A Trial of Improving Learners' Phonetics Comprehension through Remote Teaching

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Abstract

In 2020, the spread of COVID-19 forced schools to adopt distance learning using multimedia technology. Universities provide online classes in order to avoid making students commute to school. For remote teaching, there are considerable choices in learning management systems adopted by schools and methods employed by teachers. Each approach has advantages and disadvantages, so a combination of those choices can bring multiplier effect. However, person-to-person communication plays a critical role particularly in language education. How do teachers survive this crisis? This paper makes suggestions about class activities by means of written information on a remote real-time lecture. It focuses on an English phonetics course which deals with pronunciation skills and aural information by minimum usage of a video meeting system. This paper also includes a survey of mental associations similar to synesthesia as an example of how to teach an abstract concept. The results are analyzed and observed to mention potentials of vowels. This paper also refers to the benefits of teaching online and on campus. Learners' viewpoints collected through activities are mentioned throughout.

Keywords: *assignments, colors, Google Classroom, face-to-face teaching, LMS, on campus, on-demand, online, real-time, sound symbolism, synesthesia, vowels*

Introduction

At the beginning of 2020, a drastic change occurred all over the world. The pandemic of COVID-19 continues to affect many aspects of life. Education isn't an exception. Most universities haven't eased restrictions although children were back at school after a couple of months' closure. One of the reasons is that university students engage in a wide range of activities: working part-time, commuting a long distance to school, living alone, socializing, and traveling. It is hardly possible for universities to

administer all even if telling students to minimize contact with the outside. Another reason is that they move from one room to another, sharing many classrooms and seats between a large number of students. Additionally, some courses contain over a hundred students. They also have intervals between lectures and wander around the campus. The other reason is that teachers of higher education are often older than those of other educational institutions. According to MEXT (2020), the average age of teachers in the 2019 academic year is as follows: 37.2 at kindergarten; 42.6 at elementary school; 43.6 at junior high school; 45.5 at senior high school; 48.5 at technical college; 52.7 at junior college; 49.4 at university. Teachers can be infected by asymptomatic students and then a serious condition might be brought on to them. For these reasons, universities hesitate to open to all students. They tend to offer lectures for practical skills to a smaller number of students on campus to avoid the 3Cs: closed spaces, crowded places, and close-contact settings.

Schools suddenly were required to set up learning management systems (LMS). Teachers started to work without seeing students on campus. Online teaching varies between schools and classes. Each school has adopted systems which have several functions. Teachers can make good use of them according to their class styles and their technology skills. Regarding language teaching, communication is essential. Distance learning can offer some ways to communicate: speaking via teleconference, listening to attached sound files or videos, and reading and writing through sending and receiving written files. Teachers should select the appropriate tool for each activity so that students can learn effectively and remain motivated. Teachers need to spend time preparing each lesson although such a strategy is a quite demanding approach. After teaching and collecting assignments, they have to give corrections and comments back to students. That is to say, teachers have a lot of work to do for previous lessons and those that follow. They may struggle in an isolated environment, hesitating to ask colleagues and staff who are also busy working. Generally speaking, teachers have their own teaching methods for online education as well as face-to-face classes. Consequently, they have to discover for themselves which strategies work best.

This paper will focus on a trial in an English phonetics course for English majors at a women's university in Japan. Phonetics is the scientific field of speech sound. It could be one of the most troublesome online courses to teach because it requires providing audio information and

explanations of how to describe speech sounds with phonetic symbols. This paper will first introduce what to teach and how to approach this in class. It will also analyze students' reactions to some activities to assess their comprehension.

Method

Class Structure

The English phonetics course is offered to second-year students and above at a women's university in Fukuoka, Japan. Ninety-minute lectures are given fifteen times during a semester and are usually conducted in a CALL room to deal with audio files and recording assignments as mentioned in Kido (2019). In 2020, the course attracted a larger number of students than the capacity of the CALL rooms allowed, so two classes were instituted: the class in the first semester consisted of thirty-five students and in the second semester fifty-two students. The first semester course was less popular than the second one for two possible reasons. One reason could be that students were unwilling to take extra classes in the serious situation of COVID-19. Initially, the school was planning to proffer short term online teaching, although it transpired that this course was taught online throughout the year. The other reason could be that the class was held in the evening which could prevent students from working part-time. If the severe economic situation had impacted parents, then maybe

4th-year:
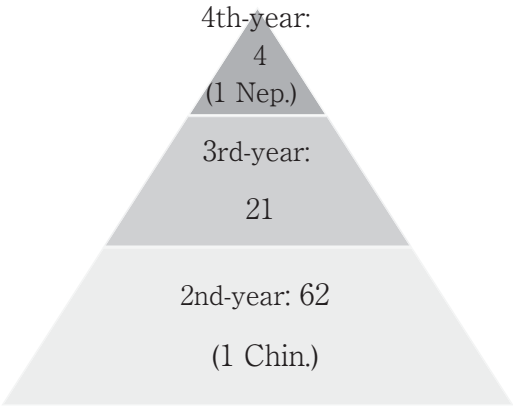4
(1 Nep.)

3rd-year:
21

2nd-year: 62

(1 Chin.)

Figure 1. The number of students

students needed to make money. In total, there were eighty-seven students consisting of 4 fourth-year students, 21 third-year students, and 62 second-year students (Figure 1). Almost all the students were Japanese although there were two international students from Nepal and China.

Regarding their academic ability, the students took the TOEIC Bridge® IP Test in April and January when they were first-years. The average score of the English department to which these students belonged in January of 2020 was 149.8 which includes 72.9 for listening and 76.9 for reading (Figure 2). According to IIBC (2020, p.21), the national average of first-year university students in the 2019 academic year was 128.5 (L: 62.3; R: 66.2) while first-year English majors' average was 135.4 (L: 66.0; R: 69.4). The department average of the second-year students involved in this project was higher than the national averages. These scores indicate that students have sufficient English skills to make themselves understood in daily situations. The classroom language is almost all in English and in the phonetics course, the teacher usually gives directions and explanations in English. The students also communicate in English with each other while they are allowed to contact the teacher in Japanese to ask questions privately. The textbook, however, is written in Japanese, with technical terms introduced in both languages. Examples are also introduced to initiate specific topics. The students are expected to discuss phonetic matters in English after reading in Japanese. They are often required to compare English with Japanese to analyze and observe phonetically.
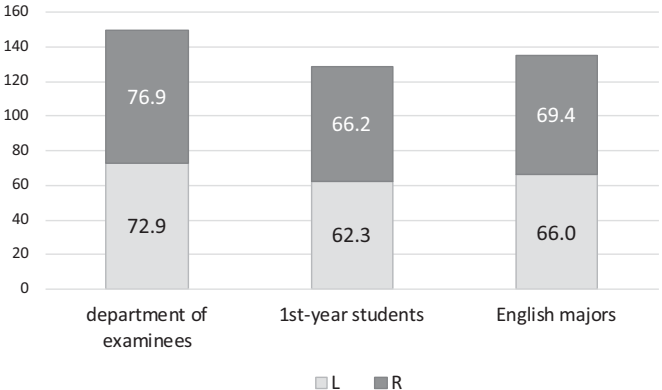

Figure 2. Averages of TOEIC IP Test in the 2019 academic year

Course Style

There are two main manners of remote teaching: real-time and on-demand. Kyoto University (2020) summarizes university establishment standards about media education noted by MEXT as below:

1. A university may have its students take media-facilitated classes which are held in a concurrent and interactive manner, in places other than the classroom where the said classes are taught, or, laboratories and any places of the kind (for credit-bearing courses stipulated under the Standards for Establishment of Universities, Article 31, Clause 1, places such as a meeting room at a workplace or in a home-like environment are valid. These places are hereafter referred to as "places other than the classroom").
2. In conducting media-facilitated classes, sufficient follow-up support, including giving explanations to problems, checking assignments, and answering questions, should be extended either by teaching assistants who meet students in places other than the classroom, or by teachers or teaching assistants who make themselves available right after the class hour through proper methods such as the Internet. Also, students should be given enough opportunities to exchange comments and opinions about the said classes.

Each approach has different features including pros and cons. Real-time allows students to communicate frequently. They simultaneously connect to their course site according to their timetable. They can see the teacher in a video meeting and exchange comments in class. It is easy to interact by discussion, teacher-student communication or peer work. The teacher can explain by speaking and showing slides on a video call while students listen. Students can ask questions in public or privately to the teacher by speaking through a microphone or by typing in a chat area. Students can be divided into groups to exchange opinions. The course site generally has the function of posting information. Students are provided with quizzes or written tests that they must answer before the time runs out. Assignments can be collected instantly. However, sometimes students' submissions are delayed due to network or computer problems which can prevent them from attending the video meetings.

Alternatively, the on-demand can be considered similar to education by correspondence. Teachers prepare materials in advance by recording

lectures on video or typing documents to post on the course site. When materials are available online, students study by watching or reading them and send assignments by the deadlines. The site is renewed weekly to send and receive materials. Teachers and students can work at their own pace without following a timetable. This approach is more flexible but can cause problems with student punctuality and timely submissions. Recording the videos takes much effort on the part of the teacher as it's often not possible to complete them in one take. Teachers may record a couple of takes for each lesson and then pick the best one. Or they shoot a long one and then edit it. Either way requires persistence. Students also have less opportunities for contact with the teacher and classmates. Though they can send messages by email, it is time-consuming to get in touch. Correcting assignments plays a significant role in on-demand teaching, and it takes a substantial amount of effort to prepare before class and give feedback after class.

The school in this study adopted G Suit for Education including Google Classroom for LMS. Teachers can use it "to streamline assignments, boost collaboration, and foster communication. Classroom is available on the web or by mobile app" (Google 2021). It serves similar functions to a social network system, and the software offers various kinds of activities (Table 1).

The school decided to operate real-time teaching with some guiding principles. For instance, teachers are recommended not to rely too much on video, but rather through mainly written information so that students aren't overwhelmed by data as many use smart phones, not computers. Dealing with written data is also less costly and much safer than joining a video meeting. They can also catch up if they have network trouble by reading the materials and submitting assignments later. As this new situation occurred suddenly, students didn't have enough time or budget to maximize their home learning environment. The school was careful to take an impartial approach to these considerations. Consequently, teachers cannot avoid working rigorously, as real-time teaching forces them to sit in front of a computer during the class. Posting assignments on a site requires them to prepare in advance and correct after class. This approach includes the disadvantages of both real-time and on-demand teaching. Teachers have to work overtime every day; on weekdays they teach in class during the daytime while they prepare materials and correct assignments early in the morning or at night as well as much of the day on weekends.

Table 1. Functions of Google Classroom (Google 2021)

What can you do with Classroom?

User	What you can do with Classroom
Teachers	・Start a video meeting. ・Create and manage classes, assignments, and grades online without paper. ・Add materials to your assignments, such as YouTube videos, a Google Forms survey, and other items from Google Drive. ・Give direct, real-time feedback. ・Use the class stream to post announcements and engage students in question-driven discussions. ・Invite parents and guardians to sign up for email summaries with a student's upcoming or missing work.
Students	・Track classwork and submit assignments. ・Check originality, feedback, and grades. ・Share resources and interact in the class stream or by email.
Guardians	・Get an email summary of your student's work. ・Review announcements and activities.
Administrators	・Protect data and set permissions for your users. ・Set up classes and rosters. ・Add or remove students and teachers from classes. ・Get 24/7 support.

Additionally, teachers struggled to handle the system so as to master efficient usage for each subject or class size during the first semester. Once they acquired some techniques, they became more comfortable and felt it was convenient to teach online. If this situation lasts, their effort will reduce in future by making use of materials repeatedly or making minor changes to the content they already have. As for language education, face-to-face classes offer a variety of activities. However, in the classroom students must keep social distance while trying to communicate. Learning without lively discussion on campus is inferior to remote learning. Consequently, teachers are obliged to work online.

The Google Classroom course site shows the contents of the 'Stream' chronologically. As the teacher continues to post materials, a lineup of

learning activities appears. The latest information is always shown at the top of the page while the previous postings go down. Students join the class by following the updated information. Gmail also sends a notice that says their teacher has added new information to the course site. Students can keep up with the class without interacting with their classmates.

Google Classroom offers four types of class activities: Assignments, Quiz Assignments, Questions, and Materials. First, Assignments give and collect essays or other work using document software. The teacher sends a document to fill in to each student. Students write and submit their papers. The teacher reads and gives them back with comments and corrections. Secondly, Quiz Assignments are for exercises with multiple-choice questions or by writing short answers. The teacher creates a test in a form by inputting questions with answer keys. Students click a choice or type to answer. The automatic scoring system works so that the teacher and students can check their scores and errors. The teacher can also see the general tendency of a class by means of graphs. The scoring system hits very accurate answers only. It works well in multiple-choice questions but is troublesome for written answers. Slight differences in punctuation and capitalization are marked as wrong. First-year students have hardly ever typed in English. For instance, they tend to type in full size without changing the language mode into English; they forget to add a space between words or after a period or a comma. If the teacher is strict with these elements, she doesn't have to pay attention. However, if not, she must double-check after collecting all students' answers to accept these mis-typings and renew their scores. Thirdly, Questions deal with surveys. The teacher asks students to make choices or type answers. The multiple-choice question shows a graph which students also look at after clicking. In an essay-question, all students' opinions are open after submitting. They can compare their own with classmates' and discover new ideas. Finally, Materials are for sharing files. Files can also be attached to the other activities, but Materials don't have a function to receive reactions from each student. The teacher can use this for simply showing something such as additional information for students to check.

A Series of Lectures

On the basis of its course syllabus, fifteen lectures are planned and conducted. The online lectures have contents and topics in common with the face-to-face classes of the past. First of all, the story of *My Fair Lady* is

discussed. This exposes students to general information about phonetics. Some scenes are selected from the story using Penguin Readers shown online; these aspects were introduced by showing a movie in the face-to-face lectures. Doing it through reading takes longer than watching a movie, so this activity lasts for two weeks. After reading, students write a paper in an Assignment to summarize the story and describe the main characters. This activity helps them acquire a basic knowledge of phonetics. Then, they learn phonemes for several weeks, beginning with the English alphabet as well as Japanese transliterated into the Roman alphabet to distinguish vowels and consonants. They practice reading and writing proper nouns such as place-names in Japan. They also approach phonics to analyze phonemes and practice reading aloud. They listen to a sound file of the model reading recorded by the teacher. An opportunity to practice pronunciation is furnished in each lecture.

After a three-week warm-up, they start the main topics of vowels and consonants. For the following four weeks, they become acquainted with the features of vowels on the basis of the positions of the tongue. Then, for the other four weeks, they learn to comprehend features of consonants with places and manners of articulation. They need to read phonetic symbols and listen to model readings. Quizzes of minimal pairs are created by the teacher to check whether students recognize similar phonemes or ones peculiar to English. Students listen to them and choose the correct word being read. Consonant clusters are also introduced. Though the term 'cluster' used to be unfamiliar in Japan, ironically it is now widely understood through the daily news. Additionally, students discuss some technical terms related to phonemes including rhyme, alliteration, assimilation, and sound symbolism.

For the last three weeks of the course, students focus on supra-segmental phonemes. They learn about stress and master patterns of rhythm by contrasting function words and content words. They also check three patterns of intonation such as falling, rising and level. They are encouraged to practice reading out by repeating and shadowing. Finally, they are familiarized with English variations such as Received Pronunciation and General American English. The movie *Roman Holiday*, which is one example that includes the two extremes of English variations, is introduced to compare the two main characters' speaking habits. Students also practice reading by role-playing. It is also possible to compare the heroine's RP with Cockney English in *My Fair Lady* played by

the same actress.

In the final week, students are assigned to make a speech by reading a short passage which has been introduced in advance to practice shadowing. This is the only opportunity to meet the teacher and classmates in a video conference. They are divided into groups and show up on a screen for ten minutes in turn. While they are waiting for their turn, they are given a written test to answer essay questions. Another assignment is offered as homework: collecting loanwords and transcribing them with phonetic symbols. They have had passive activities of answering multiple-choice questions and spelling in alphabet the reading of phonetic symbols. For instance, they are shown [eɪ], [æ], [ɑː], [ɔː] and [ə] and must choose the vowel in 'table'. [tráɪ] is shown to spell 'try'. They also study homophones and are shown 'fair', 'fear', and 'fare' where they must choose the word pronounced in a different way from the others. [béər] is shown to spell 'bear' and 'bare'. However, they have no opportunity to write phonetic symbols on quiz forms because it is difficult to type phonetic symbols which aren't included in a keyboard. Therefore, they need to handwrite on paper and send their scanned data or picture files.

In this way, students overview the rudiments of phonetics. It is difficult to understand everything completely in either online or face-to-face classes in one semester. However, various activities assist them to learn the particularly significant factors emphasized by different approaches. Teaching phonemes and supra-segmental phonemes is difficult to balance. Although students need to learn about supra-segmental phonemes thoroughly, it is impossible to learn vowels and consonants quickly. Once they acquire the literacy of phonetic symbols, they are required to continue studying themselves after the course ends. It takes effort to gain some degree of expertise in any specialized field. What matters in education most is that students are challenged to improve. This course at least can be an effective aid to enhance their awareness of speech sounds.

Lecture Activities

Most materials are available in CALL, so it is possible to adapt them for online learning: the textbook can be sent as a PDF while its attached CDs can be downloaded as sound files. The textbook consists of explanations and examples with plenty of exercises. Each lecture can focus on a certain topic. As an introduction, some pages of the textbook with

sound files are shown so that students can cope with self-learning by reading and listening. After that, they do exercises in Quiz Assignments or discuss in Questions to check their comprehension by themselves and by the teacher. Thus, several activities are performed in a lecture.

The flow of each lecture can be described as in Figure 3. A lecture is broadly divided into three sections. The first section consists of three elements. Every lecture begins with 'Attendance'. A form in a Quiz Assignment is posted on the course site through which students record their presence 'in class'. Secondly, a Quiz is given as a 'Review' of what they learned in the previous week and to get ready for the new lesson. Then, they have an opportunity to speak out by 'Reading Aloud'. They practice phonics and 'Rap and Rhythm' which supplies phrases to practice rhythm and stress by keeping pace with sound files. The Question function is used to check students have completed the work. This section works as a warm-up and takes about fifteen minutes.
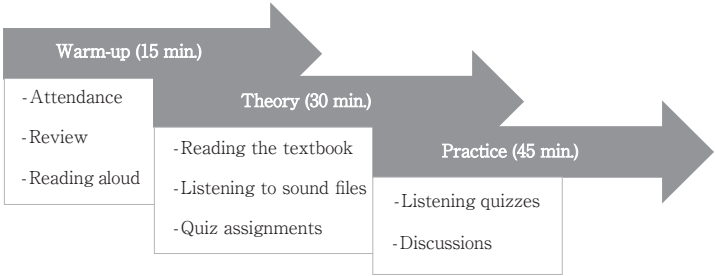

Figure 3. A typical lecture in the course

The second section contains the main part of the theory. A topic is introduced with the textbook and sound files. Students are required to self-study for a while followed by Quiz Assignments. The questions are prepared based on the textbook to prove they have read the content carefully. On submitting their form, a tentative score with model answers is shown. They don't have to think about their scores at this point, but should understand properly to prepare for the following activities. This stage takes thirty minutes. The first and second sections take place in the first half of the ninety-minute lecture. These activities acquaint the students with the subject, and are expected to widen their knowledge. Some videos are also displayed such as a bilingual instructor's web channel who pronounces as a model and offers advice in Japanese. This saves the

teacher time as she doesn't have to create new content.

The third section includes 'Listening Quizzes' and 'Discussions'. The former is created by a Google Classroom Test Assignment. Students first listen to a model reading of minimal pairs such as 'feel, fill' and 'light, right'. Then they do a quiz where they have to select which one of the pair is read. Students concentrate on distinguishing similar phonemes without relying on a context. Sound files are put online so that students can listen to them not only for tasks in class but also for self-study out of class. The latter consists of instituting a brief survey and exchanging opinions through a Question. For instance, as an online video is shown, students complete a questionnaire to ensure they are paying attention (Figure 4). Video activities are often considered as merely a pleasant time. For students to understand the purpose, it must be explained and emphasized. After watching the video, students are requested to write a comment. For example, students are asked to observe the features of dialects spoken by people in areas of Japan such as Aomori and Wakayama. After watching, students write about their own experiences of friends who are from other cities, or places they have visited. They share ideas regarding differences among language variations. Another question is 'Do you know any words that consist of vowel sounds only?' They suggest 'I', 'owe', 'i' (stomach), 'e' (picture), 'ai' (love), and 'oi' (nephew). Another question is, 'Do you know any examples of alliteration?' Some examples are shown such as 'Coca Cola' and 'Mickey Mouse'. Then students add 'Tik Tok', 'Kit Kat', 'Minnie Mouse' and 'Daisy Duck'. Before they submit, they can't see their classmates' answers which are submitted ahead. After they submit, students see friends' opinions and discover new ideas they hadn't thought of. They compete and motivate themselves to answer immediately and offer unique answers or plural ones. Consequently, they deepen their comprehension. In a face-to-face lecture, they have opportunities to find out classmates' opinions and introduce their own ideas through group work or when they are requested to answer aloud. In class, it is impossible to collect many students' opinions quickly. One of the advantages of online discussion is that it can offer this opportunity to all students fairly.

It is difficult to predict how much time is needed for each activity so the teacher must be flexible. Some activities obtain reactions quickly while others take longer than expected. This depends on the level of academic achievement and the kinds of hardware and network systems students use. When a third of students finish an activity, a new material is released. For

Figure 4. One of activities in Question

a discussion, the teacher waits for more than half the number of students to answer so that students are exposed to various ideas. The teacher comments on each, which shows if it is acceptable such as by writing 'Right', 'Nice', 'Fine', 'I agree', 'Sorry it's wrong', and 'Try again'. The teacher replies to all students immediately. Adding a pictograph is efficient which can work as non-verbal communication, for instance, a smiley, a star, a musical note, and a lightbulb. If students show up late or break the connection to the site, they can catch up with the activities by working at their own pace. Although the teacher can monitor which activities students are working on, if someone falls behind in the work, it's not clear if the student is offline or at a loss. Then a personal comment can be sent to the student to verify her presence in class or to support her. The teacher can correspond with the entire class as well as each student simultaneously. At the beginning of the first semester, most questions were related to computer literacy for operating assignments, not to phonetics. Students seemed to explore the new environment and struggle with the new method. They were sometimes anxious or even frightened when they had a problem, although they could contact the teacher as required. They were relieved to ask for support and share a problem. Real-time classes have the benefit of providing psychological care for studying in isolation. After collecting the quizzes, the teacher sends them back to students with a short comment such as "Perfect!!!", "Excellent!!", "Great!", "Good!", "OK!", "Don't worry!", "Check carefully!" and "Don't skip this!" These comments motivate students and show them that their assignments have been accepted. Some students work randomly without completing them in order although assignments are numbered. Sending comments has a similar effect to circulating among students' seats to give individual direction in a classroom.

When students were asked to comment about the online class, around half of them displayed a positive attitude. Though they initially felt anxious about learning phonetics online, they found it better than they expected once they started to attend. Some of the benefits they outlined were as follows:

Students think carefully alone until they are convinced of their understanding.
Materials are available for repeated self-study out of class.
ICT including activities with videos and sound files can be efficiently used.
Students are relieved to get the teacher's immediate reply in each activity.
They complete most activities in class and have little homework.
They get excited to read classmates' opinions during discussions.
 They can practice pronunciation by themselves without embarrassment.

These observations indicate that remote learning has some advantages over face-to-face learning. Though one student complained about online learning, the remaining half indicated both positive and negative viewpoints. Despite the good points listed above, phonetics especially requires that they understand how to pronounce correctly. They desire to see the teacher speaking and get proper advice directly. In order to gratify them, a video conference can cover this disadvantage. However, success depends on the network system or hardware they use. Some students are annoyed when their environment doesn't allow it to work smoothly. Therefore, only short, infrequent video meetings should be conducted. Additionally, students are frustrated with the lack of peer work and opportunity to speak out. This issue can't be solved without face-to-face lectures, and demonstrates the value of educational institutions. What students wish for school life is not only to attain knowledge and skills but also to develop friendships. Interaction with others brings motivation and encouragement. Learning on campus has the effect of mental nourishment. Students undergo strain and stress in a long-term remote learning situation. In fact, NHK (2020) states, "Akita University in Akita surveyed students about the effects of self-restraint by the new coronavirus, and found that about 10% of the students had depressive symptoms above the

moderate level." Although remote teaching is found to be of great utility, and it is possible to rely on it in an emergency, a balance of the two teaching methods can be considered as ideal.

Analysis

When technical terms or difficult concepts are discussed in class, the word meanings should be explained with examples. Let's look at the word 'synesthesia' for example. The definition according to Herman (2013) is stated below:

> **Synesthesia**, neuropsychological trait in which the stimulation of one sense causes the automatic experience of another sense. Synesthesia is a genetically linked trait estimated to affect from 2 to 5 percent of the general population.

The meaning is difficult to understand and students are likely to show a strong reaction against it. Science isn't popular among students of the humanities in private universities in Japan. The first explanation should be easier and more accessible. Watson (2018) explains:

> Synesthesia is a neurological condition in which information meant to stimulate one of your senses stimulates several of your senses. People who have synesthesia are called synesthetes.
> The word "synesthesia" comes from the Greek words: "synth" (which means "together") and "ethesia" (which means "perception"). Synesthetes can often "see" music as colors when they hear it, and "taste" textures like "round" or "pointy" when they eat foods.

This explanation seems clear and simple. It would be helpful in class, but still may be difficult for non-English speakers. It could be further restated into ordinary, more familiar language. Below is an example of a discussion given through the Question feature of Google Classroom.

> Here is today's final activity. Have you ever heard "synesthesia"? If not, no problem. Let's think about it together. "Synesthesia" is a neurological phenomenon, meaning something happens in the brain. We have five senses.

-sight 👀
-hearing 👂
-smell 👃
-taste 👅
-touch 🙌

Each body part is individual, but we feel something through the brain. Synesthesia means the production of a sense impression relating to one sense or part of the body by stimulation of another sense or body part. Similar to this is how we can make associations across our senses. For example, when you hear "lemon", you feel sour in your mouth. A blind person might imagine scarlet is like the tones of a trumpet. The first example shows the combination of hearing and taste. The second one shows that of sight and hearing. When I was a high school student, I used to buy a set of multi-colored notebooks. I chose a blue one for math, pink for Japanese, green for science, purple for social studies, and yellow for English. It might depend on my personal synesthesia, so I think some of you agree while others disagree. Today, we studied the vowels, a, e, i, o, u. If you were to paint these vowels, what colors would you choose? Please answer five colors one for each vowel.

   [e.g.] a: black / e: white / i: brown / o: beige / u: gray

This is fake, ha-ha. Please paint the vowels colorfully!

The passage above is longer than Watson (2018), but it includes some clear information about the concept of 'synesthesia'. If students cannot connect such an abstract concept to their own life experiences, it will pose great problems for their understanding. If a perfunctory explanation was given, the word would be banished to oblivion in their minds. It is significantly more effective to explain in colloquial English. Giving a simple description with a creative activity is sure to make a strong impression on students. It also allows the teacher to measure the students' comprehension as they are required to read carefully and give their opinions. This task was completed by eighty-three students. Three of them failed to answer properly; two answered 'a, b, c, d, e' instead of 'a, e, i, o, u' and one answered five kinds of fruit. Eighty students described their ideas appropriately which comprised approximately 92% of all participants. This reveals most attendees comprehended the technical term and the directions for the activity. They selected five different colors for vowels. The results are as below in Figure 5-9. Each vowel collects some colors. One or two colors

have a particular popularity among students. Let us observe each tendency.

As for 'a' in Figure 5, red was allocated by 88.75% of students, which is the most conspicuous result of all vowels. 'a' tends to have a considerable impact as the first order of alphabet. The color of red can imply strength and activeness. 'a' can be described in phonetic symbols as /a/ in Japanese
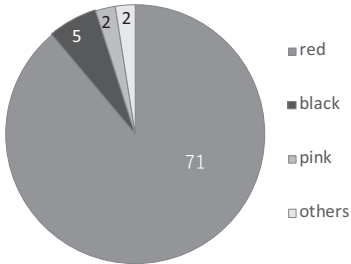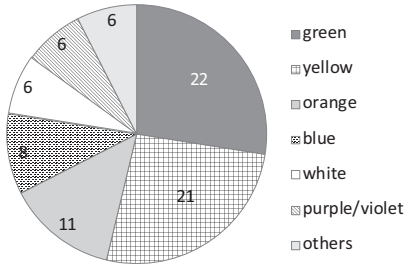
Figure 5. The results of 'a'

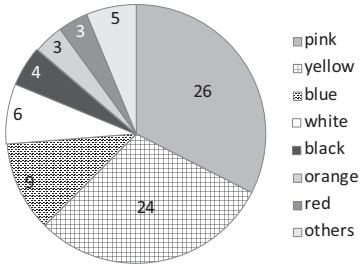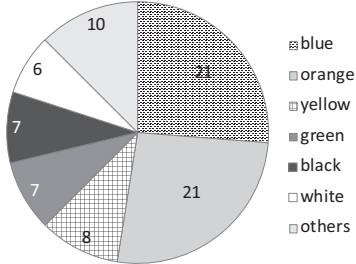Figure 6. The results of 'e'

Figure 7. The results of 'i'
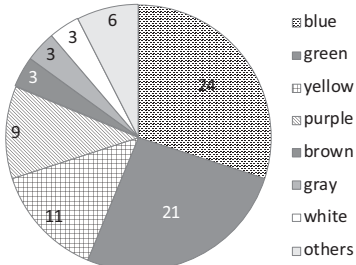
Figure 8. The results of 'o'

Figure 9. The results of 'u'

or /eɪ/ in English. /a/ is a low central vowel while /eɪ/ consists of a mid-front vowel and a high front vowel. Both are pronounced with a large space in the mouth which could be considered broad and bright. In English education for younger learners, 'a' is frequently introduced with 'apple', and when they learn alphabet and phonics, the most popular example of 'a' is 'apple'. This experience might explain the result of red being the most commonly chosen color.

Regarding 'e' in Figure 6, green and yellow exceed a quarter each. 'e' can be pronounced as /e/ or /iː/. A high front vowel /iː/ can express sharpness which might be related to yellow. A mid-front vowel /e/ sounds milder than /iː/ which might imply green. The third most popular color selected was orange. It is similar to yellow but warmer and gentler which might explain both the /iː/ and /e/ choices. Concerning 'i' in Figure 7, the top two choices were pink and yellow, and both are vivid colors. 'i' can be described as /ɪ/ or /aɪ/. /ɪ/ is a high front vowel while in /aɪ/ a low central vowel precedes it. These phonemes sound clear which may have led students to choose such colors. 'ai' has a meaning of love in Japanese which also could have made them answer pink. Regarding 'o' in Figure 8, blue and orange were each represented by over a quarter. 'o' can be pronounced as /o/ in Japanese or /oʊ/ in English. /o/ is a mid-back vowel while /oʊ/ includes a high back vowel with it. Back vowels can be expected to symbolize dullness because they are articulated inside the mouth. Dark or cold colors like blue seem appropriate to associate with this feature as well as green and black which came in fourth place. Conversely, another popular choice for orange was at the opposite extreme. This might have resulted from the initial letter of 'orange', similar to the example of the 'a' in 'apple', as seen above. Concerning 'u' in Figure 9, the top two choices were blue and green. 'u' can be described as /u/ in Japanese and /juː/ in English. /u/ is a high back vowel although longer with a semivowel ahead in /juː/. This feature is similar to 'o', so the two results bear a resemblance. Blue collected the largest number of votes and green was the second most popular. Some more dark colors followed such as purple, brown, and gray in the fourth and fifth places. This could result from the tendency that 'u' implies gloom and melancholy.

In this way, each vowel can be analyzed with the results. 'a', 'e', and 'i' were generally positive, implying some features of activeness and clearness by high, front or central vowels. Conversely, the back vowels of 'o' and 'u' tend to be negative, expressing dullness and gloom. In general,

the results correspond to sound symbolism. Hamano (1998) quotes five vowels by analyzing Japanese onomatopoeia: "The meaning of /a/ which we identified as 'expansiveness' and 'conspicuousness'" (p.82). "The meaning of /e/ is 'vulgarity'" (p.79). The meaning of /i/ is "'straightness' or 'directness'" (p.79). "/o/ has a sense of inconspicuousness" (p.78). "/u/ expresses a mellow, unobtrusive sound" (p.80). Overall, these implications share results with the discussion above. This question was posted in the fourth week when students had started to learn vowels. Students had no preliminary knowledge, so they seem to have answered instinctively. It is no accident that the most commonly chosen colors reflect sound symbolism, though the other colors are not considered as incorrect. This activity was a fun way to introduce new concepts to students. Through using the example of synesthesia and color associations, they were offered a new way of thinking about vowel sounds. Not only this, but it may help them to master these sounds as they focus on them with more awareness. This activity can be considered as an efficient practical demonstration of mental associations between senses.

Conclusion

LMS can offer several kinds of activities and it is possible to apply different teaching methods through it. Teachers can utilize it if they have sufficient time to prepare in advance. Once they start to understand the system, they can gradually cultivate techniques and be as comfortable teaching through LMS as they are in face-to-face lessons. Students are also beginners in online learning, and both teachers and students often struggle in a new environment. Teachers can work not only to teach their specific field but also encourage students online. Talking in a video meeting is an effective way to give advice via a screen. Students feel relieved to see their teacher's face and hear her voice. Posting assignments can also be an effective way to communicate, and sending them back with comments and corrections motivates students. Though the teacher's reactions to students' work may seem trivial, it allows students to understand that she too is working hard.

Nowadays, there are many attractive online materials on the Internet, which can be invaluable to teachers. Teachers need to use different tools for different tasks, namely, the use of technology or human resources. Communication is essential with any teaching method. Though online

classes can be considered as learning through an inhuman electronic device, they enable people to establish rapport with each other through remote communication. The absolute necessity of online teaching arose unexpectedly for everyone. However, it must be seen as an opportunity to commence a new challenge which was inevitable sooner or later. After overcoming the pandemic, many teachers will continue to make use of online education.

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