SEKIGUCHI Mio and FRITZ Brandon

Innovative Solutions for Remote Education: Combining Live-Streaming and Hybrid Classes

Abstract

The University of Maryland Global Campus (hereinafter referred to as UMGC) has eight satellite campuses at U.S. military bases in mainland Japan. However, with the exception of the UMGC Asia headquarters at Yokota Air Base, these are relatively small-scale college campuses where intermediate Japanese classes are not typically offered. Therefore, in recent years, UMGC has expanded to a remote education system called "live-streaming". This system is linked from the main campus to the smaller colleges through video teleconferencing. Based on the live-streaming set up, an on-site meeting is held once a week. During the rest of the week, the students are assisted by online education. This combined on-site and online instruction is referred to as a "hybrid class". This research note explores UMGC's application of hybrid classes. Pros and cons about both hybrid and live-streaming systems are presented based on instructor and students' (home and remote) opinions/impression as well as through a UMGC course evaluation. The authors conclude that while hybrid classes are a revolutionary method of educational instruction, they must be implemented correctly with a focus on instructor-student interaction.

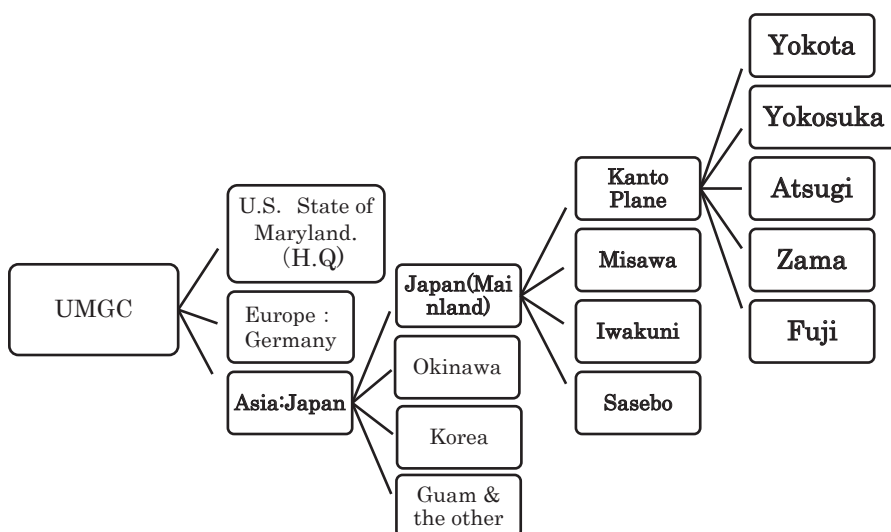[Keywords] live-streaming, online, on-site (face-to-face), hybrid, remote-education

0. Preface

In modern society, computers and the internet are indispensable. Students often learn language through applications and online materials held on educational sites. This report considers internet, or remote, education at The University of Maryland Global Campus in Asia. This college, in particular, has implemented a hybrid version of two methods of internet education, effectively incorporating the merits of both on-site (classroom) and online education.

1. The University of Maryland Global Campus

1-1. Organization and locations of UMGC

UMGC campuses are installed at U.S. military bases throughout the world, headquartered at three schools: United States (the main headquarters), UMGC Europe and UMGC Asia. Figure 1 below shows the location structure of UMGC.

```
                                                                    ┌──────────┐
                                                                    │  Yokota  │
                                                                    └──────────┘
                                                                    ┌──────────┐
                                                                    │ Yokosuka │
                                                                    └──────────┘
                  ┌──────────────┐                  ┌────────┐      ┌──────────┐
                  │ U.S.  State of│                  │ Kanto  │      │  Atsugi  │
                  │   Maryland.   │                  │ Plane  │      └──────────┘
                  │    (H.Q)      │                  └────────┘      ┌──────────┐
                  └──────────────┘   ┌──────────┐   ┌────────┐      │   Zama   │
   ┌────────┐                        │Japan(Mai │   │ Misawa │      └──────────┘
   │        │     ┌──────────────┐   │  nland)  │   └────────┘      ┌──────────┐
   │  UMGC  │     │  Europe :     │   └──────────┘   ┌────────┐      │   Fuji   │
   │        │     │  Germany     │                  │ Iwakuni│      └──────────┘
   └────────┘     └──────────────┘   ┌──────────┐   └────────┘
                  ┌──────────────┐   │ Okinawa  │   ┌────────┐
                  │  Asia:Japan  │   └──────────┘   │ Sasebo │
                  └──────────────┘   ┌──────────┐   └────────┘
                                     │  Korea   │
                                     └──────────┘
                                     ┌──────────┐
                                     │ Guam &   │
                                     │ the other│
                                     └──────────┘
```

Figure 1: UMGC-Asia and Japan (Mainland) Locations

1-2. Courses at UMGC

UMGC offers a Masters of Business Administration (Graduate) course, and various courses supporting associate and bachelor's degrees (Undergraduate).

1-3. The UMGC student body

The student body consists of U.S. military personnel, their dependents, veterans, and base employees that meet certain eligibility requirements. Additionally, citizens of the country where the United States military base is installed may also be eligible to enroll in classes (e.g. Japanese citizens at Japan bases). This is true also of Japanese citizens with respect to bases located in Japan. However, due to the U.S.-Japan Status of Forces Agreement, the U.S. military bases are somewhat isolated from Japanese society, and indeed it is not uncommon for an American way of life to be prevalent on U.S. bases throughout the world. For these reasons, unlike typical international students who study abroad in Japan, UMGC students lack immersion in Japanese life; they are able to live in Japan while maintaining their American lifestyle and without any contact with the outside (Japanese) unless the student voluntarily initiates contact with Japanese society.

2. Education System

2-1. Diversity of the university system

UMGC is engaged in various styles of education in order to accommodate classes scattered around the world and working students with time constraints affecting their studies. The work style and shifts of the students working on the base are so diverse that they may even require regular absence from class.

UMGC has three main educational styles. The first of these offers a traditional classroom setting with an in-person lecturer, referred to as 'on-site' or 'Face-to-

Face (hereinafter referred to as F2F)'. The second style includes classes that
can be taken solely online using a computer, referred to as 'distance learning' or
'online/remote education'. The third, "hybrid style", is a new "combined" style of
education that the university has been exploring since 2015. There are various
classroom settings for on-site and hybrid classes.

## 2-2. On-site (Face-to-Face, classroom) and online education

The traditional style of the classroom involves physical time constraints. Like
many of students attending UMGC, working students and long-distance students
tend to have difficulty in this environment. A majority of the classes at UMGC
are night studies and weekend classes to accommodate those working students.
UMGC also tailors classes to military units. There is a special "squadron class"
(also called 'unit class') for different units, such as the hospital staff in the
base hospital, scheduled to offset the impact of students' irregular work hours,
for example, during lunch break on base four days a week. Another example
of a unit class is for the airport staff who use a waiting room in the airport
which lacks a whiteboard and computer equipment, as their classroom. Despite
these accommodations, it is still difficult for the university to secure minimum
enrollments and to secure a classroom for on-site lectures. Therefore, many
classes are often cancelled just prior to the class start date.

2-3. Online class methods

UMGC online classes utilize an interface called "LEO (Learning Experience
Online)". Even if students are not registered for an online class, it is possible
to log into LEO from an individual account. Instructors can also log into LEO
from a personal account and access the classes they teach. Through LEO,
instructors can upload information such as the course syllabus, schedule, and
class materials, as well as announce rescheduling of class times and other course
news. LEO also includes information about students (such as e-mail addresses
and majors), which is available to any student that has a LEO account.

In recent years at UMGC Asia, the number of online class enrollments has
exceeded the number of on-site subscribers. This is shown in Table 1. In Asian
schools, Japanese and Korean language can be studied as foreign languages.

Table 1: UMGC Asia On-site/Online Enrollment Transition (Cronin/Maguire, 2018)
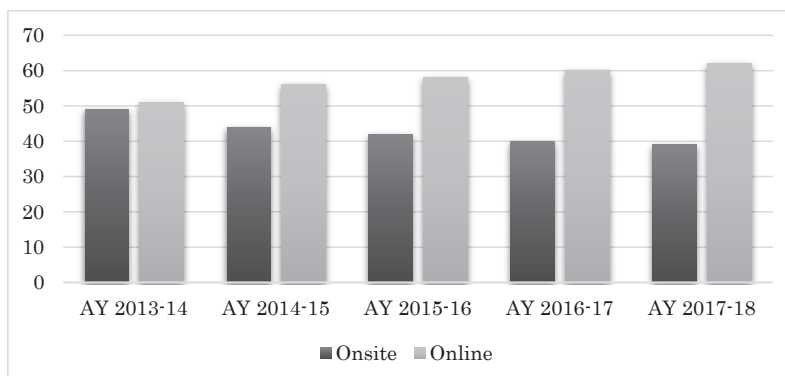
The author of this paper used LEO while instructing a hybrid-style class. However, for the purposes of this report I will introduce a method of using LEO for an online class, as shown in the following four screenshots.

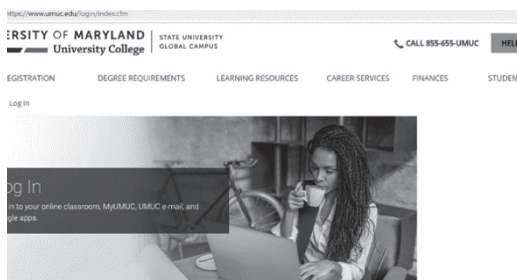**Photo 1: UMGC Asia Homepage**   **Photo 2: LEO My Classes**

After logging in from the home screen shown in the Photo 1, the user will be taken to a page ('My Classes') that displays relevant university announcements and classes with which the student or instructor is associated. In Photo 2, instructors are able to view a list including both classes they have taught in the past and classes they are currently teaching. Students are similarly able to view a list of classes they have taken in the past as well as those in which they are currently enrolled.

Photo 3: Japanese 222 Home Page   **Photo 4: LEO Cyber Cafe**
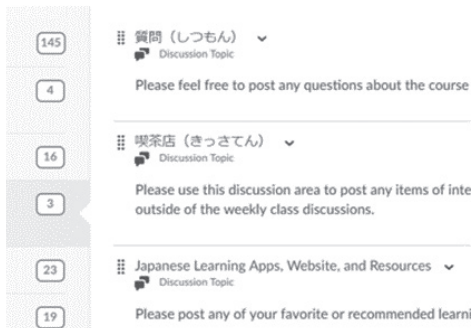
Photo 3 shows the home screen of the class Japanese 222 (Intermediate II) when it is selected from the list on the previous screen. The instructor of this class can inform students of class announcements via the home screen and send e-mails from the Class List. In Photo 3, one of these announcements is displayed as Japanese Culture (Tea Ceremony) PPT. This is an example of attaching a PowerPoint file for students to learn about tea ceremony more clearly than would be possible with only LEO, as even in Japanese (language) classes understanding of Japanese culture is crucial. In this way, the instructor can post additional materials and announce events on the original (UMUC headquarters' creation) LEO site.

The column on the left shows more detailed content of Japanese 222. In Photo 4, Question to the Professor and Cyber Café was selected as an example. By

utilizing the Cyber Café site, students taking an online class where they are not able to meet directly with an instructor in an on-site classroom can ask and have their questions answered remotely. Moreover, the students are able to exchange opinions and share information with their classmates through coffee shop page (きっさてん；kissaten, second line on the main screen). In the former case, the students introduced each other to the 'Kanji' app for easy learning for English speakers. For the student's first required action, they must introduce themselves by using this site, and recognize each other as classmates. The students can talk directly to their teachers about any problems, make a study group, and call for a study session, too. In this way, the LEO online site also helps students to learn independently.

2-4. The significance of hybrid class

The hybrid education system combines both online and on-site learning. Students attend 50% F2F (classroom lecture) and 50% online. For instance, if they register for a F2F class, they normally have to attend classroom instruction two days (total six hours) a week (Mondays and Wednesdays, or Tuesdays and Thursdays). If they register for a hybrid class, they have to attend once a week (three hours) and submit online assignments.

As previously stated, UMGC students typically work full-time jobs with unpredictable hours which makes it difficult for them to attend the classes physically. Because of this there has been an increasing number of online registered students. However, some students prefer the traditional setting of an on-site learning experience which provides encouragement and support for studying. Therefore, the hybrid class is an effective system to give students a traditional learning environment along with the flexibility desired by those with busy schedules.

Mr. Karl Evans (2019), Scheduling Analyst for University of Maryland Global Campus - Asia, researched UMGC's "PeopleSoft" scheduling database and discovered UMGC began offering Hybrid classes in the Fall of 2009. Worldwide they offered 15 out of 806 sections (2%) during that term (both sessions). A decade later, UMGC offered 376 out of 551 sections (68%). (K. Evans, personal communication, May 6, 2019). Courses such as Math, Statistics, and Economics are generally not taught in the hybrid format due to the need for in-class mentoring, however language classes have been recently included. UMGC continues to advocate for more hybrid classes while faculty embellish their online strategies within the LEO classroom.

2-5. Hybrid class lecturer

In order to be a lecturer in a hybrid class at UMGC, professors are required to obtain credits in the "Training Effective Hybrid" by LEO online class. This is a one-week intensive course, which was given by a lecturer from UMGC headquarters in Maryland. When I attended this online class, I was the only lecturer from Asia. The course taught instructors how to use the online system (LEO), use Cyber Café to exchange views with classmates, talk to each other, and evaluate students. Finally, we reviewed the actual online class and submitted a two-week virtual lesson plan and virtual evaluation as one of the

assignments.

The course is based on EST (US Eastern Standard Time), even for Asian and European participants. Additionally, the classes are all taught in English and the extensive supporting class materials are also in English so participants must be fluent in English. Asian language instructors (Japanese and Korean) have to spend a tremendous amount of time because English is not their native language. Therefore, most of the instructors who prefer the face-to-face class are not willing to take the hybrid class unit voluntarily. In fact, to date only four Japanese instructors teach hybrid courses.

3. Combination of both Face-to-Face and Live-Streaming Classes

UMGC, as mentioned in 2-3, offers a variety of hybrid classes. However, it is often difficult to open the course due to low numbers of students. Therefore, UMGC also offers a hybrid live-streaming class which is connected to two or three campuses via camera to solve the shortage of students. Japanese live-streaming classes just started being implemented last year.

Mr. Evans also discovered that UMGC began live-streaming in the Spring of 2013, offering 6 combined sections. Six years later UMGC offered 24 combined sections (Evans, 2019, see reference). Like hybrid classes, courses that require in-class mentoring are generally not live-streamed. However, improvements are being made to screen-share capabilities for courses such as Math and have had improved success. Overall, UMGC continues aiming for the ultimate student experience while improving connectivity and delivery techniques.

This paper reports the fall semester Session 1 (August 20 to October 14, 2018) which held 16 courses at Yokota Air Base. Yokota Air Base is the UMGC headquarters on mainland Japan and it has the highest number of courses in Japan.

A. Live-streaming and Hybrid Courses (4 classes)

    A-1. Introduction to Principals of Accounting (Home: Yokota, Remote: Iwakuni)

    A-2. Human Biology (Home: Yokota, Remote: Iwakuni)

    A-3. Intermediate Japanese II Japanese 222 Intermediate
       (Home: Yokota, Remote: Yokosuka and Misawa)

    A-4. Introduction to Psychology Introduction to psychology
       (Home: Yokosuka, Remote: Yokota)

B. Hybrid Courses (8 classes - details omitted)

C. On-site (Face-to-Face) Courses (5 classes)

    C-1. Elementary Japanese I Japanese 111

    C-2. Elementary Japanese III Japanese 114

    C-3. College Mathematics Math (Mon/Wed)

    C-4. College Mathematics Math (Tue, Thu)

    C-5. Laboratory in Human Biology Lab.

(A) "Remote" refers to the live-streaming classes where the students take the class in a remote classroom through the screen recorded from home classroom.

The students in the live-streaming classes also receive on-site instruction for half of the course as part of the hybrid program. (B) is a hybrid class at home meeting. (C) is a face-to-face. Remote education makes up of just over 20% of the 17 classes.

Table 2: UMGC Asia Enrollment (Cronin & Maguire, 2018)
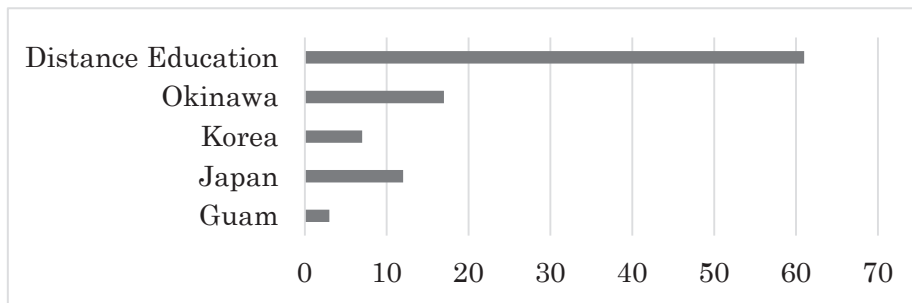
Table 3: Classes by Instruction Method (Cronin & Maguire, 2018)
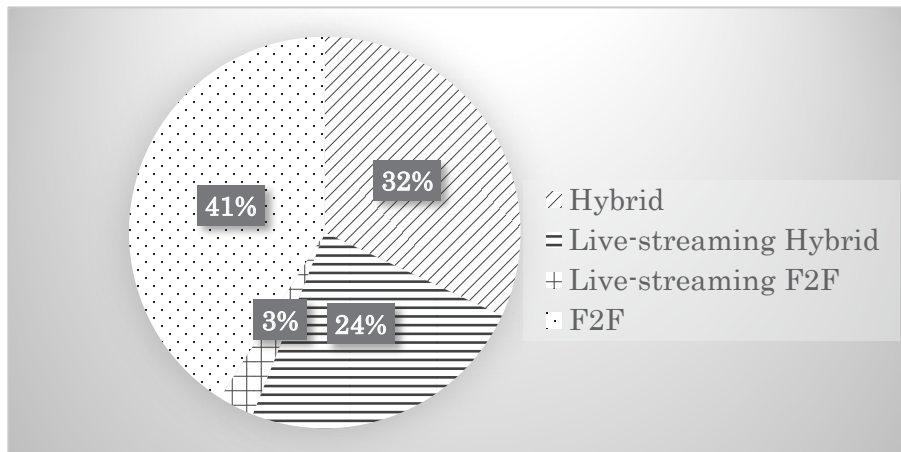
4. Japanese Education in UMGC

4-1. Associate Degree

   To obtain an associate degree, the students are required to obtain credits for Japanese 111 and 112. Japanese 111 holds high numbers of enrolled students making it one of the top three most popular classes in UMGC Asia. In addition, the enrollment rate of Japanese 112 also ranks in the top 10 in UMGC Asia. As a matter of course for liberal arts degrees, the students take "Writing 100", "Speech Communication 100" which are the Basic English subjects, and "Math" and "Biology". In addition, because UMGC has the MBA (Master of Business Administration) program, there are many students taking business subjects, such as management studies.

However, there are many students who do not necessarily take Japanese classes purely for aim for graduation credits. For example, students who already have a bachelor's degree in the United States, veterans, and spouses may take the Japanese classes for varieties of reasons such as for sophistication, for business, and for communicating with Japanese society.

4-2. Bachelor Degree in East Asian Studies

Live-streaming classes were performed at Yokota Base as a home class and at Yokosuka Base and Misawa Base as remote classes during those sessions.

Hybrid classes were held at the same time in the classroom of each base in the live-streaming format and the homework check and the project were done online in the face-to-face session of three hours (Saturday) once a week.

4-3. Live-streaming in Japanese classes

Live-streaming is carried out using a variety of equipment (photo 5) under the cooperation of the computer (information technology) staff (Trans and Rozzi 2018).

Photo 5: Live-Streaming Equipment (Trans & Rozzi, 2018)
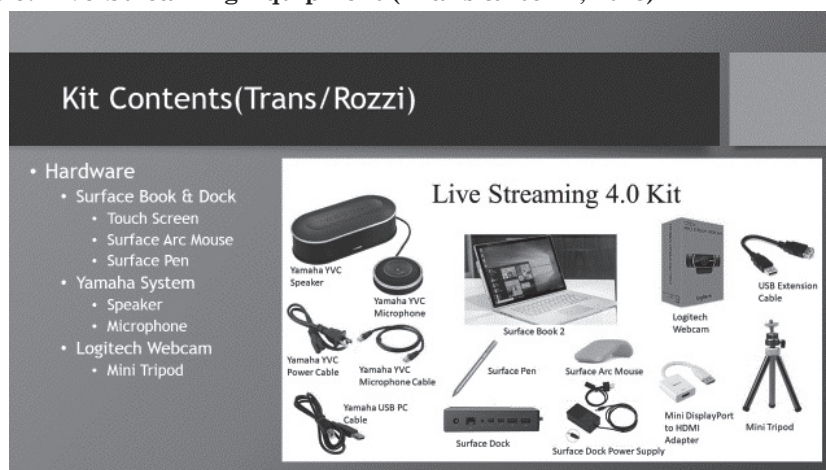
<Japanese 111 to 222 classes> *Project: Speech Video, **L-S: Live-Streaming class

Japanese 111: L1~4 Hiragana/Katakana * Japan culture (present in English) F2F

Japanese 112: L5~8 Katakana, Kanji, *Japan culture (present in Japanese) F2F

Japanese 114: L9~12 kanji, *Japan Socio Sturdies (English and Japanese, video), **L-S

Japanese 115: L13~16 Kanji, *my dream/Hope (Japanese, video), **L-S

Japanese 221: L17~20 Kanji, *Self Introduction (using honorific, Japanese video), **L-S

Japanese 222: L21~23 Kanji, *honorific Expressions (Japanese, video), **L-S

Per UMGC policy, there are no restrictions on textbooks, but since we used "Genki (Banno, E et al., eds. 2011, The Japan Times)" to avoid variability

in previous F2F-only classes, we decided to continue to use the Genki series
(grammar, kanji, conversation, etc.) along with "Genki I and II" online. Videos
were taken by each individual student and uploaded to sites such as YouTube.
The student then sent the site link to the teacher via email. Students can list the
instructors and share them with all their classmates.

4-4. Japanese 222

Japanese 222 is the final in a series of classes beginning with Japanese 111
(from "Genki I"), and is the equivalent of Intermediate II at UMGC. The course
spans "Genki II" Lesson 21 through the final section of the textbook, Lesson
23, and covers 317 characters in Kanji through Japanese 112, and grammar
includes polite expression, passive form, and causative form. However, because
the "Genki" conversation (Dialogue) is not relatable to the working student, the
instructor changed the task to adapt it to student life at UMGC by conducting
work-related conversations in F2F, and requesting the submission of a project
video.

4-5. Home and remote classes (development from Japanese 115 to Japanese 222)
4-5-1. Task sharing in the home and remote classrooms

There are two drawbacks to the live-streaming class. One of the problems
is that there is a difference in the quality of the class for physical reasons,
because the home location (the class which actually receives the lecture from
the instructor in F2F, photo 6-1&6-2) differs from the remote location (the class
which receives the lecture through the camera). Dealing with the difference is a
serious challenge. In fact, from students who took 112 (home base: Yokosuka) in
a remote area (Yokota) in the past, we have received complaints that students in
the remote areas "feel left out of class." I, too, got that impression. It was pointed
out that the lecturer was apt to be distracted by students who are taking the
class physically in the F2F environment. For the first time, the author taught a
live-streaming/hybrid format class in Japanese 114. The instructor had difficulty
using the equipment and communicating with students through the camera. The
instructor's attention tends to be directed towards students physically present in
the classroom, reacting in real-time. Therefore, the instructor designated tasks
for students based on the type of classroom (home or remote). For example, home
classroom students wrote the homework on the whiteboard, in particular kanji.
While home classroom students are performing these tasks, students in remote
classrooms are encouraged to give hints, point out mistakes, and encourage
the home classroom students through the camera/microphone (photo 6-1). The
remote students would read reading comprehension stories and answer grammar
questions. To summarize, the home students are in charge of the whiteboard
(visual), and the remote students are in charge of speaking/reading (audio).

In Japanese 114 and 115, students were still puzzled and classes progressed
slowly. However, when it came to Japanese 221 and 222, the students understood
what to do and time was more efficiently used.
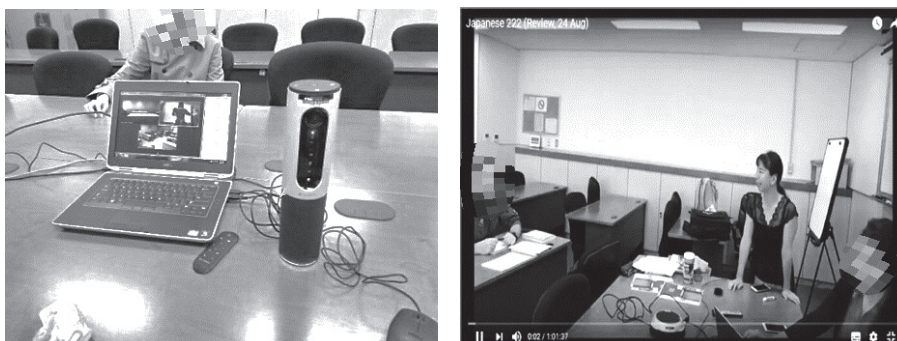
Photo 6-1 and 6-2: State of the classroom in the base area

4-5-2. Changes in group studies in remote classrooms

A second problem of live-streaming classes is the difficulty of peer group studies. Especially since the students in remote areas are looking at the monitor ahead, they naturally arrange themselves in columns such as the seating arrangement shown in Photo 7. This type of seating arrangement does not maximize the classroom as a space for learning, as it transforms students into individuals who do not communicate with each other, and the teacher and the individual solely interact. In fact, the students who spent only one semester in such a circumstance do not even remember the names of each other, and the students completed the course without having helped each other in Japanese 114 and 115.

However, Photo 8 (below) depicts three students consulting with each other and breaking down the lecturer's explanation in Japanese 222, the fourth semester in this program. The lecturer designed each location as a "team" and called on "Team Yokosuka" or "Team Yokota" or "Team Misawa" to answer the question, rather than naming individuals for questions. When an individual student was singled out, the other students were indifferent. However, when we identify as a "team", human interaction is initiated in each classroom to come together to problem-solve and answer the question. Through this process individuals would emerge as leaders if they were better able to explain the content to the whole team. As they saw one team do this, other students (Yokota/Misawa) also began to show reactions and try to give hints. Overall, this made students feel more comfortable during the uncomfortable process of practicing a foreign language. By treating it as a "team" in this way rather than a class formatted between individuals, students commented that it was easier to express what they are thinking and that they were less worried about giving an incorrect answer. In fact, even within the class, only the lecturer spoke in a one-sided manner and it became a student participation-type class.

Photo 7: Whiteboard of home student (JP 115)   Photo 8: Group Study, Remote (JP 222)

4-5-3. Pros and Cons in Live-streaming Classes

There are many pros and cons to live-streaming classes listed in Table 4. The most obvious pro is the ability to connect with and reach students that are geographically separated or attending classes at a small campus. However, a side effect of this is the need for additional self-study. This means that students must be motivated and dedicated to learning and understanding the language. This commitment is typically found in the higher level as opposed to the beginner level classes. Additionally, students do not receive much in-class demonstration. This is especially challenging for remote students and therefore does not favor beginner level classes that typically require much more assistance. Finally, due to the nature of being geographically separated with only one terminal for communication and limited meeting time, conversational learning can be challenging and in-class speech tasks often have to be completed outside of class by filming and uploading videos. Fortunately, upper level students typically have Japanese friends and/or family that can assist with speech learning.

Table 4: Pros and Cons of Live-streaming Hybrid Classes

Contents	Pros	Cons
Meeting/ Motivation	Classroom meeting more easy geographically seperated.	Hybrid needs self-study, so big numbers of students need motivational boost from the instructor and classmates.
Level	Upper Japanese 114 (no requirement students have motivation).	Japanese 111/ 112 students less motivation students have hardship, so not good for beginners.
Writing	Coursework is plentiful.	Students do not receive much classroom demonstration, so not good for beginners.
Speech	Save time in class (upper 114, they have Japanese friends/ family in many cases)	Less opportunity for in-class speech tasks (See Table 6)

5. Instructor Impressions

The existence of live-streaming/hybrid-style classes is indispensable in the environment of colleges on U.S. military bases which do not easily function as a standard university facility. Because most of them are working students, it is difficult to keep the number of students constant, and it is also difficult for students to attend class physically. In addition, the schools on bases are typically lacking educational facilities. The same can be said at other traditional universities. The demand for online degree schools is increasing in the U.S. (Refer back to Table 1). However, language learning (such as memorizing and understanding) cannot rely on the "self-study" nature of an online class, because the purpose of language is communication. This is mainly due to a lack of support in areas such as communication and non-verbal expression. Hybrid and live-streaming classes can be used to alleviate this issue and improve language learning at online universities.

Hybrid and live-streaming classes solve many of these problems: classes with small enrollment can be held, teamwork among students becomes stronger, and the instructor can record the screen, enabling students to review the lesson afterward even if they had been absent from that class. However, there are a lot of problems due to technical reasons. From an environmental perspective, the screen can be difficult to see, and because the instructor cannot see in detail what students are writing, such as the kanji writing process, he or she may not recognize whether the student has adequately understood the instruction.

From a technical perceptive, 'it takes time to get used to the system with instructors and students', 'the class may be interrupted by technical troubles' and 'the instructor and a student can't talk at the same time'. Moreover, with students who would not participate voluntarily in a regular classroom setting, the lecturer must spend a lot of effort trying to call their name many times to encourage them to participate.

6. Student Impressions

Although remote education has evolved over time, there are still some distinct pros and cons from a student's perspective. The second author of this paper, Fritz was a student in all four of the hybrid courses listed in earlier sections taught by the first author, Sekiguchi. Since "distance learning" is becoming more commonplace, the majority of the following observations are focused on the "live-streaming" sections of the courses taught. Fritz attended every class in the home location (Yokota).

One of the strongest and most obvious advantages for students and universities is increased enrollment. Increased enrollment helps universities meet the minimum required number of students to execute a class, thus giving students more opportunities to take classes that were once difficult to fill. As mentioned earlier, another side-effect of remote education is increased teamwork. While this may seem somewhat ironic, students from each remote location form their own "teams", motivate each other, and work together to answer assigned questions

in class. Instructors can leverage this concept to encourage active participation and increase the overall enjoyment of the remote experience. Finally, with proper permission, the university may record each class session. This is a benefit as it allows students to observe classes following excused absences. It also enables students to review previous lessons to assist with future projects and final examination preparation.

There are also some disadvantages that come with remote education. Many of these are evident due to lack of reliability that comes with most emerging technologies and can be dependent on the university's investment in equipment and infrastructure to support remote classes. For example, the quality of the live-stream transmitted video may be substandard due to a poor-quality video camera. Additionally, a substandard network connection may cause delays in video and/or audio and may cause the feed to disconnect entirely. Technical issues such as this cause interruptions that can be lengthy depending on the information technology support that the university delivers. Table 5 lists some of the common technical issues associated with live-streaming and possible solutions.

Table 5: Technical Issues and Solutions Associated with Live-Streaming

Issue	Solution
1. Sound is not as clear as on-site lecture.	1a. Invest in high quality microphone. 1b. Change location of microphone. 1c. Improve setting (ie. soundproofing to eliminate outside distractions, acoustic room improvements, etc.). 1d. Upgrade network equipment (ie. internet service, modem, etc.).
2. Video is not clear enough to identify students.	2a. Invest in a high quality camera. 2b. Change location of camera. 2c. Improve setting (ie. increase lighting, eliminate glare, etc.). 2d. Upgrade network equipment (ie. internet service type, data rate, modem, etc.).

Additionally, there are shortcomings in the "human" aspect of the class. The use of remote education technology makes it difficult to build a traditional student/professor relationship and can create a barrier for interpersonal relationships and communication overall. Table 6 below shows some additional interpersonal issues experienced and solutions the instructor used.

Table 6: Interpersonal Issues and Solutions Associated with Live-Streaming

Issue	Solution
1. Feeling of distance between the instructor and remote students.	1a. Instructor visits to remote locations. 1b. Remote students visit the home location.
2. Inconsistent progress checks. The instructor cannot physically check remote students' work.	2a. Utilize email/LEO for assignment completion 2b. Divide progress checks according to location suitability (ie. Home students write Kanji on whiteboard, remote students answer grammar questions.
3. Conversational projects are difficult because there is only one interface to work with and limited class time.	3. For speech assignments, utilize YouTube and Google to upload videos during the week to share with instructor/classmates.

A student from one of the remote locations (Sekiguchi and White 2019) referred to their experience as one of "monitored self-study". Most of the week was spent as a standard online class working assignments and preparing for the face-to-face live-stream session. During the live-stream, students could check their work and gauge the progress of their self-study efforts over the week. If the student had a question during the week, it was easy to get in touch with the instructor through email. This student found it to be convenient because they proceed at their own pace. They also found the team environment to be motivating.

During the summer 2018 semester, UMGC held a Japanese 221 class using the newly implemented hybrid live-streaming format. An end-of-course evaluation was completed by all 10 enrolled students. 28 different areas were rated on a 5-point scale with "1" being the least favorable score and "5" being the most favorable score. Based on the data from this evaluation, the lowest mean scores were in the areas of course structure (3.6 out of 5.0), student interaction (3.6 out of 5.0) and faculty-to-student instruction (3.4 out of 5.0). The "course overall" mean score 4.42 out of 5.00, while the "course design" score was 4.68 out of 5.00.

In this evaluation student comments were also collected in two areas: strengths and areas for improvements/recommendations. In the area of course strengths, all student comments made reference to the professor and quality of instruction. In areas for improvements, three students specifically commented on the hybrid live-streaming class format. One student stated that higher-level (intermediate) Japanese courses should be taught in a face-to-face only environment. Another comment was that an "instructor in the classroom would be better than watching (class) on a television." Along those same lines, a student said that "Learning any language in a strictly streaming-based setting is incredibly difficult" and that they preferred a face-to-face setting.

Based on this data we can conclude that while students don't necessarily

oppose the hybrid design, there is much to be desired as how the hybrid class is implemented in the area of professor-student interaction. This could be due to technological struggles or the lack of personal interaction in the remote environment of live-streaming.

The implementation of any emerging technology is a learning process for the institution and students. The university must understand the requirements to effectively conduct remote classes, including equipment, information technology support, and professor training. There is also a learning process for students who haven't been exposed to this type of learning environment. From the student experience at UMGC over four sequential Japanese classes, the overall experience improved as the familiarity of the staff, faculty and students progressed. There were issues that required participants to adapt and overcome. Through this experience, it is the author's opinion that the benefits of remote education outweighed all associated challenges.

7. Summary

By balancing the live-streaming and hybrid format, various problems in remote education have been improved. The hybrid format is considered to incorporate the main advantages of both the F2F (classroom seat) and online instruction. Because online self-reliance is imposed, it is possible to question self-responsibility, and it becomes an index to evaluate oneself objectively. In addition, because of the advantage that the in-class time for F2F is halved, it is possible for working students to use their time effectively. Furthermore, the advantage of live-streaming is that even with low enrollment at one location a class can still be offered. At small campuses, there are few students and fewer lecturers, so there are limited courses to be offered. Students may be unable to complete their degree if the classes that can be taken are limited, and they may experience a feeling of injustice regarding the base (home vs. remote) at which they have been stationed. However, live-streaming makes it possible to open a class with only three students. Therefore, it is possible to open the intermediate-level Japanese as in the example of this article, and the students are able to acquire enough Japanese subjects for the East Asian Studies major.

However, there are many points to be improved in this method. The students in the home base are able to take classes directly with the lecturer, and the lecturer can recognize the weaknesses of each student in detail. Students in remote areas watch video feeds, so instructors and students are not physically aware of each other. Instructors are not able to see the remote students' writing process, and it is difficult to see expressions and confirm to what extent the students understand. In addition, it is difficult to access students with a naturally quiet and shy disposition.

In conclusion, the live-streaming and hybrid systems have problems in technical areas, such as information technology systems. However, this system provides accessibility for the working students and students in remote areas for the reasons of limitation of time and distance convenience while also encouraging students to learn independently.

Acknowledgement

Additional Notes

1. This paper is partly based on the following presentation by the authors: "*Combining Live-streaming and Hybrid Classes for Remote Education*" at The 2nd CEGLOC Conference on Intercultural Skills in the 21st Century Classroom at University of Tsukuba, December 8th 2018. Additional data and analysis were added.
2. University of Maryland University College (UMUC) was changed its name to University of Maryland Global Campus (UMGC) starting October 1, 2019.
3. Picture credit (Photo 1, 2, 3, &4): *LEO (Learning Experience Online)*, University of Maryland Global Campus (2019)
4. Picture credit (Photo 6-1, 6-2, 7 & 8): Personal data of the lead author based on live-streaming class videos.

References

Evans, K. (2019) *Hybrid Classes and Live-Streaming Classes*, Scheduling Analyst for University of Maryland Global Campus, Data by email through Mr. Cronin, May 6, 2019.

Cronin, J. & Maguire, A. (2018). *Asia Operational Update*. Presented at the 2018 Foreign Language Workshop, University of Maryland Global Campus.

Sekiguchi, M., & White, T. (2019). *Coexistence of the classroom lecture and the computer/internet education: a video production class and a hybrid class.* Poster presentation at the Future-Oriented Japanese Education Symposium. Organized by Center for Distance Learning of Japanese and Japanese Issues at University of Tsukuba,in co-organization with the CEGLOC FD Committee at University of Tsukuba.(February 16th, 2019)

The Foreign Service Institute's School of Language Studies (1985).

FSI's Experience with Language Learning. Retrieved from

https://www.state.gov/m/fsi/sls/c78549.htm (last confirmation 11.4.2018)

Trans, N. & Rozzi, T. (2018). *Live Streaming Discussion.* Presented at the 2018 Foreign Language Workshop, University of Maryland Global Campus.

University of Maryland Global Campus (2018) Course-Program Comparison Japanese 221, Data of July 20th 2018