International Journal of Educational Media and Technology
2021, Vol. 15, No. 1 pp.6-13 .

The Search for New Normals in Education from 2020

Judy Noguchi
Kobe Gakuin University, Japan
jnoguchi@gc.kobegakuin.ac.jp

The year 2020 will mark a significant change in human history due to the global COVID-19 pandemic—this might actually be a blessing in disguise. We realize that we can never return to what we had long thought of as "normal." What will be the "new normals"? In the realm of education, it is time for a paradigm shift from a 20th century system that basically tried to force students into a mass-production program rather than tailor the program to the individual students. How can the multifaceted needs of diverse students be addressed? One key is technology. As an example of how this might be done, I will focus on English language education for those aiming to become science and technology professionals in a foreign language environment. Specific language and communication skills are crucial for enabling participation in the knowledge construction of a professional global discourse community. Suggestions will be offered as to how this could be adapted to a wider range of applications.

Keywords: English for Specific Purposes, New Normals, Technology for Education

Pandemics and Change

New Normals after Pandemics

Human history is a chronicle of disasters both natural and human-made which have led to drastic changes in their aftermath. Natural disasters include earthquakes, tsunamis, hurricanes and typhoons as well as disease pandemics. Human-made disasters include wars and political strife leading to much suffering and the loss of lives. For example, recent studies have suggested that plagues, such as the Plague of Cyprian (mid 3rd century C.E.), may have contributed to the fall of the Roman Empire (Harper, 2015; McCormick, 2015; Wazer, 2016; Mordechai et al., 2019). On the other side of the Atlantic Ocean, the fall of the Aztec and Incan Empires have been tied to epidemics of smallpox from Europe sweeping across Central and South America (Kolbert, 2020).

Another vestige of an epidemic is the Gion Festival of Kyoto, Japan. It is one of the most famous festivals in Japan and usually attracts thousands of people to its many events held during the month of July. In 2020, the main event of the parade of exquisitely decorated floats had to be cancelled. It is ironic because the festival began during an epidemic in 869 when the Emperor offered prayers to appease the angry spirits that were thought to be the cause of the epidemic.

As I write this, the world is caught in the throes of the COVID-19 pandemic, probably the first to be so well-documented and reported as well as the first to spread so quickly around the world. While it is frightening to be living during such uncertain times in which so much is not known about this new coronavirus with superspreading power, it is also a time to start thinking ahead to what can be done after we have been able to find ways to diminish its effects by taking precautions in community life as well as by using medicines and vaccines. Humans have been findings ways to cope with and rebound after countless pandemics in the past.

Searching for New Normals in Education

Since the advent of science in the late 16th century, humans have survived and thrived thanks to what science could reveal about what was happening and what could be done. This treasure house of knowledge must be passed on to future generations through effective education. However, during the COVID-19 pandemic, schools around the world are finding it difficult to balance the safety of students and teachers and the delivery of efficacious education.

In the midst of this pandemic, Paul Reville, Francis Keppel Professor of Practice of Educational Policy and Administration, Harvard Graduate School of Education, stated in an interview:

> "We're in uncharted territory. … In politics we say, 'Never lose the opportunity of a crisis.' And in this situation, we don't simply want to frantically struggle to restore the status quo because the status quo wasn't operating at an effective level and certainly wasn't serving all of our children fairly. … Let's take this opportunity to end the 'one size fits all' factory model of education. … Within this coronavirus crisis there

> is an opportunity to reshape American education. The only precedent in our field was when the Sputnik went up in 1957, and suddenly, Americans became very worried that their educational system wasn't competitive with that of the Soviet Union." (Mineo, 2020)

The launching of the Soviet artificial satellite, Sputnik, on October 4, 1957, ahead of the United States in the middle of the Cold War, signaled the beginning of the Space Race. It also galvanized the United States into trying to improve education for science, technology, engineering and mathematics. Reference to a Sputnik moment was also made by President Barack Obama in his State of the Union address in 2011 (McGreal, 2011).

A Sputnik moment occurs when something causes a significant change in society. This occurred in spring of 2020 when remote teaching was suddenly adopted by universities around the world. In Japan, where the academic year starts in April, many students were thrown unexpectedly into a new learning situation. What did the students think about this? One student at the University of Tokyo asked students in her major field whether they were satisfied with remote teaching. Although it was only a small sample (n = 70), about 74% expressed satisfaction and only about 10% expressed dissatisfaction (Takei, 2020). When asked what they liked about online classes, the responses included: no need to commute, easy to ask questions, and could take the class in a comfortable environment. About 61.5% wanted remote teaching continued. One of the disadvantages mentioned was that it was difficult to get to know other students. Similar results were reported from a university-wide survey of 1115 students at Ritsumeikan University in Kyoto. Upper class students who had already established relationships at university tended to be more in favor of online classes. About 50% or more of the fourth- and fifth- year students were in favor of continuing online classes in the fall semester while the percentage fell to less than 40% for first- and second-year students. For fall semester classes, universities are trying to find the best balance of in-person classes, real-time remote teaching and on-demand classes where students can access materials as necessary. What is clear is that some form of remote teaching is likely to be here to stay.

What this global pandemic has made evident is the need for cooperation among nations around the world. Even if one country were able to control the pandemic within its borders, its economy would probably not be able to survive in isolation from the rest of the world. Also, international sports events, like the Olympic Games, could not be held without international cooperation to subdue the spread of the disease. This means that more than ever before communication on a global level will become of paramount importance. With that in mind, here let us focus on a specific area of education: the teaching of foreign languages.

New Normals for Foreign Language Teaching

Types of Knowledge

The traditional image of university education is a professor lecturing in a large hall and students busily taking notes. Today, lecturers can use speech-to-text software to automatically transcribe their lectures and display subtitles in real time. At the Eleventh Cyber Symposium on Remote Teaching at Universities and Other Institutions from April, Yokemura (2020) described how he supports students with hearing disabilities by having automatic subtitles on screen as he lectures. The transcribed lecture can also be automatically translated to help students from overseas understand it in their own languages. For general use, such as during trips to other countries, there are reasonably priced machine translation devices on the market. One compact model, about the size of a smartphone, can offer translations for 75 languages. In this age of AI (artificial intelligence), where software programs can handle automatic subtitling and translation, the question arises of whether foreign language teaching is even necessary. If it is, then what should it entail?

To answer that question, we need to think about teaching itself. Basically, teaching is about the transfer of knowledge. However, as described in the *Stanford Encyclopedia of Philosophy,* there are basically two types of knowledge: propositional knowledge and procedural knowledge (Fantl, 2017). In the case of foreign language teaching, propositional knowledge would be "knowledge about language," or the vocabulary, grammar rules, and the pronunciation and prosody of the language to be acquired. This can be learned from books and lectures. On the other hand, the procedural knowledge, or "knowledge about how to use the language," requires an awareness of linguistic relativity, discourse communities and genres. While these basic principles can be presented by books and lectures, the only way that procedural knowledge can be truly acquired is through the experience of actually using the language.

Procedural knowledge on linguistic relativity. Linguistic relativity, or how language can affect thought, is being reaffirmed by recent research. This is not to make judgments about one language system being "better" than another but to become aware of differences arising from cultural and societal aspects of language communities that can affect the success or failure of communication. Wolff & Holmes (2010, p. 253) discuss seven categories of

hypotheses across domains such as motion, color, spatial relations as well as false belief understanding and come to the conclusion that "language can augment certain types of thinking" and that "there is growing support for the view that language has a profound effect on thought."

Here is an example from the field of business. Allen Miner (2020), a venture capitalist considered to have made remarkable contributions to the value growth of venture businesses in Japan, points out that the East takes a relational stance in business while the West is prone to be transactional. This is supported by Nisbett (2003, p. 60) who states "The relative degree of sensitivity to others' emotions is reflected in tacit assumptions about the nature of communication." The difference becomes evident if we compare business letters sent from one company to another to inform the client company that prices will be raised as of shipments from the next month. A letter from a Japanese company would very likely start with a seasonal greeting and expression of appreciation for continued patronage. The letter would then most likely discuss the difficult economic situation and other circumstances to lead up to the main message of the increase in prices. This would then be followed by more politeness expressions entreating for understanding of the situation and requests for a continuing good relationship. An English business letter, on the other hand, would begin with the information about the price increase and follow it with details to as to why this is necessary. The letter would end with an expression of hope for continued patronage. Now consider what would happen if machine translation were used to automatically translate the Japanese business letter into English and vice versa. While the words could be translated, the resulting translated letters would seem very strange and either puzzling or offensive. This is why Westerners, especially Americans, often find the indirectness of Asians difficult to understand, while Asians find the directness of Westerners, especially Americans, condescending or rude. By making students aware of the existence of differences, without judgment about which language is "better," we can prepare students to learn how to deal with them. Humans have the capacity to acquire and function effectively in more than one language or culture system.

Procedural knowledge on discourse communities and genres. ESP, or English for specific purposes, can offer help in acquiring the procedural knowledge needed for success in professional communication. The ideas are not limited to "English" and can be extended to LSP, or languages for specific purposes.

What are discourse communities? The first clear expression of the concept of discourse community comes from the work of John Swales (1990). He defined a discourse community as being a group of people who are connected by their discourse and do not have to be in physical proximity to form a community. Imagine a discourse community of researchers who are conducting research on a vaccine to protect people from contracting a certain disease. They may be scattered in different laboratories around the world but their interests are mutual and they would want to be in contact with each other to be able to share their research. To facilitate this, they would use certain genres to communicate with each other: emails, conference presentations, research journal articles and most recently, papers uploaded to preprint servers. Through this active communication, they can enrich the knowledge base of their specific field, adding information about the disease and how to protect against it or treat it.

These genres can also be used to communicate with those outside their field, for example, in the case of disease control in a community, researchers need to communicate with local and national authorities as well as the general public. Communication with different discourse communities requires the use of different "language" forms to reach each audience in the most effective manner. For example, a scientist can communicate with another scientist by writing a research paper but would need to use a genre like a popular science article to reach those outside of the specific research field or the general public. Why is this important? In the case of developing a vaccine to protect against a certain disease, the general public must be convinced that the vaccine is safe and effective. If they do not trust the science, they would not be likely to comply. If a sufficient percentage of the population do not agree to be vaccinated, the vaccine would not be able to offer community protection.

To understand genres, the work of Miller (1984:151) is useful as it recognizes three important elements of genre texts: the action it is to accomplish, the substance or information that it carries, and the form or the textual structure itself. This means that scientists must be able to convince enough people in the community of the safety and efficacy of the vaccine (action) by having people understand and accept the information of the message. This means that its form, or the language used to convey message would be understandable to the general public and be persuasive enough to result in the desired action by the people. In the case of foreign language teaching, it is the form that we need to focus upon.

This focus on the form of the language being used is based on the recognition that a language can be considered to be composed of patterns. The sound patterns form words, which in turn occur in collocational patterns that compose phrases and clauses. These phrases and clauses, in turn, form sentences according to grammar rules. The sentences are used in patterns to compose the rhetorical structure of the text. The final and very important pattern type is the

genre framework of the text. While many language classes focus on vocabulary and grammar, to learn how to effectively use a foreign language, the learner must be aware of how these elements are used in recurring genre patterns and be able to practice their usage.

The importance of the genre framework becomes evident when, as described above, we compare Japanese and English business letters from one company to a customer company. The Japanese letters, in accord with the relational tendency of the culture, starts and ends with very polite expressions, burying the main information of an increase in prices in the middle of text. The English letter, on the other hand, which is transactional, would state the fact that there will be a price increase in the first sentence and then go on to present a detailed explanation of why this was deemed necessary.

Considering this difference in the genre frameworks shows that simply using machine translation would not be effective for communication to elicit the desire actions. What can be done to have students grasp the differences across languages and genres? Let us examine ways in which students can be made aware of and gain experience about how to assimilate procedural knowledge to enable them to effectively use a language in professional contexts.

Experience Learning to Assimilate Procedural Knowledge

In trying to deal with education during a pandemic, there was a pell-mell Sputnik-moment rush to remote teaching. Now that we have had some experience over the past months, we realize the value and possibilities of EdTech, i.e., the use of technology in education. Fortunately, there is now an array of tools that can support online teaching, from various videoconferencing systems (such as Zoom, Microsoft Teams, Google Meet and Skype[1]) to handy software tools that enable both teachers and students to easily produce and share videos to support active participation in class activities (such as Google Classroom, Flipgrid, Edpuzzle, and LoiLoNote School[2]). There are also various tools for preparing quizzes and tests (such as Quizlet, Socrative, Go Formative and BookWidgets[3]). These tools offer opportunities to encourage and accommodate diversity in the classroom by transforming a one-way lecture-style class into an interactive hands-on learning experience. How can they be effectively used together with other Web-based materials in the actual classroom? Let us examine some activities that can promote student motivation.

Activity: Using Web materials

One way to accommodate diversity in a class is described by Tokuhama-Espinosa (2020) for a Harvard University Extension School course that she teaches on neuroscience. She operates a flipped classroom using "Bundles" or lists of resources that serve as mini-libraries. Because the course can include graduate and undergraduate students as well as continuing education learners, the participants come with various levels of experience and knowledge. To allow for different entry points according to the student's level, she has students read or watch material on the Web to prepare for the topic to be covered in class. Students choose one or more items from Bundles that include hyperlinked articles, videos, podcasts for each topic. The Web serves as an enormous "library" of materials for a flipped classroom in which students start learning before coming to class.

For my undergraduate presentation classes, I have students search for reputable references to support what they wish to give a presentation on. As most of them rely on Web sources, I impress upon them the need to check who or what organization is operating the site and to find at least three different sources offering similar information. How to judge the reputability of the sources is discussed during lessons on how to do the reference citations. For example, in preparing a talk on the benefits of drinking green tea, one student bought in references from two blogs and a newspaper site. We discussed the value of information from blogs, some of which are offered by editors of good science research journals, and of newspapers and public journals. Web literacy education is becoming more and more important with disinformation running rampant over the Web (West, 2017).

Activity: Mediating Science Research News

This activity is one that I have offered as part of courses for graduate level students in science, engineering and medical sciences at various universities. These ESP courses, which usually have from 10 to 30 students, start by having them

[1] https://zoom.us/, https://www.microsoft.com/en-us/microsoft-365/microsoft-teams/group-chat-software, https://meet.google.com/, https://www.skype.com/en/

[2] https://classroom.google.com/, https://info.flipgrid.com/, https://edpuzzle.com/, https://n.loilo.tv/ja/

[3] https://quizlet.com/ja, https://www.socrative.com/, https://goformative.com/, https://www.bookwidgets.com/

examine oral and written genres and then prepare materials based on their own research. This particular activity was planned due to the importance of being able to communicate scientific findings to the general public. "Mediation" is defined by CEFR (2018) as making "communication possible between persons who are unable, for whatever reason, to communicate with each other directly." This usually applies to translation or interpretation between languages but can also include the explanation of difficult material.

Mediation is especially important in this age of post-normal science, which is a framework proposed by Ravetz and Funtowicz (1999) to resolve difficult problems for which there are no clear solutions. A *Nature* editorial (2016) comments

> "Urgent science touches on issues that rank high on the social agenda. Theorists have classified fields such as climatology and global-change research as post-normal science, in which socio-economic stakes are high and decisions are pressing."

The University of Bergen (2014) describes post-normal science as:

> "an approach to interface science and policy in cases where decisions need to be made before conclusive scientific evidence is available. Often, a single and conclusive scientific answer will not be available for highly complex systems such as fisheries, climate, society and the human body. In such cases, more research does not necessarily lead to less uncertainty, but can lead to unforeseen complexity. Values are often in dispute when the potential impacts of decisions based on uncertain science have very large consequences."

The COVID-19 pandemic is an example of a post-normal science situation in which policy decisions having widespread consequences need to be made in a timely manner but the scientific evidence to guide them remains incomplete.

Why is it important to be able to explain scientific research to the general public? Sharon Page-Medrich (2018) states that if researchers cannot do this, it can lead to distrust of science, which is unfortunate in times such as the COVID-19 pandemic. She points out that "a surprisingly large segment of the public is uncertain that college degrees are worthwhile or whether expertise is beneficial—they don't understand how the inquiries of academics are relevant to their lives or the common good." To help resolve this problem, the University of California at Berkeley offers workshops on the skills, training and confidence needed "to translate their often complex, technical close-up views into a wider picture with broader relevance."

To show my students how to learn to talk about their work to non-specialists, they begin by choosing a science news item from sites, such as Breaking News English, Nature Podcast, Science Podcasts or 60-Second Science.[4] First, they download the transcript and listen very carefully to the podcast in order to be able to emulate the announcer. They are told to put in prosody markings of the pause patterns, word emphasis and other vocal features. Next, they are guided through an analysis of the text. This shows them how cutting-edge research is explained to the lay public, for example by explaining technical terms and using conversational speech features. They are also made aware of the use of a "hook," or introductory section to attract the attention of the audience. This is followed by the news details of who did what, where, when, how and why. The main news is summarized and followed by a concluding statement about why this is important and/or how it can be applied.

I usually recommend Breaking News English because it is a website that offers short two-paragraph news items, many of which are related to science topics. Texts are available for the simpler Levels 0 to 3 or the more difficult Levels 4 to 6 together with many listening, reading, grammar and vocabulary exercises for self-study. The texts are read aloud with both a North American and a British accent that can be played at six reading speeds from very slow to very fast. Students are asked to listen carefully to the reading by the announcer and to try to emulate the pronunciation and prosody for practice. They are told that this can help them prepare for their own explanation of the research work they are doing. Due to time constraints, each student recites only the first paragraph, but this includes all of the essential features of a news text, as can be seen from Table 1.

Table 1 presents an example of a rough analysis of the features of a science news text which appeared on the Breaking New English site on August 31, 2020. As can be seen, the text has been separated into individual sentences and pasted into a spreadsheet file. The bold lettering shows phrases that the students could use when talking about their own work. The extreme right column describes the type of information included in the sentences. Students are asked to do similar analyses of the texts of their choice. This makes them aware of what kind of information they would need to include in their explanations of their own research. This task also helps prepare them for similar analyses of

[4]Breaking News English (https://breakingnewsenglish.com/), Nature Podcast (https://www.nature.com/nature/articles?type=nature-podcast), Science Podcasts (https://www.sciencemag.org/podcasts), 60-Second Science (https://www.scientificamerican.com/podcast/60-second-science/)

conference presentations and research papers that are done later in the class. Such more formal texts have a clearer framework and can be subject to genre analysis of the moves used in the texts.

The next step is to have the students prepare their own science news report. They are asked to present this in class and are evaluated by their peers as well as the instructor. As the other students in the class are usually from different fields (for example, in engineering, some are studying bridge structure while others may be in robotics or AI), this task is a very good way to make them aware of how to give explanations to those outside their field. They also learn to revise their work based on the feedback, which can be related to content as well as language elements. This activity helps students understand the value of using a genre approach to communication.

Table 1
Analysis of a Science News Text "Brain-hacking chip could give us superpowers[5]"

1.1	Technology trailblazer Elon Musk **has unveiled** a pig with a computer chip implanted in her brain **that could pave the way to** computer-to-brain interfaces in humans.	Who? What?
1.2	Mr Musk **has a** near-unrivalled **record in** pioneering technology, from electric cars and hyperloop travel to space tourism.	Who is X?
1.3	Gertrude the pig showcases his latest ambition - **to allow us to control** computers with our brains.	Details
1.4	**Conversely**, computers could enhance our brainpower and abilities.	Details
1.5	The interface **is part of** a tech startup called Neuralink.	Details
1.6	Mr Musk **announced that** trials would soon begin on humans.	Further work
1.7	He **believes** the technology **represents a** giant **leap into the future and will considerably change** our lives by giving us superhuman powers.	What does this mean?

Since the spring semester of 2020, I have been offering similar courses entirely via remote teaching using Zoom for real-time video conferencing with the students and Google Drive to share files. Google Spreadsheets are also used for real-time feedback about language features as everyone can work on the same spreadsheet at the same time. Giving students immediate feedback, as can be seen from Table 2, helps not only the individual student but also encourages other students to improve their texts.

Table 2
Example of real-time editing of student work. Right column, student original; middle column, instructor suggestions; left column, student revised text.

Hello, I'm Kxxx Axxx. I'm fourth year student at ZZZ univercity in faculty of YYY. please call me Kxxx in class.	Check article usage. Check spelling and punctuation. Check capitalization.	Hello, I'm Kzzz Azz. I'm a fourth-year student at ZZZ University in the Faculty of YYY. Please call me Kxxx in class.

Forging Ahead in a World of New Normals

The global pandemic confronting us today is likely to lead to new normals in many aspects of human society. While adapting to change after crisis points in human history is not new, the situation today is the first time that technology is playing such an important role in the process. Here, I have focused on the teaching of foreign languages, with English as an example. With technological advances enabling automatic transcribing and translation, the question arises of whether it is really necessary to spend the time and effort to teach and learn foreign languages. As explained above, my answer would be a resounding "Yes!" because a language is not only composed of words and grammar that are amenable to translation. When using a foreign language, we must consider the differences due to linguistic relativity and the context, relying on discourse community expectations and its genres guide language usage. The pandemic has shown us how interconnected human society has become. We must have the ability to communicate with people around the world to find more sustainable ways to support life on this planet.

[5] https://breakingnewsenglish.com/2008/200831-superhuman-powers.html

When thinking about the teaching and learning of a foreign language, the tools that usually come to mind are a dictionary and grammar rules. Of course, such propositional knowledge is important but in order to use a foreign language successfully and effectively, we need to shift to the acquisition of procedural knowledge. As described above, this means making students aware of how to use a systematic view of language acquisition for diverse contexts, learn about the features of linguistic relativity, and know how to take advantage of ESP concepts and tools for language acquisition. In the actual classroom, astute use of Web resources and of technological tools ranging from videoconferencing systems to handy software programs can help the teacher opt for an interactive learning experience that can accommodate diversity and motivate students to acquire a new language.

References

Council of Europe. (2018) Common European Framework of Reference for Languages: Learning, Teaching, Assessment. Companion Volume with New Descriptors. https://rm.coe.int/cefr-companion-volume-with-new-descriptors-2018/1680787989

Fantl, Jeremy, 2017. "Knowledge How", *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/fall2017/entries/knowledge-how/

Harper, Kyle (2015). Pandemics and passages to late antiquity: rethinking the plague of c.249–270 described by Cyprian. *The Journal of Roman Archaeology*. 28:223-260. DOI: https://doi.org/10.1017/S1047759415002470

Kolbert, Elizabeth. (2020). Pandemics and the shape of human history. *The New Yorker*. March 30, 2020. https://www.newyorker.com/magazine/2020/04/06/pandemics-and-the-shape-of-human-history

McCormick, Michael. (2015). Tracking mass death during the fall of Rome's empire (I). *The Journal of Roman Archaeology*. 28:325-357. https://doi.org/10.1017/S1047759415002512

McGreal, Chris. (2011). Obama's state of the union address: US must seize 'Sputnik moment.' *The Guardian*. January 26, 2011. https://www.theguardian.com/world/2011/jan/26/state-of-the-union-address-obama-sputnik-moment

Miller, Carolyn R. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151-167.

Mineo, Liz (2020). Time to fix American education with race-for-space resolve. *The Harvard Gazette. April 10, 2020*. https://news.harvard.edu/gazette/story/2020/04/the-pandemics-impact-on-education/

Miner, Allen. (2020). DJ Selects: Why startups lose control of their sales channels, and how to fix it – Allen Miner – Oracle. Disrupting Japan podcast. June 23, 2020. https://www.disruptingjapan.com/dj-selects-taking-control-back-from-the-distributors-allen-miner-oracle/

Mordechai, Lee, Eisenberg, Merle, Newfield, Timothy P., Izdebski, Adam, Kay, Janet E., & Poinar, H. (2019). The Justianianic Plague: an inconsequential pandemic? *Proceedings of the National Academy of Sciences of the United States of America*. December 7, 2019, 116(51):25546-23334. https://www.pnas.org/content/116/51/25546

Nature, Editorial, (2016). Future present, 531, 7–8

Nisbett, Richard E. (2003). *The Geography of Thought*. New York: Free Press (Simon & Schuster Inc.)

Page-Medrich, Sharon. (2018). Explaining your research to the public: Why it matters, how to do it! Berkeley Graduate Division. February 15, 2018. https://grad.berkeley.edu/news/headlines/explaining-research/

Ravetz, J. & Funtowicz, S. (1999). Editorial: Post-normal Science—an insight now maturing. Futures 31 (1999) 641-646.

Ritsumeikan University Press. (2020). Student questionnaire responses on student lifestyles during the COVID-19 crisis. (In Japanese)立命館大学生1115人が回答《コロナ禍における学生生活実態調査》 https://ritsumeikanunivpress.com/07/01/4257/

Swales, John M. (1990). *Genre analysis: English in academic and research settings*. Cambridge, UK: Cambridge University Press.

Takei, Yuna. (2020). Student views of online classes. (in Japanese) Ninth Cyber Symposium on Remote Teaching at Universities and Other Institutions from April. May 29, 2020. National Institute of Informatics, Japan. https://www.nii.ac.jp/event/upload/20200529-5_Takei.pdf

The Gion Festival. History. https://www.gionfestival.org/history-of-gion-festival/

University of Bergen, Centre for the Study of the Sciences and the Humanities. (2014). Open Seminar: Science for Policy: Post-Normal Science in Practice. https://www.uib.no/en/svt/81853/science-policy-post-normal-science-practice

Wazer, Caroline. (2016). The Plagues That Might Have Brought Down the Roman Empire. *The Atlantic*. March 16, 2016. DOI: https://www.theatlantic.com/science/archive/2016/03/plagues-roman-empire/473862/

West, Darrell M. (2017). How to combat fake news and disinformation. Brookings Web site. https://www.brookings.edu/research/how-to-combat-fake-news-and-disinformation/

Wolff, Phillip & Holmes, Kevin J. (2011). Linguistic relativity. Wiley Interdisciplinary Reviews. *Cognitive Science* 2(3):253 – 265. DOI: 10.1002/wcs.104

Yokemura, Taketoshi. (2020). How to support students with hearing impairment and its applications. (in Japanese). Eleventh Cyber Symposium on Remote Teaching at Universities and other Institutions from April. June 26,

2020. National Institute of Informatics, Japan. https://www.nii.ac.jp/event/upload/20200626-10_Yokemura.pdf