

The Integration of 21st Century Skill and Virtual Learning with COVID-19

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ABSTRACT

Trilling and Fadel emphasized the importance of 21st-century skills early in 2000. 3Rs and 7Cs were particularly important, but now 8Cs should be added ‘coexistence with AI.’ 8Cs should be emphasized in our pedagogy whatever subject we teach for 21st-century education. An empirical investigation was carried out from May 2020 to December 2020, targeting undergraduates in Tokyo. From the first semester of 2020, all courses were taught online with a ZOOM. About 30% of students enrolled in all classes were satisfied with virtual online learning; however, 30% of students were unsatisfied with virtual online learning. The second semester we carried out the experiment to promote the virtual exchange program with the National University of Singapore (NUS) for eight weeks. How the students learned under COVID-19 will be explained more in detail.

Keywords: 21^{st-century} skills, Flipped Learning, PeerEval, ZOOM, Virtual Language Exchange.

1. INTRODUCTION

Trilling and Fadel (2009) emphasized the importance of 21st-century skills early in 2000. 3Rs and 7Cs were particularly important (Figure 1), but now 8Cs should be added ‘coexistence with AI.’ 8Cs should be emphasized in our pedagogy whatever subject we teach for 21st-century education. According to the prediction of Kurzweil, AI is exponentially now advancing to approach Singularity in 2045 (Kurzweil, 2005). In the article of The Future Employment, about 48 percent of the present type of job will be replaced by AI-related jobs (Frey & Osborne, 2013). Harari (Harari, 2018), in his book, commented, "Humankind is likely to be divided into two main camps-those in favor of giving AI significantly authority, and those opposed to it." Harari predicted the people would be divided into two camps, one who could use AI and the other will be used by AI. Therefore, in addition to the 21st century-skills (Trilling & Fadel, 2009), 8Cs will be playing an essential role in the pedagogy of English education. Based on this concept, this article was written to promote global education even during the COVID-19.

These days, due to COVID-19, students have been engaged in virtual learning through the integration of the videoconferencing software program Zoom for all classes since 2020 April. The first case study was carried out from May to August 2020 under COVID-19 using virtual learning with Zoom, Facebook, Line, Messenger, Course Power, Moodle, and other online materials. The students engaged in virtual learning were discussed by showing their advantages and disadvantages from student feedback on a questionnaire. The second case study was carried out from October 2020 to November 2020 for about eight weeks, emphasizing exchange programs with the National University of Singapore (NUS). My 19 seminar students and 19 NUS students of the Japanese class started the join seminar early in October and finished up on November 10th, every Tuesday from 7:30 pm to 9:00 pm, we had an online virtual seminar with a Zoom and a final presentation.

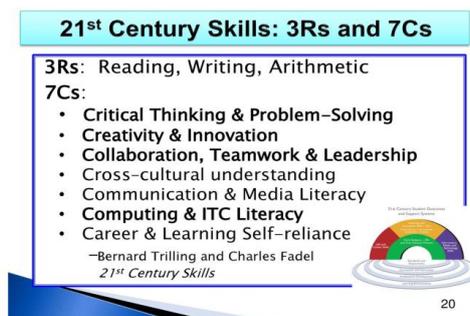


Figure 1: 21st Century Skills: 3Rs and 7Cs

2. The First Case Study with COVID-19

All universities in Japan decided to teach all classes using virtual learning environments with ZOOM, TEAMS, WebEx, and other learning tools, from May to August 2020. The author of this study taught 10 classes at three universities, mainly with ZOOM and Facebook. This section will describe how the students struggled with virtual learning and show both its advantages and disadvantages from student feedback on a questionnaire.

2.1 Training procedure

- (1) All students at three universities had their English lessons using real-time virtual learning with ZOOM and Facebook. The learning materials were uploaded on Facebook in advance.
- (2) Students engaged in real-time learning with ZOOM, listened to the author's mini-lectures and participated in breakout sessions with more active discussions about the contents.
- (3) Students prepared PowerPoint slides about their assigned work and delivered several presentations in front of all the students. However, at times they joined breakout sessions in a group of 4 students and gave their presentations with peer assessment using PeerEval software on smartphones.
- (4) Flipped learning was conducted all through the semester, actively engaged in presentations and discussions about the contents assigned in advance.
- (5) Students took the online ATR CALL Brix test several times.
- (6) Students learned presentation skills by downloading the Successful Presentation video contents by Oxford University Press. Each unit consisted of 8 units containing 3-minute video contents.
- (7) Professor Weakley from the US was invited as a guest lecturer several times and engaged in the virtual teaching worldviews, global leadership, and cross-cultural IQ. He also actively took part in the breakout sessions and interacted with many students. Sometimes his students joined the virtual classroom from the U.S.A. and enjoyed discussing the cross-cultural differences between Japanese values and Christian-oriented values. These sessions were most important for students to learn the worldviews.
- (8) Several lectures from Oxford University professors about scientific realism and worldviews were given, and the students prepared PowerPoint slides with more presentations and discussions using ZOOM breakout sessions.

2.2 Presentation Assessment with PeerEval

- (1) Students delivered 5-10-minute English presentations about the assigned tasks with PowerPoint slides.
- (2) All students had their presentations evaluated by their peers using the PeerEval software on a smartphone, with six items being assessed about presentation skills. After each presentation, immediate feedback was provided with comments about how to improve his or her presentation skills (Figures 2).
- (3) Students were highly engaged in learning the contents of the cross-cultural issues and worldview studies, including the advancement of AI.



Figure 2: Assessment with a smartphone

2.3 Feedback on the student questionnaire

(1) Did you enjoy the ZOOM lesson? (n=257)

40% enjoyed the ZOOM lesson.

38% were neutral.

22% did not like the ZOOM lesson.

(2) Was the lesson with ZOOM effective? (n=54)

a. 74% agreed.

b. 24% neutral.

c. 2% disagreed.

(3) What kind of lesson do you like best? (n=54)

a. Face to face lesson: 48%

b. Hybrid lesson: 35%

c. Lesson with ZOOM: 9%

d. Video-on-Demand: 8%

People like face-to-face lessons best, and the second best is Hybrid lessons. The virtual lesson only with ZOOM is not so popular among students.

(4) Did the visiting professor's lectures change your worldviews and help you to improve your English proficiency? (n=54)

a. 91 % of students agreed.

b. 9% did not agree.

(5) Was the assessment software 'PeerEval' effective in checking your presentation performance? (n=54)

a. 69% agreed.

b. 26% neutral.

c. 5% disagreed.

(6) Was the virtual presentation effective in learning English? (n=51)

a. 96% agreed.

b. 2% neutral.

c. 2% disagreed.

2.3 Discussions

Virtual online ZOOM lessons were carried out for the first term in all classes. According to the questionnaire (1) and (2), only 40% enjoyed the ZOOM lesson, and 74% of students felt the lesson effective in learning English. The questionnaire (3) indicated that students generally like face-to-face lessons (48%), Hybrid lessons (35%), and ZOOM lessons (9%). However, visiting the professor's ZOOM lecture helped students to change their worldviews and improve English proficiency. In the presentation, the assessment software was used, and students felt it useful to check their presentation performance (69%), and 96% agreed that even virtual presentation was effective in learning English.

3. The Second Case Study with COVID-19 -online virtual seminar-

The second case study was carried out from October 2020 to November 2020 for about eight weeks, emphasizing virtual exchange programs with the National University of Singapore (NUS). My seminar students and 19 NUS students of Japanese class started the online virtual joint seminar early in October and finished up on November 10th, every Tuesday night from 7:30 pm to 9:00 pm, we had an online virtual seminar with a Zoom and a final presentation on November 10th, 2020.

3.1 Joint Seminar between AGU and NUS

Joint seminars between AGU obari seminar and NUS Japanese class had been going on for about ten years due to the cooperation with NUS Japanese Language teachers. We usually spent about ten days visiting APEC, NEC, Microsoft, and other famous sightseeing spots with NUS students' help. We hold a joint seminar for several days as a language exchange program. My seminar students prepared the presentations about Japanese culture and other interesting topics in English and gave a presentation as a group of 4 students. In contrast, NUS students of Japanese classes gave a presentation about various topics related to issues in Singapore in Japanese with discussion and Q and A. This program's uniqueness was to visit very famous and historical places with a guide of NUS students as a group of 6 or 7 students, mixed AGU and NUS students. This way, both AGU and NUS students developed a good friendship stimulating each other. We often attended the Sunday service at the St. Andrew Church near our hotel to understand the cultural and religious worldviews by listening to Singapore English.

3.2 Virtual Online Joint Seminar

This year due to the COVID-19, we decided to go ahead to have an online virtual exchange between my 19 AGU seminar students and 19 NUS students of Japanese class under Professor Izumi Walker's guidance, vice-director of Foreign Language Centre at NUS. We divided 38 students into five groups where we did some joint research with Zoom for seven weeks and held a joint presentation seminar on November 10th, 2020 (Figure 3). The first part of the group presentation was the summary of the joint research with PowerPoint slides, mainly NUS students presented, on the other hand, the second part of the group presentation was given only by Japanese students in English. This way, NUS students could study advanced Japanese, and AGU Japanese students could improve their English presentation skills. Both groups could take advantage of language and cultural exchange through this join seminar and made some positive comments from their reflections of 8 weeks seminar (Figure 4).



Figure 3: AGU and NUS Regular Joint Seminar with the ZOOM



Figure 4: Online Virtual Join Seminar between NUS and AGU on November 10, 2020

3.3 Discussions

Through this virtual online exchange between AGU and NUS, both students had been highly engaged in the discussion and presentations for eight weeks (Figure 5). They enjoyed the last day joint presentation on November 10th, 2020. Even though we are now facing COVID-19, we could still have positive and lovely intercultural experiences. One important thing about the join seminar is to have a weekly meeting to have the last joint presentation conference. This way, the international exchange could be more effective than just holding a one-day exchange. Last October, we had one-day joint conference only after exchanging the self-introduction and student-based exchange using Line between NUS and another Japanese private university. Compared with one-shot virtual meeting altogether between NUS and Japanese private universities, 90 minutes meeting for eight weeks could make both NUS and AGU feel more intimate and active learning engagement even in the virtual learning environments.



Figure 5: AGU and NUS Joint Presentation with the ZOOM

4. Conclusions

In Case Study 1, under the influence of COVID-19, 60% of the students may not have liked the ZOOM lesson, but 74% of the students felt it was effective and they could still improve their presentation skills. Most of the students liked taking part in face-to-face lessons, although hybrid lessons might be preferred. At times it might be easier for us to invite visiting scholars during virtual lessons, just as in Case Study 2, as the foreign lecturer greatly influenced the students in improving their English proficiency and becoming more open-minded. To some extent, future lessons could be easily integrated with AI and virtual online lessons.

In Case Study 2, with the COVID-19, we could still have a virtual joint seminar between AGU and NUS stimulating each side. It would make it a lot easier to have a sort of exchange program with the ZOOM than in person. In the future advanced virtual exchange technologies could make more contributions as if we were meeting each other in person due to the development of mixed reality or augmented reality using google glasses or whatever.

This is an ongoing research project using virtual online teaching 100% of the time. The results of the two case studies suggest that integrating blended learning along with 21st-century skills, including hybrid learning with ZOOM virtual classroom teaching, may be an effective way to improve the English proficiency of native Japanese undergraduates.

References

- Carl Benedikt Frey & Michael A. Osborne (2013). *The Future of Employment: How susceptible are jobs to computerization?*
Retrieved:[/Users/michaelosborne/Documents/Research/future_of_employment_paper/old/.texpadtmp/future_of_employment_18.dvi](https://users.michaelosborne.com/Documents/Research/future_of_employment_paper/old/.texpadtmp/future_of_employment_18.dvi) (ox.ac.uk)
- Trilling, B., & Fadel, C. (2009). *21st Century Skills: Learning for Life in Our Times*. San Francisco, CA: John Wiley & Sons.
- Ray Kurzweil. (2005). *The Singularity is near: When Humans Transcend Biology*. Abridged Japanese edition arranged with Ray Kurzweil c/o Loretta Barrett Books Inc., New York
- Yuval Noah Harari (2018). *21 Lessons for the 21st Century*, London: Jonathan Cape.

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