Online Classes at Hokusei Gakuen University Preparation Guide

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Chapter 1: Introduction - Preparation for online classes

Section 1. Introduction.

1. Background:

The spread of new coronavirus infection has lead to Hokkaido's declaration of a state of emergency (2/28) in response, Sapporo, Hokkaido. Due to a series of declarations such as the Joint Declaration of Emergency (4/12) and the nationwide declaration of a state of emergency (4/17), Hokusei Gakuen University has decided to hold classes in the first semester in a non-face-to-face setting. In virtually all classes, planning must be based on the premise that online classes will be conducted primarily over the Internet. Many universities, not just our university, have never attempted to make most of their teaching in a non-face-to-face setting.

Most of the classes that teachers have prepared so far have been based on the premise of face-to-face classes, where students take classes in front of them. For this reason, some teachers may be anxious and worried about the implementation of non-face-to-face classes (especially online classes). The paper will help you implement online classes.

We have summarized the information and points to consider when implementing the program. The aim of this paper is to help teachers in planning online classes for the first semester of 2020 and in considering how to implement their own classes online.

本資料はこんな時に使ってください！

自分にできるオンライン授業の方法ってなんだろう？

何に気をつければ？

操作方法を知りたい。
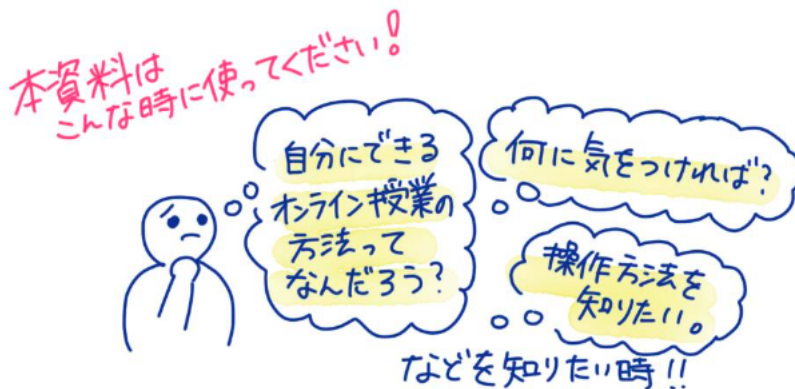
などを知りたい時！！

Figure 1-1.
About the use of this document

2. The purpose of this paper: In online classes, various applications

In this paper, we have focused on Zoom and Moodle, following the flow from planning to implementation of online classes. Of course, it does not cover all of the features of Zoom and Moodle or how to use them. The purpose of this paper is to provide the minimum

information necessary for the planning and implementation of online classes and to present options for online classes.

Figure 1-2.
Software mainly introduced in this document

It's a good idea to do this. Take advantage of the options that match your class environment, class content, teaching methods, etc., and design your online classes within a reasonable range. In addition, we would appreciate it if you could devise a more advanced implementation of online classes and give us some examples of your practice. In addition to practical examples and innovations, we welcome your questions and answers. We are waiting for you at enkaku@hokusei.ac. jp.

Section 2: An Overview of Online Classes at the University
1. An overview of Hokusei Gakuen University's online classes is also provided in "Overview of Online Classes".
There are two types of online classes: simultaneous interactive classes and on-demand classes. The first is a simultaneous interactive online class. This can be done when there is an environment that allows for simultaneous, two-way, real-time online communication is ensured. In order to communicate in real time, both faculty and students, it is necessary to improve the environment of the communication.

The second is on-demand online classes. It is also known as (asynchronous) teaching. Not in real time, but students in this class can work on their studies at any time they like. In the case of the on-demand type, it is necessary to provide sufficient guidance through questioning and answering, correction and guidance, and question-and-answer sessions

promptly after each class, and to secure opportunities for students, etc. to exchange their opinions about the relevant class material.

In either type, 90 credit hours of study are required for every two credits. In other words, if you have 15 lessons, design one lesson to be 6 credit hours, including pre and post lessons. Online classes are required to ensure an educational effect equivalent to that of face-to-face classes. In order to confirm the effectiveness of the education, grades are evaluated, but it is not necessary to limit the evaluation to a single test. You can choose the evaluation method according to your course goals, such as the use of reports to evaluate your learning.

In addition, while we have been taking student attendance in face-to-face classes, we cannot take attendance in online classes in the same way as we do in face-to-face classes. In on-demand classes, students take classes at any given time, so it is virtually meaningless to check attendance in the form of whether or not they are taking a class at a particular time. Unlike face-to-face classes, it is very difficult for instructors to manage the class space and check students' attitudes. For example, it is actually possible to download a video or soundtrack from a class but not watch it, or even just let it play. It is not possible to check this remotely.

Even in the case of simultaneous interactive classes, some effort must be made to check attendance. The web conferencing service Zoom in this article does not have the ability to take attendance. In web conferencing, it is difficult to pick up on the reactions of the other party, so it will be difficult to confirm attendance smoothly. Real-time two-way communication places a heavy load on communication lines and computers, so it is expected that students may have trouble checking attendance even though they are participating in a class. Therefore, it is necessary to be flexible, for example, to consider students who submit their assignments by the deadline to be in attendance.

In the same way that traditional university classes have taken various forms, such as lectures and exercises, online classes can be considered in a variety of ways. For a model case of the online class format, please see "Image of Distance Education at Hokusei".

In this document, the first model class is presented to illustrate how an online class can be constructed when one class is 90 minutes long. The second is an on-demand class that uses video and audio delivery, and the third is an on-demand class that only distributes materials and assignments. The reasons for splitting the on-demand classes into two models, the second model and the third model, are the equipment used in the process of preparing for online classes, the burden on teachers and students, and the differences in the devices required for online learning.

The next section provides an overview of these three models. Please use this as a reference for preparing online classes according to your own teaching style and class content.

以下のことを考慮し、どのモデルが良いか考えましょう

受講人数　機材環境　授業内容

自分に合った
（あるいは可能な）
授業方法を
選んでください！

Figure 1-3.
Consideration of class format

Use this as a reference when assembling your lessons. In this paper, the three model cases presented in this material are summarized by dividing them into three class models.

2. Models of online teaching discussed in this paper
Each of the above models has its own characteristics: level of burden on faculty and students, the need for class preparation, and delivery. In addition to the different ingenuities, there are differences in the equipment needed and the advantages and disadvantages. In this paper, I have focused on three models, but this does not mean that I reject other types of classes. The important thing is that you can achieve the objectives of the class. Both models are different from face-to-face classes in that they require more or less adaptation of traditional classes to online classes.
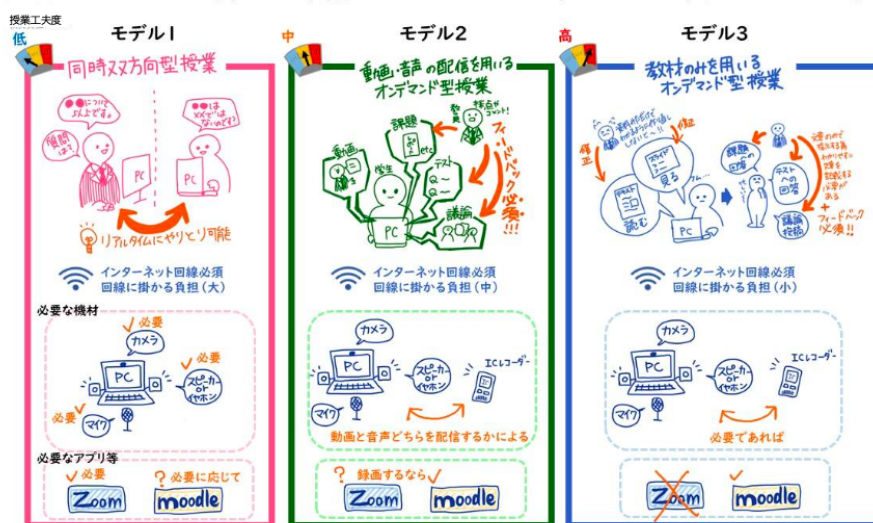
Figure 1-4 Major differences by model

In addition, it is necessary to consider the learning environment for students in online classes.
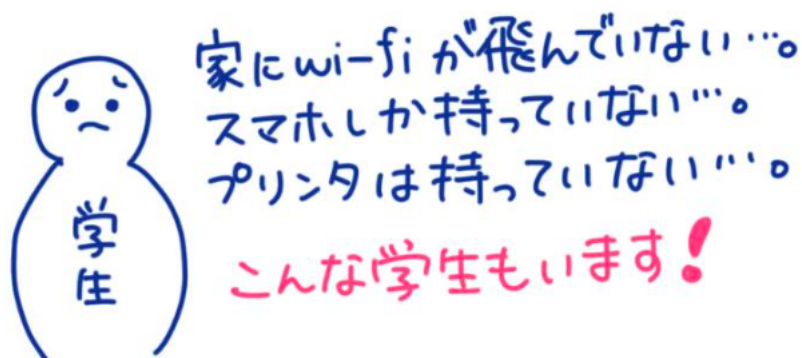
Figure 1-5 Students' environments are diverse.

Students who don't have a computer, tablet, or printer, students with limited data transmissions, and students who don't have an environment at home where they can concentrate on their studies are in a variety of situations. Please allow for as diverse a learning environment as possible. Level of classroom ingenuity is paramount to success in any case.

1) Model 1: Simultaneous interactive teaching

The first model is discussed in Chapter 2. Because this class format is "simultaneous and interactive," we will use Zoom to conduct web conferencing over the Internet. Students can watch faculty members' classes in real time and participate in discussions as needed.

This format is more similar to face-to-face instruction than the other models (the evaluation of the model below is in comparison to the other models and not in comparison to face-to-face instruction). In other words, online classes can be conducted using the slides and materials prepared for face-to-face classes. Therefore, this format is a good candidate when face-to-face class content and materials cannot be changed or assignments and proficiency tests created to accommodate online instruction. This format is suitable for classes in which faculty and students discuss in real time with each other.

However, this format can cause a large amount of Internet data to be transmitted. A 90-minute Zoom meeting consumes 0.5GB as a guide. Therefore, it is not practical to use a communication line with a limit on the amount of data communication. It will be difficult to maintain this format unless both faculty and students are equipped with an unlimited Internet environment. Consideration should be given to the fact that not a few students are in an environment with limited data traffic. Other equipment such as cameras and microphones must be used to engage students in discussions. Some students don't have cameras or microphones, and some are reluctant to see themselves on the web. Also, participating in web conferencing via the Internet can be very tiring, and some students may have to do multiple classes in a row in one day. This is a class format that requires special consideration of fatigue for both faculty and students.

⬤ Model 1: Summary of simultaneous interactive classes.
Merits
　　☐ Students can conduct assignments, achievement tests, and discussions as needed during class time as in the past.
　　☐ Small burden on teachers because there are few changes in content and assignments from face-to-face classes.
Demerits
　　☐ The amount of data communication required by participating faculty and students is high.
　　☐ Faculty and students need to provide cameras and microphones.
　　　　✓ This is not the case when there is no reflection of the face.
　　　　✓ Some students refuse to allow their own video and audio to be reflected on the web conference.
　　☐ Participating in web conferences can be exhausting.

同時双方向型授業

●●について
よX上です。

●●は
XXでは
ないのです？

質問は？

リアルタイムにやりとり可能

メリット

①対面授業の資料が利用可能

②リアルタイムでの議論が可能

デメリット

①データ通信量が大きい！

②双方、カメラとマイクが必要

③Web会議による疲労が大きい

学生によっては
イヤがる学生も
います。
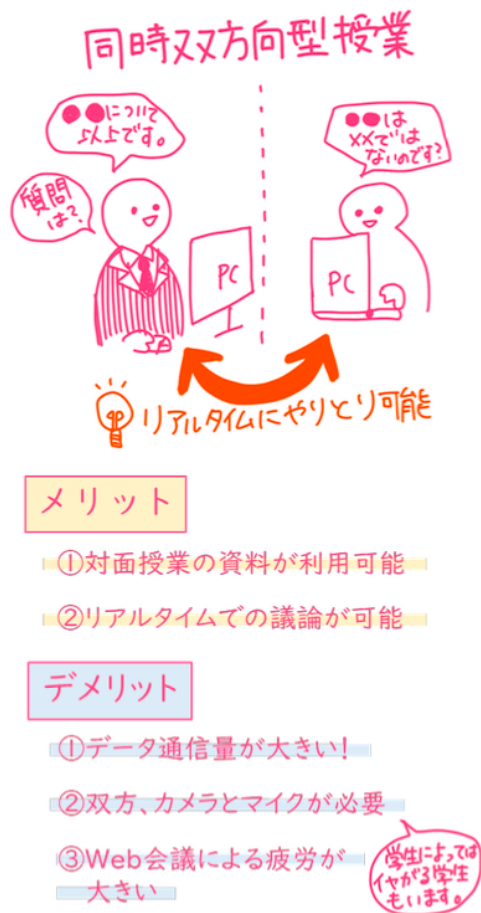
2) Model 2: On-demand learning with video and audio delivery

The second model is discussed in Chapter 3. This is an on-demand (asynchronous) type of class. In this class, students will use Zoom and Moodle to deliver the main part of the class, as well as assignments, tests, and discussions. Students may take the class at any time, and then work on assignments and tests and participate in discussions.

This format does not qualify as a class by simply providing the main part of the class. In other words, in addition to the main part of the class, there should be "sufficient gui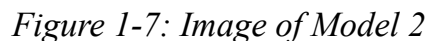dance" through questions and answers, assignments, achievement tests, and feedback on them, as well as opportunities for exchange of opinions with students. Therefore, it is necessary to prepare assignments and achievement tests for each class in advance. In addition, we must provide and manage a forum for non-face-to-face discussions.

Figure 1-6. Image of Model 1

Therefore, it is expected that the burden on the faculty will be somewhat greater. This format can be applied to a wide range of class formats, from knowledge transfer through lectures to active learning classes that include individual work.

However, in this class, students will watch the main part of the class at any given time, making it difficult to manage and maintain their learning attitudes. There is a particular need to maintain and improve students' motivation to learn through assignment and achievement tests and discussions. In addition to clearly distinguishing one class, there may be an increase in the number of issues to be managed, as each class is expected to have its own issues and discussions. It is also a format that tends to place a greater burden on students, since the number of classes increases the number of tasks to be tackled.

動画・音声の配信を用いる
オンデマンド型授業

メリット
① データ通信量を抑えられる
② 学生は任意の時間に授業を受講可能
③ 幅広い授業に対応可能
④ カメラやマイクが必須ではない

デメリット
① 授業内容変更に伴う資料修正により
　教員の負担増
② 学生の学習態度や意欲の
　向上・維持が困難

● Model 2: Summary of on-demand classes using video/audio delivery

Merits

☐ Asynchronous classes where students download and view the video/audio version of the class.

✓ Students' data communication volume can be controlled compared to Model 1.

✓ Students can watch the full text of the class at any time.

☐ It is easy to adapt to active learning type classes because the assignments, etc. are required.

✓ It is possible to respond to a wide range of classes.

☐ You don't necessarily need a camera or microphone.

✓ Only when there is no real time discussion, etc.

Demerits

In some classes, there are many changes in content and assignments from face-to-face classes, so the burden on teachers is large.

☐ As the timing of issues and discussions is asynchronous, the burden of managing them and answering questions is likely to be large.

Figure 1-7: Image of Model 2

☐ It is difficult to maintain and improve students' learning attitudes and motivation.

✓ Support is needed for students to continue to attend weekly classes.

✓ Students tend to have more work to do with other classes they have taken.

3) Model 3: On-demand teaching using only teaching materials.

The third model is discussed in Chapter 4. This is also an on-demand asynchronous type of class. In this class, you will mainly use Moodle to deliver the main part of the class, as well as assignments, tests, and discussions. However, video and audio will not be used in the main part of the class. As in Model 2, students can take classes at any time and then work on assignments and tests and participate in discussions.
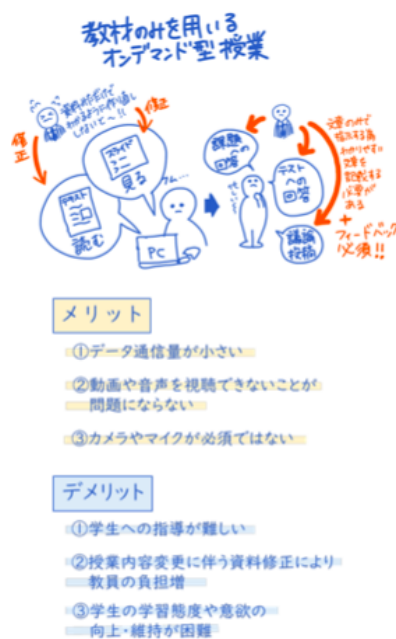
This format, like Model 2, does not qualify as a class if it only provides the main text of the class. In other words, in addition to the main part of the class, there should be "sufficient guidance" through question-and-answer sessions, assignments, achievement tests and feedback on them, and opportunities for exchange of opinions with students. For this reason, it is necessary to prepare assignments and achievement tests for each class in advance. In addition, we must provide and manage a forum for non-face-to-face discussions. Particularly in this class format, it is necessary to devise ways to provide students with a teacher's lesson without using video/audio. For example, it is necessary to provide sufficient guidance for students to read the textbook critically in advance. As a result of the above, it is expected that the burden on the faculty will increase in terms of major changes to the existing class materials.

Figure 1-8: Image of Model 3

The advantage of this format is that it can be applied to a wide range of class formats, from classes that use lectures to transfer knowledge, as in Model 2, to classes that include individual work, etc. In addition, this method does not use video and audio, so it is less likely to cause problems for students and faculty, and there is less concern about the loss of learning opportunities due to the inability to play video and audio.

However, in this class, students will watch the main part of the class at any given time, making it difficult to manage and maintain their learning attitudes. There is a particular need to maintain and improve students' motivation for learning through assignment and achievement tests and discussions. In addition, as in Model 2, each class requires its own issues and discussions, so in addition to clearly distinguishing one class, there may be more issues to be managed. It is also a format that tends to put a greater burden on students, as the number of classes increases the number of tasks to be tackled.

⚫ Model 3: Summary of on-demand classes using only teaching materials
Merits
Students' data communication volume is small because video and audio are not used.
　　☐ The inability to watch them is not a problem because video and audio are not delivered.
　　　　✔ Easy to accommodate students in a variety of settings
　　☐ Not necessarily needing cameras or microphones.
　　　　✔ Only when there is no real time discussion, etc.

Demerits

It is difficult to provide guidance to students because the classes depend only on teaching materials and materials.

✓ Assignments, etc. are required, but the instructions must be given in materials or texts.

☐ Teacher's burden is large because it is necessary to change the contents and assignments from the face-to-face class.

☐ Information that was originally explained in the class must be included in the materials.

☐ As issues and discussions become asynchronous, the burden of managing them and answering questions is likely to be greater.

☐ It is very difficult to maintain and improve students' learning attitudes and motivation.

✓ Students are required to read and read the materials and work on the assignments independently, so it is difficult to improve their motivation to participate in the class.

✓ Support is needed for students to continue to receive weekly classes.

✓ Students tend to have more work to do with other classes they have taken.

Chapter 2: Simultaneous Interactive Classes

Section 1: Overview

This chapter describes a class format in which students interact simultaneously and interactively with each other online. This class format describes how to teach by web conferencing with students over the Internet. This case is No. 5 to 9 out of 10 cases. In this chapter, you will learn how to use Zoom to interact with students in real time.

Section 2: Preparation.

1. The following equipment and materials are recommended for simultaneous interactive classes.

⬤ Equipment and Fixtures
- ☐ Personal computers and peripherals
  - ✓ Personal computer
  - ✓ Headsets (Microphone, Headphones)
  - ✓ Webcam
- ☐ Communication environment
  - ✓ Wireless and wired networks with unlimited data transmission capacity
- ☐ Application: Web conferencing services such as Zoom
  - ✓ In this article, we will explain the use of Zoom.
  - ✓ Learning management system 'Moodle'
  - ✓ LMS or e-learning system that can be used at the University.

⬤ Teaching materials
- ☐ Classroom materials:
  - ✓ Textbooks, slides, handouts, etc. Manuscripts for lectures

2. Preparation for Class Delivery

1) Installing Zoom

All faculty members have registered their Zoom accounts with the e-mail addresses given to them by Hokusei Gakuen University. Activation is required prior to use. By doing this, you will be able to use your account. Open the "Zoom Account Invitation" e-mail sent to your @hokusei.ac.jp e-mail address, and click the button or the URL in the e-mail. Follow the instructions on the screen to activate the software. Enter your name, password, etc., in the space provided on the screen. You are now finished setting up your account. Make sure you can log in to Zoom with your account, and ignore the invitation window that appears.

Next, install the Zoom application on your computer. You can download Zoom from the Download Center on the official website or from the "Zoom Clients for Meetings" section. Make sure you have the latest applications installed to keep your web

conferencing secure. After launching Zoom, the start screen as shown in Figure 2-1 will open. If possible, start Zoom and test your own camera and microphone before you start the class.

図 2-1　Zoom の起動画面

2) Distribution of class materials

Use Moodle if you want to distribute class materials to your students in advance. Please connect to Hokusei Gakuen University Moodle and log in. Select the appropriate department from the course category, and then select your own course. A list of the classes you are assigned to is also displayed in the upper right-hand corner of the screen under "My courses", which you can select from here. After selecting a class, click "Open Edit Mode" on the upper right

Press the "Start" button. Editing of each class makes it possible to arrange topics from 1 to 15, for each class week. In edit mode, you can also rename the topic. By changing the title (topic) of each class to match the content, you can view the overall structure of the class on the course screen.

Figure 2-1. Zoom startup screen

It will be a good idea to have a few of them. Upload the handouts for each session in the topic. Such can be done clicking "Add an activity or resource". Clicking on it will open a list of features that can be added. File" located in the "Resources" column at the bottom
and click "Add". In the name field, the file's name. Enter the name of the entire file to be added (e.g., the first handout). The description field can be left blank. If there are any notes on the file, they can be filled in as a matter of convenience.

Figure 2-2. Edit mode button for course page

Enter the file you want to upload in the "Select File" field. Drag and drop the file you want to upload into this field to upload it. When you have finished uploading, click on "Save and return to course" or "Save and view" at the bottom. Clicking "Back to Course" will take you back to the list of class topics (course screen). Select "Show" to see the activities or resources you have just saved.

Topics and activities or resources can be hidden from students. On the screen where the topic is listed, click the 'Edit' button to the right of each topic, activity or resource. If you select "Hide topic", the topic will not be visible to students. You can also select "Show Topic" from the pull-down list to make it available to students. Please use this as you prepare for class.

Although the slides and materials displayed on the computer can be displayed during class delivery using Zoom, they may not be fully visible depending on the receiving environment of the class. For example, due to a poor communication environment, explanations may be interrupted and missed, or the text on the slides may appear small because they are viewed on a smartphone. For this reason, we ask that you upload class materials as far in advance as possible.

3) Schedule class delivery.
Zoom allows you to schedule class delivery in advance, and you can access the meeting with an invitation URL or a meeting ID + password. By reserving the class delivery schedule, you can prepare a meeting invitation URL and meeting ID + password in advance and pass this information on to your students in advance. Students can join the class by entering this invitation URL or meeting ID + password and opening Zoom before the class starts. The scheduled faculty member will appear as a reserved meeting on the right side of the Zoom start screen. You can start a Zoom web conference by pressing the "Start" button.

This appointment can be made from the "Schedule" menu in the Zoom start screen. Booking your schedule for all classes saves time. The method is described in detail in the "Delivering Lecture Videos to Conduct Online Classes" section. The Invitation URL and Meeting ID + Password for the class will be displayed on the Schedule Reservation screen. Either the invitation URL or the meeting ID + password must be provided to the student in advance. There are two ways of communicating this information to students: uploading it to Moodle, or e-mailing it to them. Refer to Chapter 2, Section 2.2.2-4 for information on contacting students.

Figure 2-3 Zoom's schedule reservation screen.

Alternatively, if you use Moodle, you can create a link to any URL by clicking on "Add Activity or Resource" and selecting "URL". By entering the invitation URL in the "URL", students taking the class will be able to access Zoom. Please send an e-mail notification to the student's e-mail address with the invitation URL or meeting ID + password. If you are sending an e-mail to multiple students at once, please assign each student's e-mail address to BCC, and make sure that no other students see the e-mail address of each student. Moodle can also be used to send a batch of e-mails to students who have registered for the class. Detailed instructions on how to use Moodle can be found in the "Moodle User's Guide". As a general rule, the invitation URL for Zoom must be provided in Moodle. In addition, please make a separate note of the URL of the invitation, etc., so that it can be communicated to students via e-mail or other means as appropriate. If students access Moodle at the same time as the class starts, the Moodle server may be overloaded and temporarily unable to access it. If you have a separate invitation URL, you may be able to send it to students by other means (such as e-mail) if you can no longer access Moodle.

By default, an invitation URL, meeting ID and password will be issued each time you schedule. This means that different URLs and IDs will be used in each class. When your next class date is set, please make an appointment on the "Schedule" page as soon as possible and pass this information on to your students. By changing the URL each time, it is easier to prevent unintentional participants from intervening in the class. If you use a personal meeting ID, you can use the same URL each time, but there is a risk of leakage of the personal meeting ID. If your personal meeting ID is compromised, other classes and meetings can be attended by people who know your personal meeting ID and password. Personal meeting IDs should not be used in class.

Hokusei Gakuen University will sign up for Zoom's paid service in May. In the free service, a web conference of three or more people is limited to 40 minutes, but if you register Zoom with the account of @hokusei.ac.jp (see Chapter 2, Section 2 2-1), this limitation will be lifted. Therefore, when classes are held at the University using Zoom, you can use Zoom meetings with no time limit.

4) Communicate to students how to conduct classes (Zoom meeting information)
In order to conduct interactive classes using Zoom, students must be given an invitation URL or meeting ID + password in advance. As it is difficult to contact students via e-mail, especially for the first class, it is recommended that they be listed on Moodle. Please provide students with an "Invite URL or Meeting ID + Password" for each class, "Class Start Time", and "Promise to Attend Class (Zoom Meetings)". The "Meeting Promises" section includes class rules that you want to communicate to students beforehand, such as how to ask and answer questions and how to display the names of participants when they attend a meeting. Please refer to the "Communication Examples.pdf" section of Moodle for details on how to put this information into Moodle or upload it to Moodle.

After the second week of classes, you can send an invitation URL to those who have taken the class in advance by e-mail or other means. There are two ways to send a message using Moodle: by using "Announcements" and by sending a message from a list of "participants".

There are two main ways to send a message. You can also download a list of enrolled students in advance and send them class information via Outlook or other e-mail software.

The first option is to contact students by posting on the "Announcements" located at the top of each course. Announcements will be e-mailed to students one hour after they are posted. Therefore, the URLs for class invitations, etc., and the upload of class materials, etc., can be notified. Please note, however, that the content of the e-mail does not include class information.
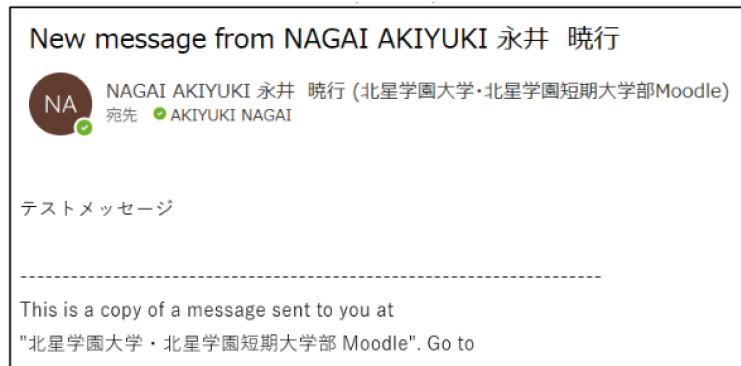
Figure 2-4 Example of an e-mail notification from an announcement

When contacting students in this way, be sure to include the name and contact information of the teacher and the fill in the name of the class. If you would like to provide the invitation URL for a simultaneous interactive class, please post it to the announcement with the date and time of the class, invitation URL, meeting ID + password, and other necessary information.

Next, there is a way to send a message from the "Participants" list. Click on the "Participant" link in the navigation block on the right side. Select all the students who are enrolled in the course from the list.

Figure 2-5 Display of the "Participant" list

Then, "For the user of your choice. pull-down menu, then select Send Message. The window for entering a message will be displayed. When contacting students in this way, as above, class information is not automatically included. Please be sure to fill in the name of the class.
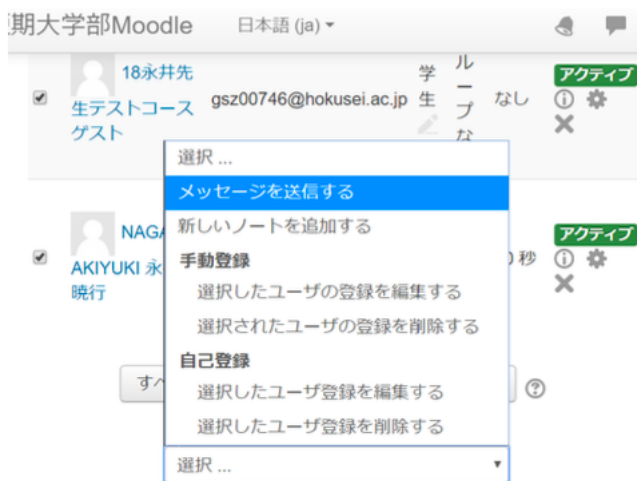
Figure 2-6 Selecting to send a message

Finally, you can download the list of enrolled students and send them class information by e-mail or other means. In the section where the announcements are located (before Topic 1), click Add + activities or resources and select the Attendance feature to add them. Select "Save and display" at the bottom of the screen to edit the "Attendance" function. Then add at least one session of your choice (usually for each class) from the "Add Session" tab. Next, specify the information and format that you want to export from the [Export] tab.

Figure 2-7 Adding a session and then exporting the enrollment list

Here, you need to get the e-mail address, so check the "User Name" box. Click "OK" to download the list of enrolled students. 6-digit user name and @hokusei.ac.jp will be added to the student's e-mail address. This will allow you to send an e-mail to all of your

students. However, for information protection purposes, we ask that all student e-mail addresses be set to BCC when sending mail. This section does not describe how to manage attendance using Moodle. For more information, see "Moodle User's Guide - Teachers' Guide", page 14. In the above explanation, it is not used as an attendance function, so it is recommended to hide it from students.

Figure 2-8 Functions that are not used for classroom management can be hidden.

Section 3: Implementation of Simultaneous Interactive Classes
Access to scheduled meetings. Connect to an interactive class that you have set up as a pre-scheduled meeting. Open the Zoom start screen. Press the "Start" button. You will be asked to access audio and video, and you should allow these accesses. Allowing audio will allow you to use audio, and allowing video will allow you to see yourself. You can also turn off the video if you don't want to see yourself in the picture. Deny video permissions when you join the meeting, or click the "Stop Video" button located to the left of the menu at the bottom of the meeting screen.

When a student joins a class, he or she will temporarily enter the waiting room. There will be no audio or video in the waiting room. When a student enters the waiting room, a message will appear on the screen indicating that the student has entered the room.

2. Start of the class
When it's time for class, the participants are ready to gather, and the class begins.
This can be operated from the buttons on the menu displayed at the bottom. Press the button marked "Mute" to mute the sound. When you are muted, your partner cannot hear you. The "^" on the right allows you to control the main audio functions such as microphone and speaker switching. You can cut the video by pressing the button marked "Stop Video". The other party will not be able to see our image. If the profile image is set, the profile image is displayed; otherwise, the name and other information is

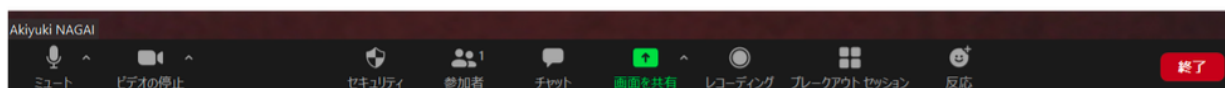displayed. In the example in Figure 2-9, only "Akiyuki NAGAI" is displayed instead of the camera's image.

Figure 2-9 The Zoom menu.

The basic layout of Zoom includes "Gallery View" and "Speaker View". In the gallery view, each participant is shown on the screen, allowing you to see the video of each participant during the meeting. As the number of participants increases, the video for each participant will be smaller. In speaker view, one speaker is projected onto the entire Zoom. This makes it easier to see who has spoken. The other participants are usually displayed in a smaller size at the top or elsewhere. This is set by each participant individually. This setting is set to the right of the Zoom screen.

Click on the "Gallery View/Speaker View" text above to switch between them. Students have a basic gallery view. Encourage students to use the speaker's view in a way that makes it easier for them to see the teacher and the speaker.
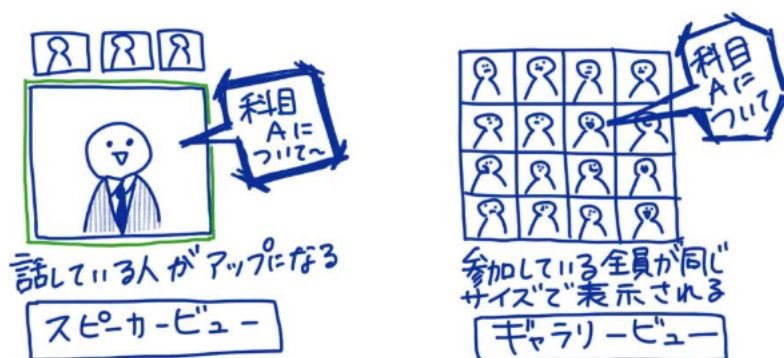
Figure 2-10 Images of Speaker View and Gallery View

This is a basic description of the Zoom screen. With this in mind, here are some useful features to help you run your classes.

1) Screen sharing
You can view the screen that your computer is displaying. In the screen sharing function, you can share each application, the screen of the PC itself (except Zoom), and the whiteboard. First, click [Share Screen] at the bottom of the screen, and select the application, etc. according to your purpose.

First of all, for each application share, the currently open applications are displayed in a list. Click on the one you want to share, and then click the "Share" button at the bottom

right. The application will be shared with the participants. By default, the application is displayed on the full screen and the sharers are displayed in a smaller size. This method of sharing is suitable for classes where the instructor provides commentary while the students are shown PowerPoint.

Next, if you want to share your computer's screen itself, select "Screen" from the top left of the list of shares. When you select this option, the screen displayed on your computer will be shared with the participants. Therefore, it can be used when you want to show how multiple applications are operated in turn. However, because the screen is shared, the desktop screen and applications and programs that are not intended to be shared may be displayed depending on the operation. Also, this method does not allow you to share what you are doing with Zoom.

Finally, you can also share the whiteboard. Select the "Whiteboard" in the share list and click.
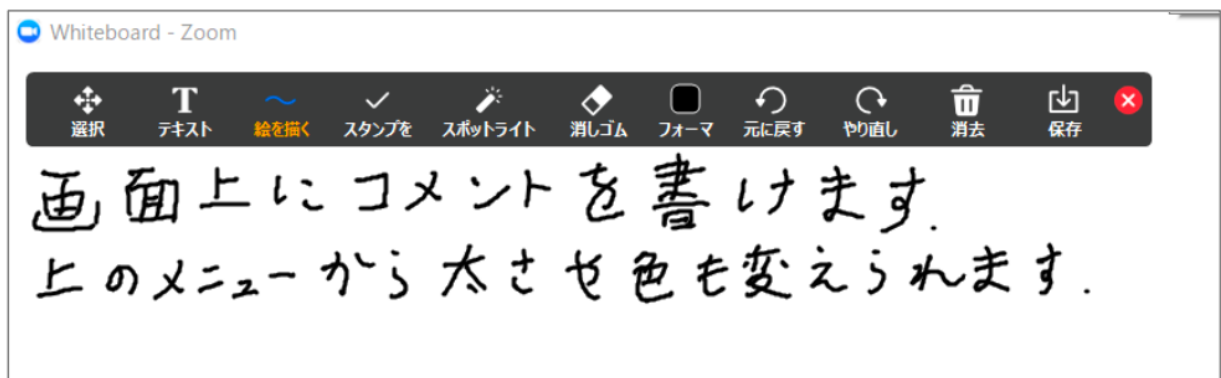

Figure 2-11 Whiteboard sharing.

Selecting this will bring up a white screen. When sharing the whiteboard, the handwritten comment on this screen. You can enter text or text.

In addition to whiteboard sharing, the screen sharing function allows you to add comments and text to the shared screen. You can also take a screenshot of the comments and text by clicking the "Save" button on the right side of the comment menu. Please note that comments are not saved in shared files, etc. In addition, by default, both the participants who have shared the screen and those who are watching it can write comments on the screen they have shared. If only faculty members want to comment, go to Security in the Zoom menu and uncheck "Allow participants to follow:" and "Comment on shared content".

2) Communication with students.

Zoom is a web conferencing system, so you can communicate with it through conversation. However, please use the chat, response, and raise hands functions for communication other than conversation.

Figure 2-12 Using chat for questions and answers

Figure 2-13 Utilization of Raise Your Hand and Agree button

First, there is a "Chat" button at the bottom of the Zoom screen. Click on this to open the chat screen. You can send sentences by typing characters here. You can choose who you want to send to, either as a whole or as individual targets.

Next, there is a "Reaction" button at the bottom of the Zoom screen. Click on it to select "Applaud" or "Agree". If you select one of these options, the selected icon will be displayed in your window, and others will be able to see it.

Finally, click Manage participants on the Zoom screen to open the list of participants. From this list, you can grant or forbid various permissions to individual participants. Students can click on the "raise your hand" button at the bottom of the list.

You can raise your hand by clicking on it. If you raise your hand, the student's account in the list of participants will be marked with a ✋ . Any student who raises his or her hand may lower it. You can also let your hands down from the faculty side.

As mentioned above, there are many ways for students and faculty to communicate with each other. Therefore, the use of icons and rules for speaking can be made in advance and instructed to students in the first class for smoother class management.
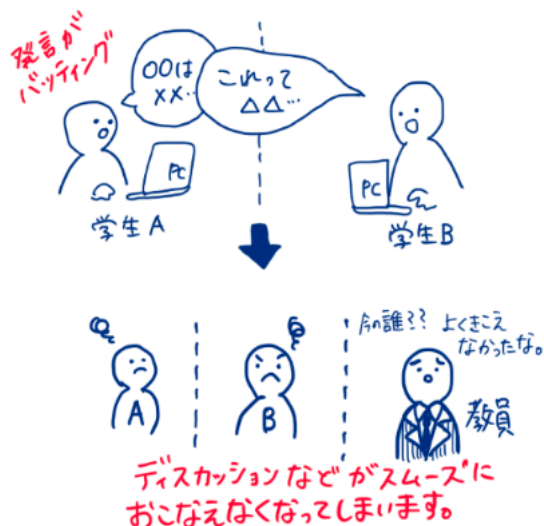
Figure 2-14 The case where no rules have been established

For example, it is a good idea to decide in advance that students should speak after raising their hands and with the permission of the instructor, or that they should give their names before speaking, or that they should applaud what they find interesting and agree with what they understand, or that they should chat about their questions.

In addition, it is easier for students to make comments by deciding in class whether to accept questions and answers in the chat at any time or to set a separate time for questions and answers. It is recommended that these rules of communication be communicated in advance, as described in Chapter 2, Section 2-4.

Figure 2-15 The case where the "raise your hand when speaking" button is specified

In addition, the account names of the participants will be displayed when the class is in Zoom. For example, "Akiyuki NAGAI" on the left in Figure 2-9 is one of them. By default, this account name can be set to any participant. The rules for setting account names can be decided by each faculty member for each lecture. If you need the participant's name or student ID number to communicate with the student, tell the student to use the name and student ID number as the account name.

Figure 2-16 Changing a name (account name)

On the other hand, if you don't want to use the account names of individual students in a lecture, etc., please tell the students that you don't want to specify their account names, such as initials or handle names. If you are able to communicate these rules in advance, please include them in Moodle (see Chapter 2, Section 2-4).

3) Recording the class
In the simultaneous interactive classes using Zoom at Hokusei Gakuen University, we ask you to record the classes as a general rule (as of May 8, 2020). The purpose of class recordings is, first, to provide information security for students who are unable to connect, and second, to provide information security for students with disabilities. In the case of simultaneous interactive classes, it is often possible to miss a class due to equipment problems or communication problems. The purpose of the recording is to be prepared to look back at the class later. In addition, as shown below, it is relatively easy to record simultaneous interactive classes using Zoom, and the objective is to use this to support students with disabilities. In addition to these purposes, the recordings can be shared with students and used to review lectures. In addition, the recorded class videos can be used to improve the lessons for teachers to check and review the content of the lessons themselves.

However, please do not upload your recorded class videos directly to Moodle when sharing them with students. This is due to the limited capacity of Moodle. If you would like to share the video with students, log in to OneDrive with your Hokusei Gakuen University account, share the uploaded video on OneDrive, and send the URL to the students via Moodle or e-mail. Detailed methods are described in Chapter 3, Section 3, 1-1, and "Moodle Asynchronous Classroom Edition for Running Online Classes".

To start recording a class, click the "Recording ◎" at the bottom of the Zoom screen. You can choose where you want to save the recorded files. When you select "Record on this computer," the default setting is your computer's "Documents".

Figure 2-17 Zoom's recording button.

A folder called "Zoom" will be automatically created in the "Zoom" folder and the videos will be saved for each meeting. Select "Recording to the Cloud" to save the recorded classes in the "Cloud Record" on the Zoom web portal (My Page). However, the storage capacity on Zoom is limited to 1GB, and it is said that it can only record 2-3 hours. If the capacity exceeds 1GB, no new recording to the cloud will be possible. When recording to the cloud, be sure to download the recorded video and other data to your computer and delete the data in the cloud after recording.

Figure 2-18 Saving screen of cloud recording

It is also important to note that the screen that is recorded is different between recording on a computer and recording in the cloud. When a teacher records on a computer, the recorded image is saved in the same layout as the teacher's screen. In other words, if the faculty member has set up "Gallery View" so that he or she can see the faces of all the students, then "Gallery View" is recorded, and if he or she has set up "Speaker View" so

that he or she can see the speakers, then "Speaker View" is recorded. On the other hand, when recording to the cloud, the recorded video is fixed in "speaker view". In other words, even if the teacher's Zoom screen is set to "Gallery View", the recorded image will be set to "Speaker View". Whether you record to your computer or to the cloud, the shared screen will be recorded.

As mentioned above, in principle we ask you to record your classes, but this does not apply to the following cases.
⬤ If we can agree with all students that recording is not necessary.
For example, in the case of a small group of people, where all members can agree on a proposal.
⬤ In the event that the instructor determines that sufficient information can be provided to the student who was unable to access the class by means other than recording.
⬤ Other cases where the instructor or student can clearly determine that recording is not necessary.
For example, in on-demand classes, a place for simultaneous interactive question-and-answer sessions during class time.

4) Assignments to groups.
Zoom's "Breakout Room" function can be used to divide the participants into small groups, such as in a practice class. To use this function, please turn on the breakout room function in the "Settings" of My Page in Zoom, "In Meeting (Details)" in advance. This will cause the "Breakout Room Field" button to appear at the bottom of the Zoom screen.

Figure 2-19. Breakout room used to break students into groups

Click on this to specify the number of rooms (sessions) to separate the participants. In addition, you can choose to assign participants automatically or manually. The breakout room can also be automatically closed by opening the options.

Figure 2-20 Breakout Room Setup Screen

When using a breakout room, it is important to note that when participants are assigned to each room, they will not be able to receive the audio and video of the main session. In addition, you cannot receive audio or video from other rooms to which you have not been assigned.

Figure 2-21 Breakout Room Specification 1

Teachers (hosts) who remain in the main session will not be able to see the rooms. In order to know what is going on in each room, the teacher must attend each room in person. Faculty members (hosts) are free to move back and forth between the main session and each room. Students are not initially allowed to move to a room they are not assigned to at any given time.

Figure 2-22 Breakout Room Specifications

The breakout room function is useful when students are having discussions with each other in a seminar class. However, the discussion in each room will be left to the participating students and it will be difficult for the faculty to facilitate. Therefore, before you begin the breakout session, you need to make sure that the topic of discussion is clear and invites discussion. In addition, since it is not possible to know what is going on in other rooms that you are not participating in, it is possible to provide time at the end of the breakout session for the representatives to summarize the discussion in each room and make a presentation. As mentioned above, a teacher (host) can visit each room, but it is difficult to control the discussion in each room, so it is better to allocate a small number of people to each room. As described in "(2) Communication with students", online communication is more difficult than face-to-face communication, and the larger the number of people in each room, the more likely it is that we will not be able to discuss satisfactorily. Please use 3 or 4 people in each room as a guide. As the class progresses and relationships between class participants are built, we may be able to have discussions in larger groups.

5) The end of the class
When the class is over, end the meeting in Zoom by clicking on "End Meeting" in red at the bottom right of the Zoom screen. At the end of the meeting, select "End the meeting for all".

Figure 2-23 Ending the Meeting

The following is a list of features to ensure the safe use and smooth operation of interactive classes.

1) Ensure the security of the invitation URL for the class and the Meeting ID + password.

You may find it cumbersome to schedule meetings for each class and issue an invitation URL and meeting ID + password for each. However, we can prevent those who are not planning to attend the class from doing so by issuing them each time and making it impossible to attend the class without knowing each invitation URL or meeting ID and password. Please do not make these URLs available to an unspecified number of people, but only to students participating in the class via Moodle or e-mail. In particular, if you use another person's work beyond the scope of the citation, "public transmission" of the work without permission or charge is permitted only for the purpose of class use. In other words, if a class is made accessible to non-degree students, the use of the work may not be considered for the purpose of the class, or it may be determined that it unreasonably harms the author's rights, which may result in copyright infringement. It should be noted that only some works will be permitted without permission or charge, and the period will be limited to the fiscal year 2020. For details, please see "Distance Learning and Copyright System".

2) Countermeasures against suspicious accounts that disrupt classes through "waiting rooms.

By using the waiting room function described above, you can prevent suspicious accounts from participating in class. There is no audio or video of the class in the waiting room. The words and actions of the participants in the waiting room also cannot influence the class. Therefore, any suspicious account participation can be kept in the waiting room.

However, if a student's account is in the waiting room, there is no way to approach a faculty member in class from the waiting room within Zoom's services. Please note that if you miss a student's participation in the waiting room and do not allow him or her to participate in the class, he or she will not be able to take the class. Check the "Participant Management" section frequently, or make arrangements to contact students outside of the Zoom as appropriate.

The presence or absence of a waiting room can be specified from "Advanced Options" at the time of meeting reservation, or from "Security" on the Zoom screen.
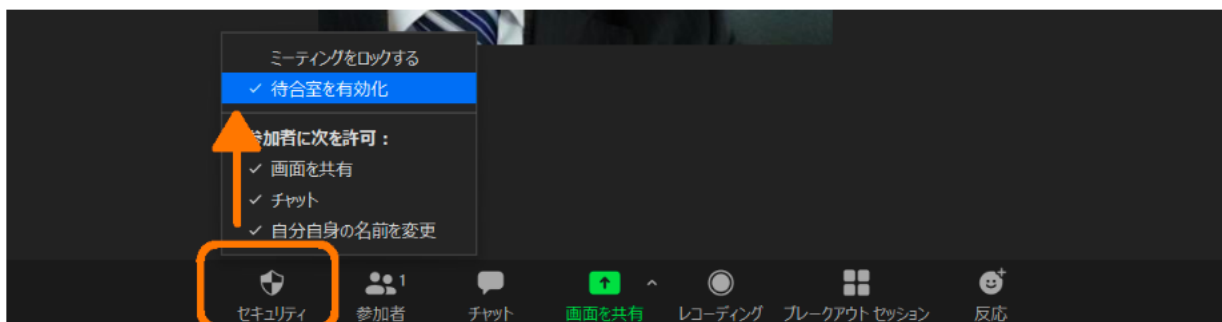

Figure 2-24 Enabling/disabling the waiting room 28

Enabling the waiting room will prevent suspicious accounts from participating, but on the other hand, regular participants will not be able to participate in the class without permission from the instructor. If the number of students enrolled in a class is high, it is expected that there will be a lot of work to allow them to participate in the class. Be flexible according to class format and number of students.

3) Student permissions management - screen sharing.
In order to run the class smoothly, the authority of the participants can be managed by the faculty (host). Click on 'Security' at the bottom and uncheck 'Share screen' from 'Allow participants to'. If this is unchecked, only faculty members will be able to share the screen. When the check is in place, students can share their own screens at any time, which may interfere with class operations. If you want students to share their screens with you, check this "Share screens" checkbox.

Figure 2-25 Security Setup Button

When you share a screen, click on "Security" at the top of the screen and uncheck "Allow participants to follow:" and "Comment on shared content. If this check is unchecked, only faculty members will be able to write comments on the shared screen. When the check is in place, it is possible for participants to write text on the screen they have shared, which can interfere with class operations if they are malicious. If you do not expect students to write on the shared screen, uncheck the box.

4) Student Authority Management - Voice.

In order for the class to run smoothly, the authority of the participants can be managed by the faculty (host). Click on "Manage Participants" at the bottom to open the list of participants. From this list, you can grant or deny various permissions to individual participants.

Figure 2-26 Participant management buttons

A particularly important authority management is voice mute. It is recommended that you mute the voice of the non-vocal speaker so that he or she cannot speak, since web conferencing can contain trivial audio. There is a "Mute All" button at the bottom of the participant list. Select "Yes" when the message "All participants and new participants will be muted" appears. At the same time, uncheck the "Allow participants to unmute themselves" checkbox. This means that the student's voice will no longer be reflected in the class. In addition, teachers (hosts) can manage the students' voices at once or individually. If you uncheck the "Allow participants to unmute themselves" checkbox, only teachers will be able to unmute. When a check is made, the participant can use their microphones.

It is possible to make remarks at the right time and interfere with class operations if the participants are malicious. To allow an individual student to speak, move the cursor over the student and click Unmute. Mute it again after you have finished speaking to prevent unintentional audio from entering the class.

5) Student Authority Management - Recordings
By default, only the teacher (host) can record the meeting. There is also a button at the bottom of the student's screen that says "Record", but when the student tries to press this button to record, the recording does not begin and the message "Request permission to record from the host of the meeting" appears.

If you want to allow each student to record a class, click Manage Participants to open the list of participants. Hover over the student you want to allow to record, click the "Details" button, and then click "Allow Recording". After approval, recording is possible.

6) Student Authority Management - Host
In a Zoom meeting, the host is the host with administrative rights. The host has various management rights as described above. You can delegate this host authority to others as needed, but be careful not to transfer the host to a student in class. Transferring the host to a student will allow the student to finish the class, give permission to speak, etc.

7) Student Authority Management - Chat.

In addition to audio and video communication, Zoom is equipped with a text communication function using chat. As shown in Chapter 2.3, Section 2-2, the chat function allows you to communicate with students through textual information. Chat can be "public," where messages are sent to all participants, including the host, or "private," where messages are sent only to specific individuals. If you chat in "private", other participants will not be able to see the content. Therefore, the use of private chat makes it possible for specific students to exchange messages with each other. You can choose to have a private chat with anyone in the meeting. Therefore, if there is a malicious participant, for example, there is a risk that a specific individual may be harassed by the private chat in secret. Therefore, this document recommends that, as a rule, private chats between students be prohibited.

Here's how you can limit the chat feature for participants First, click Chats from the menu in your Zoom meeting. Next, the chat window (click on it) is located above the field for entering the chat. Click to control the participant's chat operation. Choose "Make everyone public" to prohibit private chats between participants. This prevents students from having a private chat, and the chat is always a message to everyone.

Figure 2-27 Chat selection.

Select "Host Only" if you want to limit the number of people to whom you can send messages using the chat to teachers. Change if necessary.

Select "None" if you want to prohibit all of them.

Figure 2-28 Restricting participant chats

4. Notes on the implementation of simultaneous interactive classes

1) Students' use of microphones and videos. Zoom allows for simultaneous interactive teaching. As the word "interactive" indicates, the class using Zoom can use not only audio and video from the instructor, but also audio and video from the students. However, due to various issues such as privacy and class recording described below, the University does not allow students to show their faces in simultaneous interactive classes. However, if a student's appearance is required due to the contents of the class, etc., please explain this to the student and ask the student to present himself or herself after obtaining his or her consent. Not all students have access to the microphone video, depending on their home and study environments. Please be aware that there is a diverse learning environment, and please be considerate not to make showing your face as a condition for attendance or earning credits.

2) Difficulties in communication.

In a simultaneous interactive class using Zoom, it is difficult to feel other people's reactions depending on the picture quality and mute status. Even if a faculty member is teaching a class, it is easy to fall into the sense that the class is being taught in the absence of a response from the students, and conversely, it is easy for the students who are watching the class to see the class as indifferent. For this reason, try to speak in a clearer, slower voice than usual in interactive classes. Also, express your feelings in a larger than usual way. In addition, actively incorporate non-verbal chat and "reaction" communication.

There are similar difficulties in encouraging students to speak up. It is likely that many students will be more cautious about what they say than in face-to-face classes. Unlike face-to-face classes, eye contact is quite difficult, and it is expected that the change of speakers will not go smoothly. The teacher should act as a facilitator and create an atmosphere that permits speech more than face-to-face classes.

3) Consideration for privacy, etc.

Zoom uses audio and video to communicate with you. However, some students may not be able to provide equipment such as microphones or personal computers with cameras, or may feel uncomfortable with the fact that their voices can be heard by others through microphones or that they can see themselves through cameras. As a result, some students are not able to make speeches in the audio and others are not able to project images on the camera.

In addition, audio from around faculty members and students, or images from your own room, may be reflected. These issues lead not only to psychological problems in terms of invasion of privacy, but also to the issue of exposure of the daily lives of faculty and

students. To solve this problem, you can set a virtual background in Zoom, but this function is not available depending on the version of Zoom or the performance of your computer.

As mentioned above, it may lead to stalking or harassment in some cases, so please be careful when using cameras to transmit images, and please do not force students to use audio or video.

4) Management of Attendance
Zoom(ver.5.0.1) does not have an attendance management function. Therefore, when you try to check attendance on Zoom, you have no choice but to use chat or roll call. This method is less problematic in a small class, but it would be difficult to use this method in a large class. In addition, some students may not be able to attend classes smoothly due to communication problems or equipment problems.

In light of the above, we ask that you be more flexible with regard to attendance. For example, to submit issues by the due date. Moodle's "Assignments" function gives you a time frame for accepting assignments, so you can ask students to submit their impressions and comments about the class, and then take them with you to attend (see Chapter 3, Section 2.3-1).

Chapter 3: On-demand (asynchronous) classes using video and audio delivery

Section 1: Overview

In this chapter, we describe on-demand asynchronous classes in which the instructor provides classes using video and audio, and the students take the classes at their own timing. In this class format, class videos (audio) and materials are uploaded via the Internet for students to view and listen to. In addition, students will be asked to tackle issues and discussions prepared by the teacher in advance. Tele-teaching at Hokusei Gakuen University.

Fig. 3-1 Image of an on-demand class
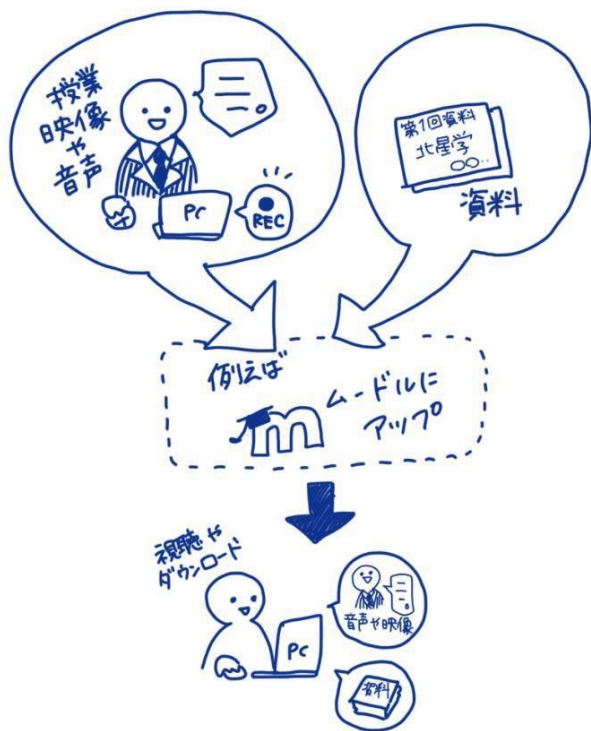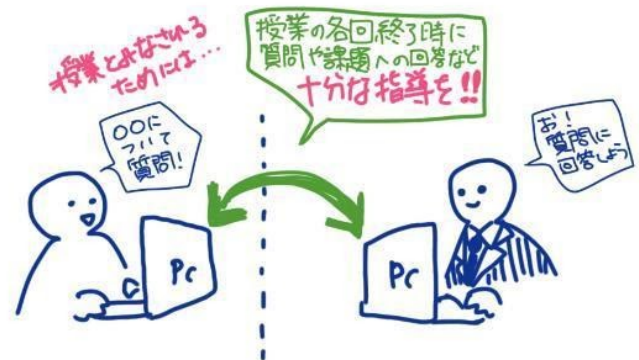
These cases are Nos. 2~4 and 10 out of 10 cases in the "Image of Education" section. Note that on-demand classes include cases in which only class materials (No. 1) are prepared, but this chapter will only discuss cases in which video and audio materials are included. Please refer to Chapter 4 for the delivery of class materials only.

In the case of on-demand classes, the conditions for the formation of a class are that sufficient guidance is provided at the end of each class, such as a question-and-answer session and responses to the assignment, and that opportunities for discussion are provided between the instructor and students or between students.

In other words, viewing materials or watching videos alone is not acceptable as a class. In particular, in lectures where the main focus is on knowledge transfer from the instructor, it may be necessary to devise issues and opportunities and themes for discussion at the end of the class.

Figure 3-2 Conditions for the establishment of on-demand classes

In this chapter, we will mainly focus on video/audio delivery, Moodle-based assignment submissions, Moodle-based achievement tests, and discussions using Zoom and Moodle respectively. When you combine the delivery methods, student engagement, and discussion opportunities of the following class volumes, you have eight different class formats.

⚫ Delivery of the class
  ☐ Delivery by video
  ☐ Delivery by audio
⚫ Adequate Guidance (1): Student's Approach
  ☐ Work on assignments and submission and feedback
  ☐ Response to achievement test and feedback
⚫ Adequate Guidance (2):Discussion
  ☐ Real-time discussions with Zoom
  ☐ On-demand discussions with Moodle

One of the major features of on-demand classes is that they do not limit the time students can take them. Students can take classes according to their own schedule. As a result, teachers are required to pay more attention to student participation in the class than in real-time interactive classes. Use class viewing periods and assignment deadlines to manage your students' progress and learning.

Section 2: Preparation.
The following equipment and teaching materials should be used in the preparation of classes that are based on the delivery of classes and work on assignments.
It is recommended that you prepare the following However, the materials used will vary depending on the content of the class to be delivered. Since the video and audio recordings have to be made in the absence of students' reactions, they may feel different

from normal classes. In order to ensure that the content of the lesson is what you intend, you must prepare a manuscript of the lesson in advance.
It is recommended that you be aware of this.

⬤ Equipment and Fixtures
- ☐ Personal computers and peripherals
- ☐ Personal computer
- ☐ Headset (Microphone, Headphones)
- ☐ Webcam
- ☐ IC Recorder
    - ✓ When the transmission is made with audio instead of video, a camera is not needed and an IC recorder can be used.
    - ✓ The voice memo of the built-in smart phone can also be used
- ☐ The communication environment
- ☐ Internet environment
    - ✓ Internet environment is required when you upload the documents.
- ☐ Application.
- ☐ Web conferencing services such as Zoom
    - ✓ In this paper, the video delivery method is based on the use of Zoom.
- ☐ PowerPoint.
    - ✓ You can insert audio into each slide of the class created by PowerPoint.
- ☐ Learning management system 'Moodle'
    - ✓ Learning Management System; one of the things called LMS, or e-learning system, etc.
- ☐ Cloud service "OneDrive
    - ✓ It is used for saving the video or audio.
    - ✓ You can use Hokusei's e-mail address (@hokusei.ac.jp).

⬤ Teaching materials
☐ Classroom materials
Textbooks, slides, handouts, etc. Manuscripts for lectures.

2. Choice of content and precautions for delivery
Before you begin to prepare for the class, you must decide how you will deliver the content of the class. In this section, the video describes the delivery of class content via audio. The following are examples of each delivery method and points to consider when choosing your own delivery method.

1) Distribution by video and caution.
In the case of video delivery, one person will hold a web conference using Zoom and film the video. See Chapter 2, Section 2-1 for information on how to introduce Zoom, and Chapter 2, Section 3, Section 2-3 for information on how to use Zoom to record your

class. We recommend that each class video should be no more than 10 minutes long, or at least 15 minutes long. There are three reasons for the short division.

Figure 3-3 Risks of long-time recording/recording

The first reason is that it can be very difficult to stay focused while watching video. Longer classes Forcing students to watch videos can be both intensely and physically demanding. Students are often taking other classes besides the one in question, and it is expected that they will become fatigued from taking so many classes online. Structure the lesson so that there is a reasonable amount of break time by breaking up the videos into short segments.

The second reason is that it is not always possible to secure a large amount of study time. The asynchronous classes introduced in this section are characterized by the fact that students do not specify when they will take the class. As a result, there is a possibility that students may not be able to set aside long periods of study time to watch classes due to family circumstances.

Third, lengthy recordings can put a lot of strain on teachers. Unlike the usual face-to-face classes and the real-time classes introduced in Chapter 2, the class must be conducted with no student response at all. I think that for many teachers, it is painful to continue teaching alone at a computer screen. Please try to keep the sections short so that teachers can take moderate breaks and maintain their concentration. Also, when you try to record a long period of time, you may make a mistake in the middle of the recording and the recording may fail; you may be able to reshoot a 5-minute class, but what if you have to reshoot a 90-minute class? By separating the videos into short sections, you can prepare for mistakes when you record a lesson.

2) Audio delivery and attention
There are two ways to deliver audio, one is to deliver audio only, and the other is to insert audio into each PowerPoint slide. With the audio-only delivery method, students listen to the delivered audio while referring to class materials and text; with the insertion of audio

into each slide in PowerPoint, students can download PowerPoint and perform a slideshow to listen to a commentary on each slide. Unlike video distribution, audio-only distribution does not require the use of a camera. Therefore, the burden of equipment preparation on the part of teachers is reduced.

It is important to note that, as in the case of video, the recording should be shortened and not be accompanied by video. In the case of audio-only delivery, the audio itself is not connected to the teaching material, so the pages and sections of the textbook and class materials should be specified more carefully. The same is true for video, but since it is difficult to flexibly modify the class based on student responses, please be sure to speak louder and clearer than usual. Also, since it will be difficult to convey your emotions, try to express them in a slightly over reactionary and rich way.

To facilitate audio instruction, it is necessary to make it clear in advance what students will learn from the audio recordings made by the teacher. Also, keep in mind that inserting audio into each PowerPoint slide may not work correctly, depending on the version of PowerPoint.

Figure 3-4: Attention to on-demand classes

In the on-demand delivery class, both assignments and discussions are required after class. Therefore, for the implementation of classes, you will need to consider what assignments and discussions will take place in each class before. The following are examples of how to submit assignments and provide opportunities for discussion. Use this as a reference when planning your assignments and discussions.

1) Submissions to Moodle and feedback.
You can use Moodle to submit assignments and get feedback. Provide an explanation of the assignment at the end of the recorded class to encourage students to work on the assignment. You can also upload material about the issue to Moodle. For information on uploading materials, see Chapter 2, Section 2-2, or see the materials in the "Moodle Asynchronous Classes for Online Classes" section on the university's official website.

First, connect to Hokusei Gakuen University Moodle and log in. Select the appropriate course from the course category, and then select your own course. You can also choose from the list of classes to be taught on MyCourse. Click the "Start Edit Mode" button at the top right to enable editing for each class. Topics are provided from 1, which is the

week for each class. Click on "Add activity or resource" in the topic you want to assign to (for each class) to open a list of features you can add. Select "Assignments" from the list and click "Add".

Enter a name for the issue you wish to add. You can add explanations and materials about the assignment. In the "Proposal" section, you can specify the deadline for submission of the proposal. Once you have specified the submission period, check the "Yes" checkbox. The "end date" is the deadline for submission of the experiment. Proposals submitted beyond this date will be treated as "late submissions". If you do not want to accept your submissions after a certain date and time, please specify a "cut-off date and time" and check the "Yes" box. Students will not be able to submit their assignments after the "cutoff date".

Furthermore, at the bottom you can choose how you want to submit it. If you select "File Submission", you will be able to submit files created by students such as Word and Excel. If you choose "Online Text", you will be typing your work directly into Moodle. In addition, a variety of other conditions can be added to the issue function.

You can review your assignments at any time from the same course page. On the assignment page, there is a "View All Submissions" button, which you can click on to see the status of your class participants' submissions. From this screen, you can download the selected student's submission or download the submitted files at once.

As for feedback on the assignment, you can choose to provide feedback on individual comments to individual students or to the class participants as a whole. If you want to give individual feedback to each student, click on the "Grade" button for each student on the class participant's progress page and enter your feedback in the "Feedback Comments" field. If you want to give general feedback, create a commentary in Word, Excel, or an audio or video and upload it to Moodle. The former method is suitable for evaluating and commenting on individual efforts, while the latter method is more suitable for example responses, commentary, and summing up the class.

2) Achievement testing using Moodle.
As with setting up assignments in Moodle, click on the "Add Activity or Resource" link in the topic you want to add a test for to see the features you can add. Select "Quizzes" from this and click "Add". This quiz feature allows you to create a test of achievement for each lesson, including multiple choice questions, short answer questions and many other types of questions. You can also set the response period, time limit to answer, number of attempts, order of questions, etc. However, the quiz function is a function with a relatively large load on the server. When using this feature, please make sure that you don't access or overload Moodle during class time by taking longer tests. Please keep in

mind that you may not be able to access Moodle, or you may have communication problems during the test and not be able to answer the questions.

In the edit screen of the quiz function, various settings can be made. This section describes the configuration of the features illustrated above. First, enter the name of the quiz in the 'Name' field. As with the other functions, the name input is required. In the "Description" field below, you can enter an overview of this test. Use it to explain the duration and number of times you can take the test and the purpose of the test.

Next, when you open the "Timing" section, you can specify the start and end date and time of this test. Check the "Yes" checkbox to enable this function. A time limit has been set for approaches to the achievement test.

If you want to enter the time limit, enable the "time limit" and enter the time limit. A time limit makes it difficult to consult with others or view the material. However, when setting a time limit, please be sure to inform them in advance in the "Description" field above, and give them enough time to respond. Use the time limit feature according to the purpose and intent of each test.

In the "Grades" section, you can specify the number of times you can take the test. Select "unlimited" if you are willing to work on a repeat achievement test, or select a specified number of times if you want to limit the number of times you can work on the test. If multiple examinations are allowed, the "grading method" must be specified, and the default setting is "highest grade". This is a setting that will automatically save the highest score as the result of the exam. In addition, it can be your average score or the score from the last attempt you answered. If you want to set these values, please specify "average grade" or "latest attempt".

In the "Layout" section, you can choose how many questions are displayed at a time. The default setting is one question. Adjust the number and length of the questions to suit your needs.

You can change the order of the questions in the "Question Behavior" section. The order of the questions is randomized by selecting "Yes" from "Shuffle questions". Select "No" if you want the questions to always be answered in a certain order. Varying the order of the questions makes it less likely that the respondent will consult with other students in order to answer them. You can also set the order of the questions to be unchanged only for certain questions. The individual questions are described later. However, it is recommended that you refrain from using this function as much as possible, especially since it places a heavy load on the server. If you have no choice but to use this function,

please try to avoid taking the test before and after class time to avoid concentrating the load on the server. Or, during off hours.

In addition, you can set a password to take the achievement test in the "Special Restrictions on Taking the Test" section, and set a message at the end of the achievement test in the "General Feedback" section. This message can also be changed depending on the score.

When you have completed the above settings, click "Save and Display". You will be taken to the quiz screen. Next, set the questions to be used as the achievement test. Click on "Edit Quiz". The displayed screen is the editing screen of the quiz, and the list of questions is displayed here. You can type the name of the question section by clicking on the pencil symbol. Questions are managed in sections. By changing the section, you can change the page where the questions are displayed, and you can also set whether or not to randomize the order of the questions in each section. If you want to randomize the questions in that section, check the "Shuffle" box on the right. In addition, the "shuffle" function of the choices is also a function that places a heavy load on the server, so it would be helpful if you avoid using it as much as possible, as well as changing the question order.

Click the "Add" button under "Shuffle" to add a question. Choose a "new problem" and add it.

Click on the "Add" button under "Shuffle" to add a question. Select "New Question" and choose the format of the question you want to add. The quiz feature allows you to set up a variety of question formats. In this section, we will discuss the easy to handle 2-choice questions questions, multiple-choice questions, and short answer questions. See the Moodle documentation for other question formats and detailed instructions.

Click on the "Add" button, select the "○/×" question, and then press "Add". Please enter the name of the question in the "Question Name" field. Note that if the order of the questions is random, the question numbers are not meaningful. Enter a question in the "Question Text" field. The "default grade" is the number of points you get for answering this question correctly. The score is also displayed at the right end of the question list screen and can be edited from the screen. In the "General feedback" field, comments can be displayed regardless of whether they are correct or incorrect. It is suitable for the explanation of each question. Please specify which of the following "correct answers" is the correct answer, ○ or ×. The "feedback for answers ○/×" is literally the feedback that is displayed when each student selects each option. Once you have created the question, click [Save changes].

Click on "Add" and select "Multiple Choice Questions" and press "Add". Enter the question name in the "Question Name" field and the question in the "Question Text" field in the same way as for the "○/×" question. The feedback is the same as for the "X/X problem. For multiple choice questions, "single or multiple answers? You can choose from single or multiple responses. Enter each option in the "Answer" section. Grades are shown as a percentage. By selecting that option, you specify what percentage of the points you enter into the default grade you can earn. This allows you to flexibly change the specification of partial points and the score distribution for multiple answers. In the 'Total Feedback' section, you can specify different feedback for different responses.

Click on "Add", select "Short Answer" and press "Add". Enter the name of the question in the "Question Name" field and the question in the "Question Text" field in the same way as for the "○/×" question. The same is true for feedback as for the "XX problem. Short answer questions will be scored automatically, as will the optional questions above. For this reason, please specify the "answer" as an example of the correct answer given. You may need to be case-sensitive in your language. To do so, select "Yes, case sensitive" from "Case sensitive". In the "answer" designation, you can specify a correct answer, but it can also be a correct answer if it contains the keywords you specify. In this case, please enclose the keywords in *.

However, if you want to use more than one keyword, you can use "Essay (auto-grade)" of the test type. If you want to score the description manually, please select the "Essay question" of the test type. The "Essay (auto-grade)" and "Essay questions" can also have students submit attachments.

This concludes the configuration of the quiz feature. The test created from the "Preview" located in the "Quiz Management" in the "Manage" menu displayed on the left side of the screen can be tried. Check your tests to make sure they are functioning properly before releasing them to students. To edit the quiz again, open the quiz editing screen by clicking "Edit ⚙ quiz" in the menu on the left side of the screen.

Figure 3-5 Moodle quiz feature editing screen

3) Discussion only in real time.

The main part of the class can be delivered by video or audio, and the discussion afterwards can be held in real time. For more information on the introduction of Zoom and the method of simultaneous interactive teaching, please refer to Chapter 2. In addition, please refer to the materials on the official website under the title of "Delivering Lecture Videos for Online Classes".

If you provide an opportunity for discussion in this way, please contact the student in advance with the date and time of the discussion. Encourage them to watch the main part of the class and work on their assignments as necessary by the time of the discussion. Since the main course is asynchronous, students can take the class on any date and time they want, but this discussion needs to be careful because it is synchronous. In particular, the discussion should begin at the time the class is originally scheduled to take place so that it does not conflict with other class schedules. Please make it known in advance that there will be a real time discussion in the class. Other notes are in accordance with Chapter 2, Section 3.

4) Create a forum on Moodle for discussion.

As with setting up an assignment in Moodle, click on the "Add Activity or Resource" link for the topic you want to discuss to open a list of features to add. Select "Forum" or "React Forum" and click "Add". A screen to specify the forum to be added opens. Please enter the subject of the discussion in the "Forum Name" field. Explanations can include details about the topic of the discussion and the rules of the discussion. Next, select "Simple Discussion with one topic" from the "Forum Type" menu.

There are many types of forums, but a "simple discussion on one topic" is more appropriate for faculty and students to discuss a single topic. In the React Forum, you can also add SNS-like responses. Select "Text" under "Reaction Buttons Type" to add buttons such as "Yes" and "No" in the blank field.

When this method provides opportunities for discussion, the discussion can proceed in a non-synchronous manner, allowing students to participate in the discussion at a time after they have taken a class or when they are working on an assignment. However, this method relies only on text and discusses asynchronously, which makes communication difficult and can lead to misunderstandings and difficulties in developing discussions. Students are encouraged to clarify the theme of the discussion and to tie it to the content of the class or assignment. It is especially difficult to maintain the motivation to participate in the discussion, so please provide feedback from the faculty as needed.

These forums also allow you to be notified of posts by e-mail. If you check "Discussion Reading" when posting to the forum, you will be notified by e-mail when there is a post in that discussion. The default setting for the form is "Optional Reading", which allows you to decide whether or not to receive e-mail notifications. If you do not want to receive e-mails when you post, set the "Subscription Mode" in the "Purchase and Unread Management" to "Unsubscribe" on the editing screen of each forum. This means that students will no longer be able to check "Discussion Reading" when they submit. If you have a large number of students, it is recommended that you stop reading the lecture.
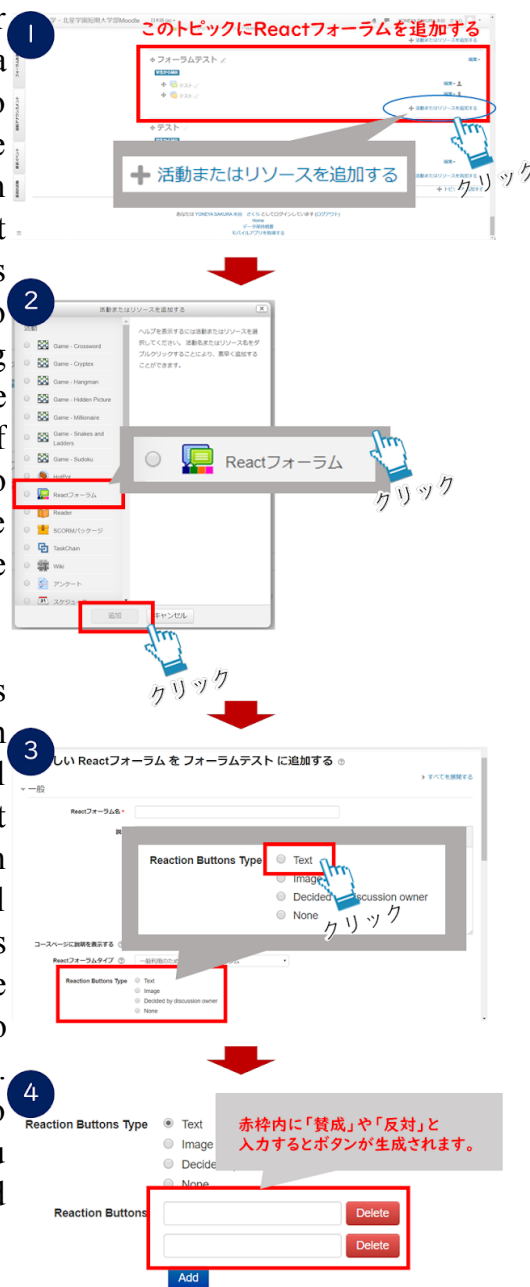

Figure 3-6 Creating a React Forum

Section 3: Implementation of on-demand classes
Recording for on-demand classes In order to conduct on-demand classes, it is first necessary to record the classes. As mentioned above, in the on-demand class, it is very difficult to flexibly change the content of the lecture while watching the students because the lecture is recorded without any response from the students. For this reason, it is recommended that you prepare a manuscript of the class content in advance.

1) Recording of the class using Zoom
Utilize one-on-one meetings when recording the class with Zoom. This method is also described in detail in the document "Delivering Lecture Videos for Online Classes" on the university's official website.

First, launch the Zoom application and click on "New Meeting" in the top left corner. Click on "Recording ◎" at the bottom of the screen to start recording the class. If you want to start recording from the slide screen, select [Share screen], then [Share screen], and then select record from the menu at the top of the screen. You may want to click on the "Record to this computer" link in the In addition, you can use the screen sharing function even if you stop the [Video] function and do not see yourself on the camera. To stop sharing your screen, click "Stop Sharing" at the top. To stop the recording, press the Stop Recording button. As mentioned above, the recordings can be shortened to reduce the burden on both faculty and students. If it is being shared, click "." in the menu at the top of the screen. Select "Stop Recording" for the track.

End the Zoom meeting when you have finished recording everything. The recorded Zoom video is created after the meeting is over. By default, recorded videos are saved in the Zoom folder in the document. You can use "zoom_0.mp4" etc. as a video file. You can check your own class by playing it. It is recommended that you play it once to make sure that the audio and images are properly displayed.

Next, upload the video to OneDrive. At this time, it is recommended to change the name of the video to something easy to understand. For example, it is a good idea to indicate the video of the first lecture or the video of the first lecture, such as "Psychology_1". Save the video files to OneDrive and right-click on the file and select "Share" from the right-click menu. Click "Anyone who knows the link can edit it" on the screen about sending a link to change the settings. First, limit this link to only users of hokusei.ac.jp who can use it. This will allow only students of the University to view the recorded classes. Also, uncheck "Allow editing" from "Other settings". By unchecking this checkbox, you can use the shared user.

Students will not be able to edit the file here. Once you have changed these settings, click "Apply". Next, click on Copy Link and copy the URL that appears.

Log in to Moodle and click on "Add activity or resource" under the topic (week) to which you want to link your recordings. Please select "URL" and click on "Add". Enter the shared URL you copied earlier in the External URL field, and enter the title of the movie in the Name field. In particular, if a class is made up of multiple videos, please indicate the name of the video in the name of the class. Next, open the Appearance column and select "New Window" from the display. Finally, click on "Save and Return to Course" at the bottom.

The videos uploaded to Moodle can be made available to students by selecting "View" from the edit screen, or hidden by clicking "Hide". Use it to keep track of your progress in class.

2) Recording of classes with an audio recorder, etc.
If you want to record audio for the class, please record the content of the class on an audio recorder. The voice recorder is a standard feature of many smartphones, so in many cases you can work on it without having to buy new equipment. Start a voice recorder or a voice recording application on your smartphone and record your class. The recording of audio can also be shortened to reduce the burden on both faculty and students. Teachers are encouraged to record while looking at the textbook or class materials. At that time, please clearly indicate the relevant parts of the textbooks and materials to be referred to by the students.

Next, upload the audio file you have recorded to OneDrive. At this time, it is recommended that you change the name of the voice to something easier to understand. For example, it is a good idea to indicate the number of lectures and the number of dynamic recordings, such as "Psychology_1". The instructions for uploading and publishing in Moodle are the same as for the video.

3) Insert audio into class slides.
You can insert audio into the PowerPoint that you use in class. First, pre-record the audio to be inserted into each slide. Next, open the PowerPoint file you want to use in class and display the "Insert" tab. There is an item to insert "Media" at the far right. Choose your audio.

Select "Audio" and specify the audio file to be inserted on the relevant slide. Select "Record" to record audio directly on PowerPoint.

When audio is inserted, the speaker's mark is placed. When playing back a slide show, click on the slide to play back the audio. Please check the operation by using a slideshow or other means.

After you have inserted all the prepared audio, upload the PowerPoint file to your OneDrive. Please use OneDrive as well as video and audio files, rather than uploading directly to Moodle, because the audio will increase the size of the file. The instructions for uploading and publishing in Moodle are the same as for the video.

With this method, it is difficult for the students to know when to finish the audio of each slide and move to the next slide, so it is better to include a statement such as "Please move to the next slide" when the audio of each slide finishes. Inserting audio into slides may not be possible depending on the version of PowerPoint. Make sure you can insert the audio correctly in your own PowerPoint.
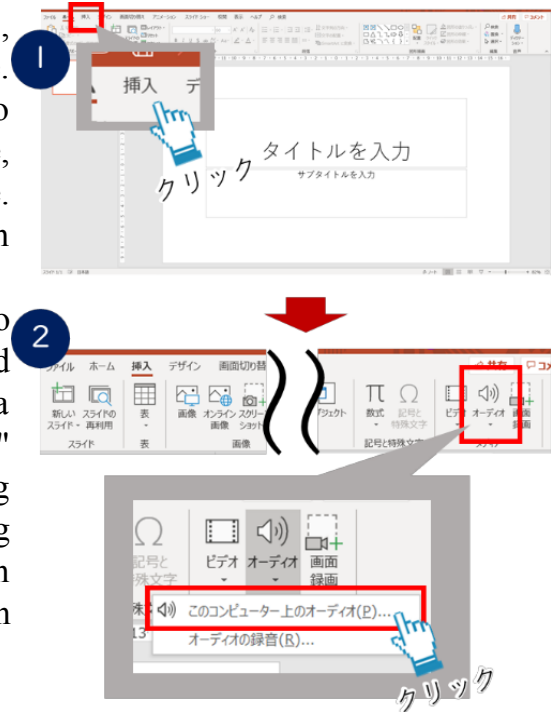

Figure 3-7 Inserting audio

2) Assignments and discussions for on-demand classes
The themes of the assignments and discussions prepared in advance should be presented in class to encourage students to engage in the assignments and discussions.

It's a good idea. In order for on-demand online classes to be accepted as classes, they need to include not only video and audio viewing, but also a consistent approach to addressing and discussing the issues at the end of these classes. Therefore, please be sure to set up a space to discuss the issues.
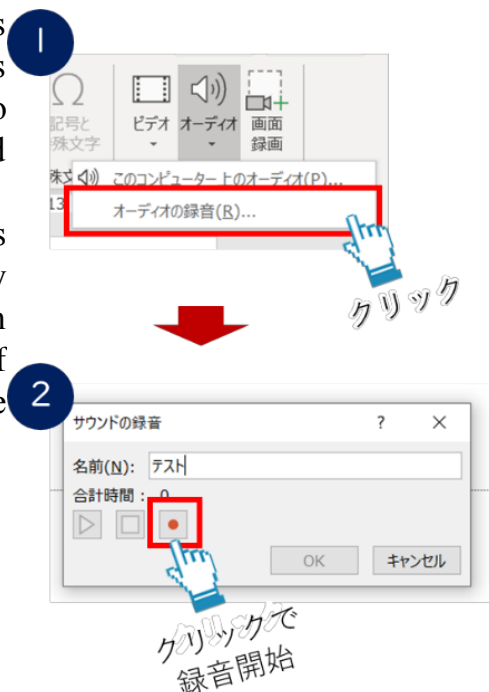

Figure 3-8 Recording audio.

3. attention to on-demand classes
1) Students' reactions to the lecture
On-demand classes do not allow us to hear students' reactions in real time. As a result, it is difficult to flexibly change the commentary based on the students' behavior when the class is in progress. In addition, since there is no real-time response, it is also difficult to obtain information when students are not able to participate in a class due to equipment problems.
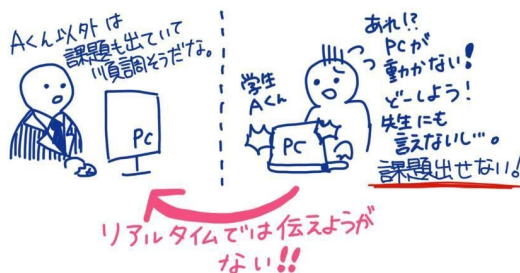
For example, even if you deliver audio or video, it is possible that these classes will not play correctly on students' devices. As a result, when students are unable to participate in a class, they can ask the teacher for help.

Figure 3-9. Difficulties with communication.

Make sure you have a way to make contact in advance. At the top of each Moodle course there is a forum called "Announcements" which can be used throughout the course. Since you cannot get student responses in the main part of the class, you should encourage student responses in the post-class discussion. Assemble an enriched lesson that addresses the students' questions and perspectives on the class.

2) Management of learning progress
On-demand classes are asynchronous, allowing students to take classes at any time they wish. However, as a general rule, a deadline should be set for viewing the class, working on the assignment, and participating in the discussion. As a guideline, students are expected to watch the full text of the class during the same week as in the regular class, and then work on the assignment and participate in the discussion at the same time. It is a good idea to set a deadline for the discussion of the assignments and the content of each class, depending on the difficulty and quantity of the assignments and the number of people participating in the discussion. By setting deadlines, you can encourage students to keep their class participation schedules within reason. In addition, by delimiting the deadlines.
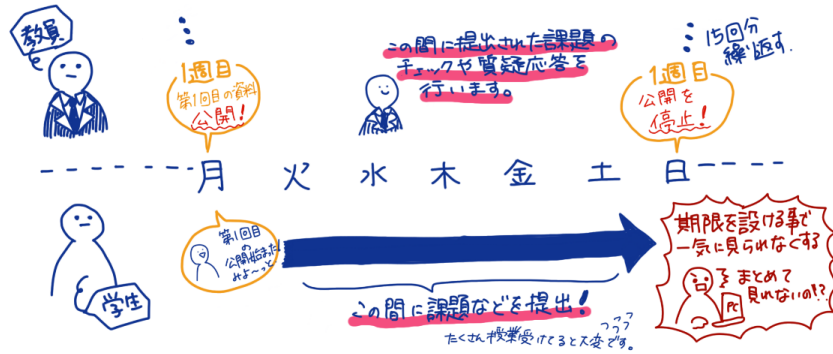
Figure 3-10 Example of on-demand delivery

We can recognize the presence of students who are late to the deadline. Under these social conditions, it is an important task to understand how students are doing and how to provide appropriate support. However, there is no requirement to impose penalties such as a blanket ban on missed deadlines. It should be noted that the main focus of the deadline is to maintain the student's learning attitude.

Chapter 4: On-demand teaching using only teaching materials
Section 1: Overview

In this chapter, we describe an on-demand (asynchronous) type of class in which the teacher provides knowledge transfer and guidance to students through teaching materials and handouts without using video or audio, and the students can view these materials at any time. In this class format, materials are uploaded via the Internet and allowed to be viewed by students. In addition, students will be asked to work on assignments and discussions prepared by the faculty in advance. This is No. 1 out of 10 cases in the "Image of Distance Education" at Hokusei University. The use of video and audio delivery in No. 2~4 and 10 is also included in on-demand classes, but this chapter will only explain the cases where video and audio are not used. Please refer to Chapter 3 when you want to distribute video or audio.

When implementing on-demand online classes, it is required that sufficient guidance such as question-and-answer sessions and responses to assignments be provided at the end of each class session, and that opportunities for discussion be provided between the instructor and students or between students. In other words, the presentation of the material and its viewing alone is not acceptable as a class. In particular, for lectures that focus on knowledge transfer from the instructor, it may be necessary to devise issues and opportunities and themes for discussion at the end of the class.

One of the major features of on-demand online classes is that they do not limit the time students can take them. Students will be able to take classes according to their own time. As a result, instructors who provide classes are more interested in students' participation in the class than they are in real time classes.

It requires more consideration. In the class format, where students browse materials and work on assignments based on the materials, it is difficult for students to understand the approach, instructions, and guidance from instructors through materials and texts.

Figure 4-1: Difficulties in relying only on teaching materials

Because of this situation, it is expected that students will have a tendency to feel less like they are taking classes. In addition to managing viewing periods for class materials and

assignment deadlines, pay attention to students' motivation and progress through appropriate follow-up.

Section 2: Preparation.
The following equipment and materials should be used in the preparation of online classes using only textbooks and materials
We recommend that you use the
⬤ Equipment and Fixtures
Personal computers and peripheral equipment Personal computers, etc.
    ▢ It is used for preparing the documents
    ▢ Communication environment
    ▢ Internet environment
        ✓ Internet environment is required when you upload the documents.
    ▢ Application.
Learning management system 'Moodle'
        ✓ Learning Management System; one of the things called LMS, or e-learning system, etc.
⬤ Teaching materials
    ▢ Classroom materials
        ✓ Textbooks, slides, handouts, etc.
In on-demand classes where only teaching materials are used, instead of video/audio commentary by the instructor, teaching materials and other materials are used.

We will give you an explanation of this. If commentary from the instructor has formed the main axis of the class in the past, this commentary must be replaced by materials. Therefore, if this format is adopted, it is desirable to review the content and plans, revise and add to the materials in many classes. Please refer to the following examples of modifications and additions to the course materials.

1) Revise existing class content into materials
The first method is to add or revise the material with the goal of bringing the traditional course content to the students. In addition to the slides, texts, and other materials to be referred to, separate materials will be prepared to explain them. One of the advantages of this method is that it does not significantly change the content of the class itself, i.e., it provides an education that follows the original lesson plans and goals. However, this method is very labor-intensive.

NOTE: *This process was and is very time consuming and labor-intensive, as we took the information from the lectures and other published materials on online classes that were held in the U.S., reconstructed them in writing and reconstructed them as teaching*

materials for online classes. It is a lot of work to create additional materials for 15 90-minute classes and to manage the tasks described below.

2) Reviewing class content
The second method is to review the content of conventional classes and modify it to make it easier to provide online classes. For example, after presenting points to keep in mind and important points of view in advance, the students may be asked to read textbooks and articles, or watch newspapers, television, movies, and other media, and then present issues such as summarizing the content and providing critical discussion. In this method, the point is whether or not the learning objectives for each class session can be achieved by subscribing to a specialized book or watching media. It is necessary to not only give students random instructions to read and watch specialized books and media, but also to consider in advance how the act is positioned in relation to the learning objectives of each class and the class as a whole. This position should also be communicated to students so that they can form a proactive learning attitude toward their academic goals.

Figure 4-2 Image of on-demand classes using teaching materials

The Q&A by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) does not assume that "simply having students read the textbook" (what has been done in the past as preparation and review) is a requirement for the formation of a class, but "it is necessary for the learning to be equivalent to what is imposed in the class by showing the objectives and aims of the class, points to be kept in mind when reading the textbook, and necessary perspectives and viewpoints in advance guidance by the teacher in charge of the class. In addition to simply touching the textbook and the media, it is important to read and view the materials from the perspective of the students.

It is important to listen to them and how they are attached to the subject. Therefore, adopting this method may require a review of the academic goals. As course content and goals change, the syllabus will inevitably change. If you decide to use this method, please inform the student in the first class.

When this method is adopted, consideration must be given to copyright. For more information on copyright, see "Distance Learning and the Copyright System". As mentioned earlier, public transmission of copyrighted works in the classroom is allowed within a certain range.

However, it is not permissible to "unreasonably prejudice the interests of the copyright owner". For example, it is not permitted to upload most of the textbooks used in class, and students must purchase them as textbooks. Some publishers provide textbooks free of charge, so free textbooks may be available for some classes. Please note that the use of movies is treated differently from face-to-face classes. As stated earlier, public transmission of films to students over the Internet, even for class purposes, is not permitted without permission. Therefore, students will need to purchase or rent the film for their own use.

In addition, please make sure that your work is not used for any purpose other than the classroom. Moodle will make it possible for students to download only. In addition, the materials must be available for review at least during the lecture period, and you must delete the uploaded materials as soon as the lecture period is over.

In on-demand delivery classes, both assignments and discussions are required after the class. You will need to consider what assignments and discussions will take place in each class before. Please refer to the explanation given in Chapter 3, Section 2.3.

Section 3: Implementation of on-demand classes using only teaching materials and the flow of on-demand classes using only teaching materials.
First, the teacher will post the materials they have prepared on the relevant class page of Moodle, 15 weeks of classes. Students will also spend 15 weeks mastering the content of the classes. Therefore, instead of releasing 15 sessions of material at once, it would be a good idea to release the content of the classes one week at a time according to the students' learning progress. In particular, it is recommended to note in the materials for the first session that the class in question will be conducted solely on the materials, and therefore the format specifically calls for student autonomy.

Students will download the material to fit their lives and proceed with their studies. Use Moodle's forum and chat functions to ask any questions that arise during the course of the study. On-demand classes are a set of classes, assignments, and discussions. In the on-demand class, it is important to use this part of the discussion to make students aware that they are participating in the class. It would be a good idea to use Moodle's forum to discuss any questions or criticisms that may arise from learning the material.

Figure 4-3 Flow of on-demand classes using teaching materials

2. Notes on on-demand classes that use only teaching materials
Please refer to Chapter 3, Section 3.3 for notes on the main on-demand classes. In particular, we will use only the teaching materials. Here are some caveats specific to in-demand classes.

1) Dilution of faculty presence.
In on-demand classes that use only teaching materials, it is difficult for students to see how the instructor is doing, and it is also difficult for students to see how the instructor is doing. The methods introduced in Chapters 2 and 3 allowed us to see the voices and figures of faculty members, albeit online. However, it is expected that by using only the teaching materials as described in this chapter, it will be less likely that students will feel that they are receiving a specific teacher's class. Therefore, as much as possible, the teaching materials and tasks should be included.

Please try to show your originality, provide extensive correction guidance, and take advantage of opportunities for question-and-answer sessions and discussions. It is also expected that this type of class, which tends to dilute the faculty's presence, will result in students feeling less like they are taking a university class. Therefore, there is a concern that using this format in classes that first-year students are expected to take may cause them to drop out of the class before they have formed an attitude to participate in college classes. When considering the use of this format, be mindful of the nature of the students who will be taking it.

2) Difficulties in classroom management.
While this is true for all online classes, it is important to clarify the framework of a single class, especially for on-demand classes using only teaching materials. Since the class will be based on the materials, the approximate amount of time spent on the materials is 90 minutes. It is important to note that the standard for a single lesson varies greatly from subject to subject. The number of materials and assignments in a single lesson should be revised for each course.

Chapter 5: Conclusion

I would like to thank you for your efforts to provide students with high quality education in a rapidly changing social climate due to the spread of the new coronavirus. We hope that this material will be of use to all of our teaching staff as they prepare for their online classes. I have been writing this article with the goal of solving your concerns and worries about online classes, and contributing to better lesson planning and preparation. Ultimately, we hope to improve the quality of our students' learning. Since the material was prepared in a hurry, some parts of it are difficult to understand, some parts are inadequately explained, and some parts are omitted because of the complexity of the procedures and the lack of time. I would like to continue to make revisions to the materials to make them more user-friendly, as time permits. If you have any questions or comments, please contact the Hokusei Gakuen University Distance Learning Support Team. The contact information for the Hokusei Gakuen University Distance Learning Support Team is enkaku@hokusei.ac.jp.

This material is the responsibility of Akeyuki Nagai of the Hokusei Gakuen University Distance Learning Support Team. The book was written under the supervision of Mr. Daisuke Kaneko (team leader of the same team). The figure was created by Sakura Yonetani of the same team. I would like to take this opportunity to thank everyone who contributed to the writing of this article. Thomas Goetz provided the English translation.

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