Testing Virtual Reality for Eliminating Japanese University Students' English-Speaking Anxiety: Cases of International Conference and Restaurant

Tsukasa Yamanaka[1,*], Yasushi Miyazaki[2], Atsuko K. Yamazaki[3], Kayoko H. Murakami[4], Syuhei Kimura[1], Miho Yamashita[1], and Yukie Kondo[5]

[1] College of Life Sciences, Ritsumeikan University, Kusatsu, Japan;
Email: {kimuras, mihoron}@fc.ritsumei.ac.jp (S.K., M.Y.)
[2] Ritsumeikan Global Innovation Research Organization (R-GIRO), Ritsumeikan University, Kusatsu, Japan;
Email: yasushi.miyazaki@gmail.com (Y.M.)
[3] Graduate School, Digital Hollywood University, Tokyo, Japan; Email: atsuko_yamazaki@dhw.ac.jp (A.K.Y.)
[4] Graduate School of Engineering and Science, Shibaura Institute of Technology, Saitama, Japan;
Email: kayoko@shibaura-it.ac.jp (K.H.M.)
[5] College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan; Email: kondoyu@fc.ritsumei.ac.jp
*Correspondence: yaman@fc.ritsumei.ac.jp (T.Y.)

***Abstract*—Reflecting COVID-19 outbreak that prevents educators from making close contacts with students, digitalization of language teaching is gradually getting educators' attention. With respect to this situation, this research conducted an experiment of using Virtual Reality (VR) materials for 69 English as a STEM-major Foreign Language (EFL) learners at a Japanese university. Polishing usability of Virtual Reality (VR) English language education materials could improve the learners' performance of English language use. However, careless use of VR materials could fail, unless the educators consider its technical and pedagogical limitations. The experiment used pairs of Virtual reality headset with two scenarios (international conference and restaurant). From pre-post experiment surveys on speaking anxiety scale, students with higher Test of English for International Communication (TOEIC) listening scores showed more anxiety on speaking. Also, post-experiment open-ended questionnaires suggested that usability of VR materials should be improved.**

***Keywords*—digital transformation, education, human computer interaction, pragmatics, public speaking, virtual reality**

I. Introduction

It has been claimed that a lot of English as Foreign Language (EFL) learners in Japanese universities have strong speaking anxiety. Thus, a lot of scholars investigated its mechanism by quantitative [1−5] and qualitative [6] approaches. As English is a *lingua franca* in natural science and engineering [7]. English language teaching researchers have investigated its use. However, syntax issues are observed in qualitative and quantitative investigation in nonnative speakers of English [8]. Such facts might influence these students to have speaking anxiety and fear of making mistakes about learning English in classrooms [9].

Solutions to those problems have been developed mainly for face-to-face teaching format. However, the needs to react to COVID-19 pandemic forced universities in Japan to introduce digital learning solution to maximize learning outcome with avoiding COVID-19 infection [10, 11].

Reflecting two above-mentioned circumstances, Japanese universities can foresee the potentials of digital learning materials. Thus, this study focuses on Virtual Reality (VR) learning environment in EFL in Japanese universities. That is because VR environment could eliminate fear of communication potentially caused by sense, such as feeling of air and emotion. Thus, the hypothesis is: VR learning application could enable students to focus on learn languages without being affected by human emotion.

In the field of language learning, applying Digital Transformation (DX) including VR has been one of growing fields of interest as several case studies and systematic reviews have been published in last few decades [12, 13]. The possibility of fostering language development is already verified [14−17]. This research shows the potential of VR materials in general. However, there is still a room for applying those tools specifically for eliminating anxiety of EFL learners.

Thus, the purpose of this study is to examine the effect of VR learning environment for university EFL students in Japan. Thus, the Research Question (RQ) is:

RQ: Does using VR eliminate the anxiety of Science, Technology, Engineering, and Mathematics (STEM) university students studying EFL?

Manuscript received June 16, 2022; revised September 22, 2022; accepted October 20, 2022.

II. Methods

A. Experiment and Surveys

1) Design of VR learning materials

The scenarios for this VR learning application [18] simulate an international conference and a restaurant. Both are significant scenarios for STEM major students in Japan, as they may be faced with occasion to attend a conference and/or do part-time job for a hospitality industry using English as a medium of communication. As the internationalization in academia and hospitality industry that requires the participants to use English as a *lingua franca*, the investigators recognize these scenarios as good exercises for those students.

2) Procedure

This experiment was held on 14th, 15th, and 17th of December 2021. Upon the experiment, the investigators conducted pre-experiment 18-item Japanese survey (see appendix A for the English translation) with 6-case method, applied ELCAS scale developed by Kondo and Yang [19] accordingly to Japanese EFL context, on speaking anxiety with English language for the participants. 69 first- or second- year STEM major students at a private university in Japan participated in the experiment and the post-experiment survey. In the post-experiment survey, same questions as pre-experiment survey and two open-ended questions (see appendix B for the English translation) to provide their first-hand opinion on using the VR language learning application.

For the students agreed with their participation in the experiment and sighed the consent form, the investigator requested the participants to use the VR application installed in a Virtual reality headset Oculus Quests 2. After technical settings of this application, the participants are requested to proceed skits in the two scenarios:

- Scenario 1: International conference

In this scenario (Fig. 1) a person (A) in the audience asks a question to the research participant, who acts as a presenter.

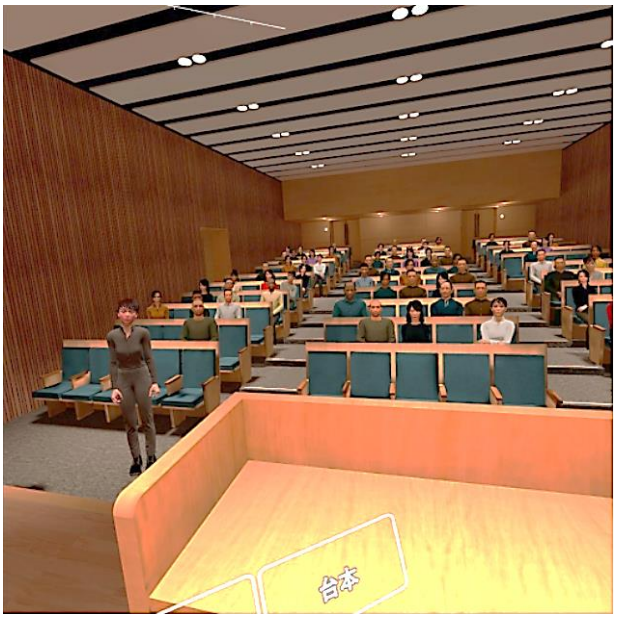

Figure 1. Simulation of an international conference room.

A: Thank you very much for your presentation. I'm interested in your topic, but I could not follow how you reached that conclusion. Could you elaborate a little bit on that?

Then, the Virtual reality headset shows the response as follows:

Presenter: Thank you for asking a question. I'm sorry, could you repeat your question, please?

A presenter was asked to read the above response aloud. That way the participant could learn the assertive expression in this conference occasion and could practice the utterance. The A automatically responses as follows:

A: OK. Let me rephrase my question. It was an interesting presentation and I'm curious about your conclusion. How did you come up with that?

Then, a presenter was again shown the following expression in the Virtual reality headset:

Presenter: I'm sorry. If you don't mind, could we discuss this after the session? I think I need a little time to answer your question.

In this scenario, the learners are expected to learn how to deal with possible miscommunication with audiences in conferences, where a lot of native and nonnative English speakers interact. Moreover, the learner could train themselves for practical English expressions in academic context.

- Scenario 2: Restaurant

The other scenario (Fig. 2) is the skits of conversation of a guest and a restaurant staff.

Figure 2. Simulation of a restaurant.

It consists of two skits. One of the skits is as follows:

Guest: It is much smaller than it is shown in the menu. Why?

According to the menu, this meal is supposed to be bigger, right?

And, this meal is supposed to be hot, right?

A guest gives the staff a claim. The user, who acts as a restaurant staff, was asked to respond as follows as shown in the Virtual reality headset:

Staff: Please, let me confirm with the kitchen staff.

The guest shows his anger in his face and responds as follows:

Guest: I would like to cancel my order.

The staff is asked to respond as follows:

Staff: Would you like to order something else instead?

The guest was still angry and declined his order as follows:

Guest: No, thanks. I lost my appetite.

The staff was guided to show his/her apology as follows:

Staff: We are very sorry. Thank you very much for your precious feedback on our menu.

In this scenario, learners are expected to learn how to respond customers' claims flexibly and politely. This scenario teaches the learners how to handle linguistic politeness in the context of hospitality industry.

B. Analysis

The responses to pre- and post- experiment surveys were statistically analyzed by grouping with Test of English for International Communication Institutional Program (TOEIC-IP)'s listening part scores. The result of pre- and post-experiment questionnaires are analyzed with Microsoft Excel. The results were compared with groups divided with TOEIC Listening part scores. Table I shows the number of participants in each group and scores in three questionnaire groups: anxiety on English proficiency (a), anxiety on evaluation by other students (b), and anxiety on speaking activities (c).

TABLE I. NUMBER OF PARTICIPANTS IN THE GROUPS AND AVERAGE SCORES

TOEIC Listening Part Scores	a		b		c	
	Pre	Post	Pre	Post	Pre	Post
310 or above (n=24)	3.9	4.2	3.5	3.9	4.4	4.6
250-305 (n=19)	4.2	4.3	3.7	4.1	4.6	4.8
Less than 245 (n=26)	4.5	4.4	4.0	4.3	4.5	4.6

III. RESULTS

A. Pre- and Post- Experiment Quantitative Survey

TABLE II. PRE- AND POST- EXPERIMENT SCORES FROM VR APPLICATION USERS' SURVEY

	Question item	+0.5 or above 310 or above (n=24)		minus 250-305 (n=19)		less than 245 (n=26)	
		Pre	Post	Pre	Post	Pre	Post
a	I get anxious when English is spoken too fast.	4.6	4.7	4.9	4.8	4.8	4.9
a	I get anxious when I cannot understand the meaning of a long sentence no matter how	4.5	4.5	4.7	4.7	4.9	4.4
a	I feel uneasy when I cannot express what I want to write in an English composition.	3.7	4.3	4.6	4.7	4.3	4.4
a	I worry that their English level is lower than other students.	3.7	3.6	4.4	4.3	4.8	4.7
a	I become upset when I have difficulty remembering vocabulary and grammar points.	4.0	4.1	4.0	3.9	4.2	4.4
a	I get upset when my English is not understood by others.	4.5	4.5	4.1	4.3	4.7	4.5
a	I worry about whether my writing will be understood when I write in English.	4.0	4.0	4.2	4.4	4.2	4.5
a	I worry about whether I will be able to keep up with the class.	3.2	4.1	3.6	4.1	4.4	4.3
a	I get nervous when translating English into Japanese.	3.1	3.6	3.2	3.7	3.9	3.9
b	I worry that other students will laugh at my English.	3.2	3.8	3.4	3.9	4.0	4.1
b	I worry that other students will think my English is not good enough.	3.2	3.2	4.1	4.1	4.0	4.3
b	I get nervous when I hear other students' good pronunciation.	3.3	3.3	3.4	4.2	3.8	4.2
b	I worry about my pronunciation and intonation when I speak English.	4.2	4.2	3.9	4.2	4.4	4.5
c	I get nervous when I speak English in class.	4.0	4.5	4.6	4.9	4.5	4.8
c	I get nervous when I know I am about to be nominated.	4.5	4.6	4.6	4.8	4.7	4.7
c	I get nervous when I go to the front of the class to give a presentation.	4.8	4.8	4.8	5.1	4.5	4.5
c	I get nervous when I am asked questions about my weak points.	5.0	4.8	4.7	4.9	4.9	4.9
c	I get nervous when I read English out loud in class.	3.6	4.2	4.2	4.4	3.9	4.3

TABLE III. ITEMS WITH STATISTICALLY SIGNIFICANT DIFFERENCES DETECTED WITH WILCOXON SIGNED-RANK TEST

Question item	+0.5 or above 310 or above(n=24)		minus 250-305(n=19)		Less than 245(n=26)	
	Pre	Post	Pre	Post	Pre	Post
I feel uneasy when I cannot express what I want to write in English composition.	3.7	4.3	4.6	4.7	4.3	4.4
I worry about whether I will not be able to keep up with the class.	3.2	4.1	3.6	4.1	4.4	4.3
I worry that other students will laugh at my English.	3.2	3.8	3.4	3.9	4.0	4.1
I worry that other students will think my English is not good enough.	3.2	3.2	4.1	4.1	4.0	4.3
I get nervous when I hear other students' good pronunciation.	3.3	3.3	3.4	4.2	3.8	4.2
I get nervous when I speak English in class.	4.0	4.5	4.6	4.9	4.5	4.8
I get nervous when I read English out loud in class.	3.6	4.2	4.2	4.4	3.9	4.3

.$p < 0.05$

The survey found that students with higher English listening proficiency had more anxiety after the experiment. Table II shows the pre-and post- experiment scores of VR application user survey. In a group with students with the score of 310 or higher in TOEIC-IP's listening part have increased anxiety scores in different

aspects. On 6 items of 18, the score increased for 0.5 or more. Conversely, in a group with the score of less than 245, no item increased for 0.5 point or more. Moreover, the score decreased on 4 items. This fact connotes that using VR application might decrease confidence of upper-intermediate students and on the other hand, it might increase confidence of lower-level learners.

Table III lists especially with statistically significant differences selected with Wilcoxon signed-rank test. According to this result, 7 of 18 items has shown the statistically significant difference of increase of anxiety score in upper-level students.

B. *Open-Ended Comments*

In addition, two open-ended questions in Japanese were conducted as a part of the post-experiment survey. Responding these questions were voluntary. Then, those responses were analyzed with an online text analytics tool UserLocal [20].

1. If you were to make any future improvements to this VR English language learning application, what improvements or additional features would you like to see? Please describe freely. (If not, please just indicate "N/A".)

The 18 out of 69 participants responded this question. The Fig. 3. shows a word cloud of the response. Words with blue color are nouns, those with red are verbs, those with green are adjectives, and those with gray are interjections.

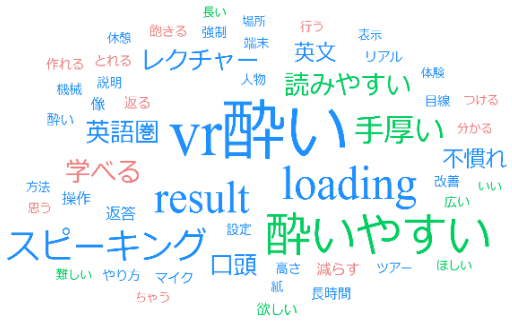

Figure 3. Word cloud of open-ended answer on possible improvement and additional features.

This word cloud shows that lack of comfortability for the users was significant. The most significant word in this figure was "vr 酔い" ["VR intoxicate"] with the score of 7.65. As for adjectives, 酔いやすい [likely to be intoxicated] with the score of 1.59 was most significant. This result shows that this tool has given several participants physical and psychological burden that could intervene their linguistic performance.

2. Write about any impressions you have through this VR practice that you could not indicate in the above questionnaire. (If not, please just indicate "N/A".)

The 14 out of 69 participants responded this question. Fig. 4. shows a word cloud of the response.

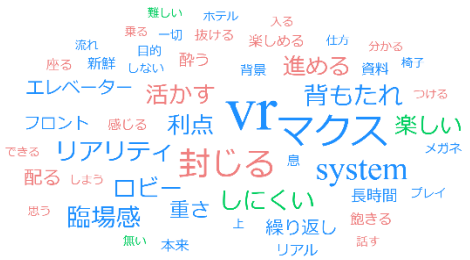

Figure 4. Word cloud of open-ended answer on possible improvement and additional features.

This word cloud shows that both positive and negative impressions were expressed like a both extremes. The most significant word with score of 8.86 was vr (VR) which appears in VR system, the replacement of the word "Shibaura" a name of the VR learning material system. In fact, one of the investigators witnessed that a number of participants struggled with finding the program console out in the VR material during the experiment,

Focusing on adjective, two words 楽しい [enjoyable] and しにくい [difficult to do particular thing] were significant with scores of 0.11 and 0.18. This result suggests that this VR tool has both rich enjoyability and difficulty to operate.

The above text analyses suggest that the participants enjoyed the learning on the one hand, but some significant issues on user-friendliness was complained on the other hand.

IV. Discussion

The research question for this study was: does using VR eliminate the anxiety of STEM university students studying EFL? Here are three points to be discussed.

A. *Why Do Advanced Students Have more Fear in Post-VR Experience?*

As noted earlier, participants with higher TOEIC listening score recorded significant decrease of the anxiety scores. It can be said that the participants with higher listening proficiency tend to set themselves the higher standard of skills. In other words, we could hypothesize that students with higher proficiency of English might have cognitive discordance between their actual ability and their expectation.

B. *Possible Implication of VR*

Possible implication of VR could be the uniform of quality of listening tasks. If the students would depend on teachers' speaking skills for learning listening and speaking, it would mean that the output of learning would be different depending on teachers' speaking proficiency. Conversely, if VR would be applied, the quality of listening tasks for students could be equal regardless of teachers' speaking and instruction skills.

Additionally, as the Fig. 4., which a word 楽しい [enjoyable] indicates, gamification of language learning could increase students' motivation to learn languages. Although the further investigation of causality between

users' satisfaction and English proficiency test scores would be needed, the above fact connotes the potential of making language learning more user-friendly.

C. Points to Be Improved

First, the educators and developers must work collaboratively to craft hardware and software with more comfortable interface for the end-users. In fact, some participants complain about uncomfortable usability such as their complain about intoxication that Fig. 3 suggests. In short, developing a stable interface is must. The more comfortable learners feel in terms of human-machine interaction, the higher satisfaction is anticipated.

In sum, this study found both potentials and problems on using VR in EFL education. It can be said that more stable interface could improve the end users' performance. To justify this point, the further investigation of relation between human-computer interaction and English proficiency of EFL learners.

V. Conclusion

This study has found the possibility and limitations of VR English language learning application. The most significant finding is, as noted above, possible elimination of confidence in English speaking of advanced level students. In other words, however, it can be said that such automatic learning encourages the learners to strengthen earnestly for language learning. For intermediate or elementary learners, it can be said that such a fancy experience of VR learning strengthens the interests to learn new things about languages. Having that said, although the VR is a sort of *booming* in language learning, its design and use of context should be carefully considered.

Regarding usability, as the text analytics for open-ended questionnaire suggests, the educators should consider the correlation of usability of tools and the learners' performance. This point is the one the further research is needed.

The language teachers should avoid using the new technologies without considering possible risks of negative impact. The authors hope that this research would contribute to better design and pragmatics of applying advanced technologies in language learning.

Appendix A ELCAS Scale (English Translation)

A. Anxiety on English Proficiency

- I get anxious when English is spoken too fast.
- I get anxious when I cannot understand the meaning of a long sentence no matter how many times I read it.
- I feel uneasy when I cannot express what I want to write in an English composition.
- I worry that their English level is lower than other students.
- I become upset when I have difficulty remembering vocabulary and grammar points.
- I get upset when my English is not understood by others.
- I worry about whether my writing will be understood when I write in English.
- I worry about whether I will be able to keep up with the class.
- I get nervous when translating English into Japanese.

B. Anxiety on Evaluation by Other Students

- I worry that other students will laugh at my English.
- I worry that other students will think my English is not good enough.
- I get nervous when I hear other students' good pronunciation.
- I worry about my pronunciation and intonation when I speak English.

C. Anxiety on Speaking Activities

- I get nervous when I speak English in class.
- I get nervous when I know I am about to be nominated.
- I get nervous when I go to the front of the class to give a presentation.
- I get nervous when I am asked questions about my weak points.
- I get nervous when I read English out loud in class.

Appendix B Open-Ended Questions (English Translation)

- If you were to make any future improvements to this VR English language learning application, what improvements or additional features would you like to see? Please describe freely. (If not, please just indicate "N/A".)
- Write about any impressions you have through this VR practice that you could not indicate in the above questionnaire. (If not, please just indicate "N/A".)

Conflict of Interest

As Yamanaka called for students' participation to this research in his English classes, there might be a hierarchical pressure to the students upon participation. However, as Yamanaka gave them choice to decline the participation, the pressure was extremely scarce.

Author Contributions

Yamanaka designed the procedure of this research and conducted the survey. Miyazaki wrote the paper. Yamazaki designed the VR material. Murakami, Kimura, Yamashita, and Kondo provided an internal review and comments to the primary author. All authors had approved the final version.

Acknowledgment

This work was supported in part by an internal research grant from Ritsumeikan University. In addition, the authors thank Casaliz Inc for developing the VR language learning system.

REFERENCES

[1] K. E. Williams and M. R. Andrad, "Foreign language learning anxiety in Japanese EFL university classes: Causes, coping, and locus of control," *Electronic Journal of Foreign Language Teaching*, vol. 5, no. 2, pp. 181–191, 2008.

[2] M. Ueki and O. Takeuchi, "Forming a clearer image of the ideal L2 self: The L2 motivational self system and learner autonomy in a Japanese EFL context," *Innovation in Language Learning and Teaching*, vol. 7, no. 3, pp. 238–252, 2013.

[3] P. Siridetkoon and J. M. Dewaele, "Ideal self and ought-to self of simultaneous learners of multiple foreign languages," *International Journal of Multilingualism*, vol. 15, no. 4, pp. 313–328, 2018.

[4] S. G. B. MacWhinnie and C. Mitchell, "English classroom reforms in Japan: A study of Japanese university EFL student anxiety and motivation," *Asian-Pacific Journal of Second and Foreign Language Education*, vol. 2, no. 1, pp. 1–13, 2017.

[5] S. Aubrey, "Development of the L2 motivational self system: English at a university in Japan," *JALT Journal*, vol. 36, no. 2, pp. 153–174, 2014.

[6] O. Effiong, "Getting them speaking: Classroom social factors and foreign language anxiety," *Tesol Journal*, vol. 7, no. 1, pp. 132–161, 2016.

[7] C. S. Rao, English for science and technology: A learner centered approach. *English for Specific Purposes World*, vol. 42, no 15, pp. 1–11, 2014.

[8] B. Björkman, "English as the lingua franca of engineering: The morphosyntax of academic speech events," *Nordic Journal of English Studies*, vol. 7. no. 3, pp. 103–122, 2008.

[9] F. Al-Masheikhi, R. Al-Mahrooqi, and C. J. Denman, "Investigating college of science student attitudes towards using English as a medium of instruction," *The 2014 WEI International Academic Conference Proceedings*, pp. 99-113, 2014.

[10] R. D. Pinto, B. Peixoto, M. Melo, *et al.*, "Foreign language learning gamification using virtual reality? A systematic review of empirical research," *Education Sciences*, vol. 11, no. 5, p. 222, 2021.

[11] A. Parmaxi, "Virtual reality in language learning: a systematic review and implications for research and practice," *Interactive Learning Environments*, 2020.

[12] K. Schwienhorst, "The state of VR: A meta-analysis of virtual reality tools in second language acquisition," *Computer Assisted Language Learning*, vol. 15, no. 3, pp. 221–239, 2002.

[13] B. Chen, Y. Wang, and L. Wang, "The effects of virtual reality-assisted language learning: A meta-analysis," *Sustainability*, vol. 14, no. 6, 3147, 2022.

[14] T. J. Lin and Y. J. Lan, "Language learning in virtual reality environments: Past, present, and future," *Journal of Educational Technology & Society*, vol. 18, no. 4, pp. 486–497, 2015. https://www.jstor.org/stable/jeductechsoci.18.4.486

[15] Y. J. Lan, "Immersion, interaction and experience-oriented learning: Bringing virtual," *Language Learning & Technology*, vol. 24, no. 1, pp. 1–15, 2020. http://hdl.handle.net/10125/44704

[16] Y. L. Chen, "The effects of virtual reality learning environment on student cognitive and linguistic development," *The Asia-Pacific Education Researcher*, vol. 25, no. 4, p. 637–646, 2016.

[17] A Cheng, L. Yang, and E. Andersen, "Teaching language and culture with a virtual reality game," in *Proc. CHI Conference on Human Factors in Computing Systems*, Denver, CO, 2017.

[18] Casaliz Inc. Example of Installation: VR English learning system. Casaliz Inc. [Online]. Available: https://casaliz.co.jp/news/20220131

[19] S. Kondo and Y. L. Yang, "The English language classroom anxiety scale: test construction, reliability, and validity," *JALT Journal*, vol. 25, no. 2, pp. 187–196, 2003.

[20] User Local, Inc. User local AI textmining [Example of installation: VR English learning system. [Online]. Available: https://textmining.userlocal.jp/

Copyright © 2023 by the authors. This is an open access article distributed under the Creative Commons Attribution License (CC BY-NC-ND 4.0), which permits use, distribution and reproduction in any medium, provided that the article is properly cited, the use is non-commercial and no modifications or adaptations are made.

Tsukasa Yamanaka is a doctor and professor at the College of Life Sciences, Ritsumeikan University. Since 2008, he has been with the College, where he has been in charge of the college's English education program. His current interests include learner autonomy, pragmatism in language philosophy, and language education policy in Japan.

Yasushi Miyazaki received B.A. degrees in English from Kansai University of International Studies and in Healthcare Management from Nihon Fukushi University. After that, he received M.A. and Ph.D. degrees in Policy Studies from Kwansei Gakuin University. He has also completed a Certificate of Advanced Study in Disability Studies at Syracuse University.

Atsuko K. Yamazaki is Specially Appointed Professor at Digital Hollywood University, Graduate School. She teaches communication studies and conducts research in the areas of information science, systems engineering, human communication studies and global education in engineering. Her current research projects include studies of user-interface designs to enhance human cognitive activities, developing ICT and VR systems to assist communication enhancement in education and industry, and the assessment of global competency of engineering students and engineers. She has held leadership positions in IEEE and KES, Japan Leadership Association.

Kayoko H. Murakami is a Professor at Graduate School of Engineering and Science, Shibaura Institute of Technology, Japan. She received her M.A. in TESL from Saint Michael's College, Vermont, USA and her Ph. D in Information Science and Technology from Hokkaido University. Her research interests include Tourism Informatics and English Education.

Syuhei Kimura is an associate professor of the College of Life Sciences at Ritsumeikan University and researcher in the field of integration of English education and ICT. He earned an undergraduate degree as a Bachelor of Arts from the Department of Sociology in Michigan State University in 2003, a Master of Arts (Language and Information Science) from the Graduate School of Language Education and Information Science in Ritsumeikan University in 2006, and his Ph.D. (Media and Governance) from the Graduate School of Media and Governance in Keio University in 2020. He was born in 1977 in Kyoto, Japan.

Miho Yamashita is an Associate Professor at the College of Life Sciences, Ritsumeikan University, Japan. She received the Master of Arts (Language and Information Science) from the Graduate School of Language Education and Information Science, Ritsumeikan University in 2012 and the Ph.D. (Foreign Language Education and Research) from the Graduate School of Foreign Language Education and Research, Kansai University in 2019. Her major areas of interests include second language writing, writing program administration, and ESP education.

Yukie Kondo is an Associate Professor at College of Pharmaceutical Sciences, Ritsumeikan University, Japan. She received the Master of Arts (Language and Information Science) from the Graduate School of Language Education and Information Science, Ritsumeikan University in 2008 and the Ph.D. (Language, Communication, and Culture) from the Graduate School of Language, Communication, and Culture, Kwansei Gakuin University in 2019. Her current research interests include English education and interdisciplinary team teaching at a pharmacy school.