 38th Tokai University School of Medicine Pre-Graduate Medical Education Workshop in 2019 and schedule of the 40th Tokai University School of Medicine Pre-Graduate Medical Education Workshop in November 2020.

The content was examined by the task force to ensure that the learning effect does not decrease even if the workshop period was shortened. The time and content were thoroughly examined to obtain the minimum necessary skills and knowledge related to medical education.

(Fig. 2) shows the difference between the content and time of the 38th Tokai University Graduate School

of Medicine Workshop and the time spent at the 40th Tokai University Graduate School of Medicine Workshop. “World café” was shortened from 135 minutes to 50 minutes. Regarding Lecture, “Aims of medical education at Tokai University” was shortened from 40 minutes to 30 minutes, while “What is a Simulation education?”, “Professionalism education before graduation ~ concrete strategy ~”, and “Tokai University



**Fig. 3** Moderator on the day of the workshop. The moderator's PC screen was mirrored on a large display. The PC screen of one secretariat staff, who was the host of the Zoom chat, was placed next to it.

roof tile type education" were deleted. Regarding the tasks, "Required ability (competency)" was shortened from 201 minutes to 140 minutes, "Strategy (setting of subjects/learning methods)" was shortened from 240 minutes to 170 minutes, and "Evaluation" was shortened from 290 minutes to 160 minutes. "Strategies/evaluations using simulated patients" was deleted because simulated patients could not participate. General debate (social gathering) was removed. Staff meetings between workshops were reduced from 170 minutes to 140 minutes. The special lecture of "Practice of professionalism education" was given by an outside lecturer, remotely.

In the third meeting, prior notice items were decided for each participant. Participants attended the workshop from their respective laboratories or homes. For the task rooms, we secured four university lecture rooms, each with a capacity of about 50 people. We confirmed the number of times Zoom was used and the participating devices in advance. We asked each participant about the location from where they planned to participate on the day of the workshop, and the connection between their device and the PC of the secretariat. I taught the participants how to share the screen.

### **Workshop implementation**

The task proceeded with a total of 10 secretariat staff physically distancing from each other, in four university classrooms. Participants were able to connect to the Zoom session 30 minutes before the start time. The moderator task force connected a PC to a large display and presented a screen view (Fig. 3). At the beginning of each session, a task force member familiar with the theme provided an explanation in the preliminary room. Small group discussions were conducted with the Zoom breakout room function. The secretariat assigned the breakout rooms to the participants in advance. All participants were registered as co-hosts. At least one task force member participated in each breakout room to assist in the discussion. Notification of the end time of the discussion for all groups was provided using the chat function. After the breakout session, we returned to the plenary room and announced by the

presenters of each group. The schedule for the workshop is shown in (Fig. 1).

On the first day, lunch was prepared by each person to prevent infection. At the end of the first day, a staff meeting was held to check the points of reflection on the day and the schedule for the second day. After the 2-day workshop, the participants and workshop hosts completed a questionnaire survey. After that, the staff held a reflection meeting regarding both days of the workshop.

The questionnaire items for the task force members were as follows:

- Q1: Was is your evaluation of this workshop as a whole?
- Q2: Which is better, an in-person or an online workshop?
- Q3: How was the training duration (1.5 days) this time?
- Q4: How was your online fatigue compared to your stay?
- Q5: How was the enthusiasm of the participants?

The questionnaire items for the participants were as follows:

- Q1: What is your evaluation of this workshop as a whole?
- Q2: Which is better, an in-person or an online workshop?
- Q3: How was the training duration (1.5 days) this time?
- Q4: Please evaluate the task and the secretariat.

## **RESULTS**

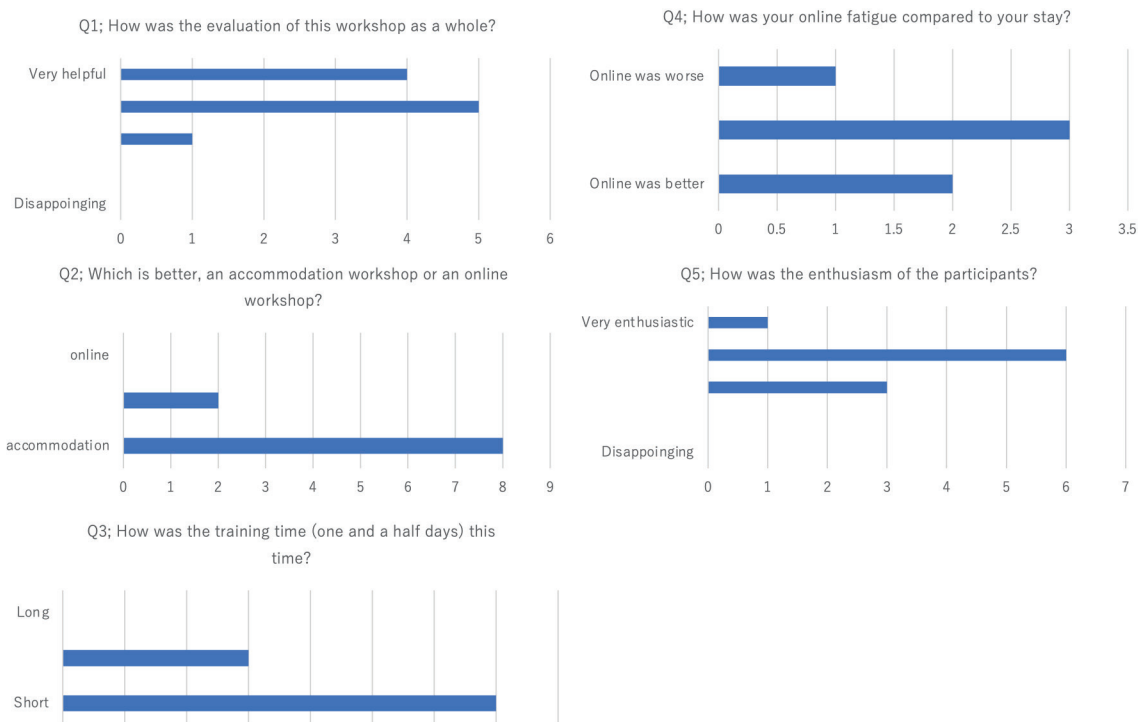
### **Questionnaire results**

The individuals who ran the workshop provided the following feedback in the free entry column of the questionnaire.

Positive feedback:

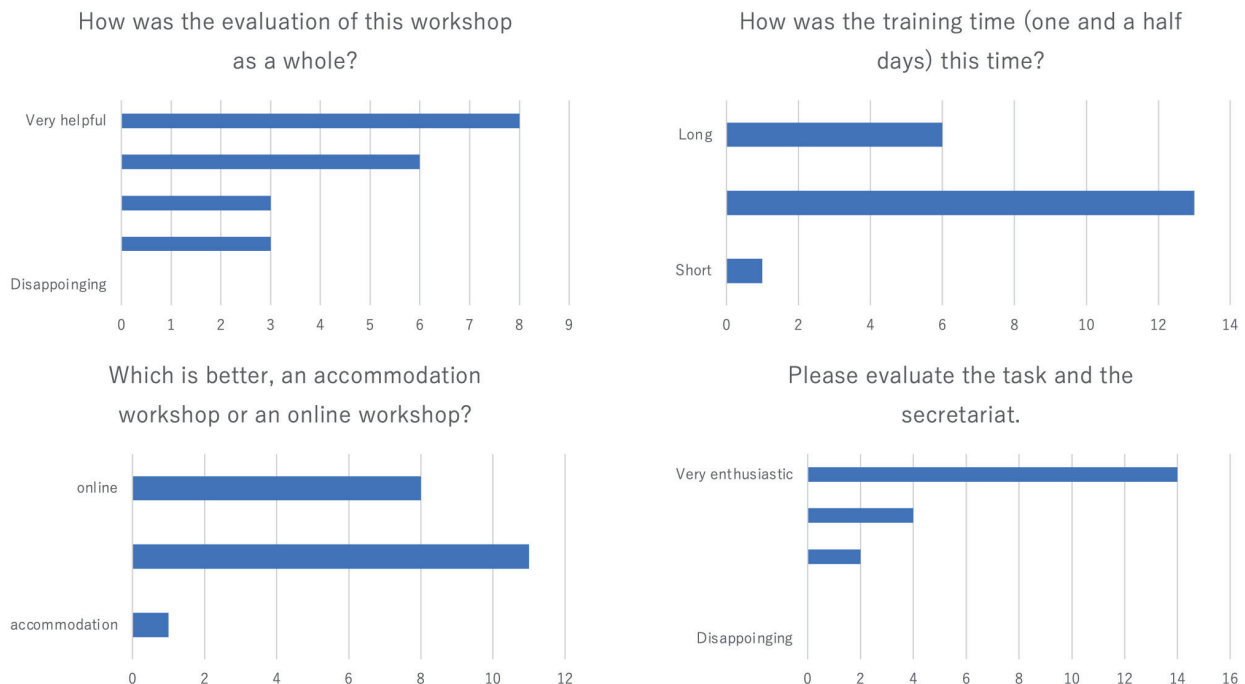
- The experience of conducting a remote workshop was significant.
- The first web event proceeded smoothly. It was good that there were no connection problems.

Negative feedback and suggestions for improvement:



**Fig. 4** Questionnaire results of the workshop organizers.

Q1: What is your evaluation of this workshop as a whole?  
 Q2: Which is better, an in-person or an online workshop?  
 Q3: How was the training duration (1.5 days) this time?  
 Q4: How was your online fatigue compared to your stay?  
 Q5: How was the enthusiasm of the participants?



**Fig. 5** Questionnaire results of the participants.

Q1: What is your evaluation of this workshop as a whole?  
 Q2: Which is better, an in-person or an online workshop?  
 Q3: How was the training duration (1.5 days) this time?  
 Q4: Please evaluate the task and the secretariat.

- The discussion was shallower than usual.
- It may be good to set up an advanced course for students who want to learn more about medical education.
- Some participants in each group contributed little to the discussion. It is difficult to personally encourage people who are not active participants.
- The University's Education Planning Department

should decide whether to hold the workshop face-to-face or online.

The participants provided the following feedback in the free entry column of the questionnaire.

Positive feedback:

- The workshop proceeded more smoothly than expected, and was wonderful.
- I was able to grasp the detailed wording well.
- It was easy to share the materials that served as a starting point.
- I was able to use my time effectively.

Negative feedback and suggestions for improvement:

- I could not see the two materials at the same time.
- I wanted the materials in advance.
- The discussion was not lively.
- Because I participated from my office, I could not get away from work and could not concentrate.
- It was difficult to communicate with each other on Zoom — it is easier to communicate face-to-face.
- The discussion items of each group could not be pasted on the wall, and the previous discussion could not be reviewed.

(Fig. 4 and 5) show the results of the questionnaire for the participants and individuals in charge of running the workshop, respectively. The individuals running the workshop largely found that 1.5 days was short, and noted that the in-person workshop was a better option if it was possible. Participants commented that the online format was successful, and many answered that 1.5 days was an appropriate duration.

## DISCUSSION

Workshops are essential for continuous medical education. Because of the COVID-19 pandemic, an in-person workshop was not possible; thus, we conducted an online workshop using Zoom. The workshop was run without any major problems. An important aspect was to confirm the connection between the participants and the secretariat in advance and on the day. In the reflection meeting on the first day, it was observed that the task force had not been set as a co-host in the morning session, so the task was not able to progress freely in the breakout session. Therefore, the Zoom session was ended at lunch and reconnected before the afternoon session. It is also said that the first breakthrough is important in the workshop. World Café was shortened from 135 minutes to 50 minutes. This may be because the question-and-answer session did not progress much compared to the previous year but it may also be due to the workshop being held remotely. As online workshops are expected to become more widespread in the future, it was discussed that it is necessary to consider what is best for remote breakthroughs and how long it should take.

The following was discussed at the reflection meeting on the second day.

Regarding the format of the workshop, many participants answered that the online format was better, while workshop hosts reported that the in-person workshop was preferable. Workshops held in-person

allow time to think more deeply about education through cross-departmental connections and overtime discussions but are very dangerous from an infection prevention perspective.

A clinician faculty member explained the session he oversaw and participated in the breakout room task to help with the progress. During the question-and-answer session, he made remarks that enlivened the discussion. Non-doctor medical education specialist faculty members were familiar with Zoom and helped facilitate the workshop. As for the educational department staff, four people participated last time. They carried work items to each room, maintained the venue, and negotiated with accommodation facilities. Two people participated this time. We were mainly in charge of receiving the final product by contacting the participants in advance and improving the facilities of the university conference room on the day of the workshop. Looking back, seven clinical doctors, one medical education specialist, and two secretariats seemed to be competent. Furthermore, two people participated in the clerical work this time, however one was an apprentice. Thus, it seems like one person is enough to handle operations provided that they adapt quickly.

In the future, we will further explore online workshops in order to create a full-featured product. At the moment, academic societies are introducing teaching online or in a hybrid in-person and online format. By solving a number of challenges, it is likely that an online pre-graduate medical education workshop will be established after the COVID-19 pandemic. In addition, online workshops do not require venue maintenance, so it seems possible to substantially reduce the burden on the secretariat, which is a significant advantage. Online platforms such as Zoom can be a useful tool for conducting workshops during the COVID-19 pandemic while avoiding direct contact with people.

## CONCLUSION

The online pre-graduate medical education workshop using Zoom was very useful with respect to ensuring infection protection during the COVID-19 pandemic.

## ACKNOWLEDGMENTS

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