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Exploring the Influence of Beliefs of Instructors on Adoption of Technology in Teaching

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Abstract:

The implementation of Emergency Remote Teaching (ERT) due to Covid-19 pandemic resulted in classes being taught online. This research study examines computer-mediated instruction as it is influenced by beliefs of English-language instructors, and how those instructors make sense of their beliefs regarding computer-mediated online instruction tools. An Interpretative Phenomenological Analysis (IPA) research design was used. English-language instructors employed full-time in universities in Tokyo participated in this study. It appeared that each instructor's beliefs interacted in a complex manner to technology which impacted instructors' teaching practices related to the use of computer-mediated instruction. It revealed a multifaceted relationship between what instructors' think and what they do in class in relation to computer-mediated tasks. Findings of this study suggest that English language instructors are navigating competently, yet cautiously in the digital age. This study suggests technology integration into the English language curriculum will require a greater collaborative effort by relevant stakeholders in recognizing instructors' beliefs as vital to technology acceptance.

Keywords: *asynchronous teaching, Emergency Remote Teaching (ERT), Learning Management System (LMS), self-efficacy, synchronous teaching*

1. INTRODUCTION

As we are in the second year of the Covid-19 pandemic, the Emergency Remote Teaching (ERT) adopted by almost all major universities have required the integration of asynchronous LMS on demand, as well as synchronous delivery. Presently, the use of LMS, supported by video conferencing platforms, such as, Google classroom, Zoom, Microsoft Teams, and Cisco Webex Meetings have been adopted by many universities in Japan. As universities went online after suspending in-person classes, with the unexpected changes, instructors started looking for new strategies to relate to their students to provide adequate instruction in this environment (Atmojo & Nugroho, 2020; Blake & Christian, 2020; Blumenthal et al., 2020; Erdem-Aydin, 2021; Favale et al., 2020; Lei & So, 2021; Moorhouse, 2020; Nartiningrum & Nugroho, 2021; Schlesselman, 2020; Stroozas, 2020; Telles-Langdon, 2020; Todd, 2020).

Prior to the pandemic, the adoption and integration of LMS in language learning had been largely underutilized. As a result, the infrastructure provided had gone under-utilized, and pedagogy remained largely unchanged from conventional approaches (Aoki, 2005; Aoki, 2010; Bachnik, 2003; Franciosi, 2016; Latchem et al., 2008; Moorehouse, 2020; Sakamoto, 2002; Uchida, 2004; Ucok-Sayrak, & Brazelton, 2021). It is important to note however that most colleges and universities in Japan today are equipped with well-designed computer laboratories. Language learning and teaching has benefited from listening, pronunciation, and reading computer labs (Ertmer et al., 2012). However, Emergency Remote Teaching (ERT) has brought the subject of instructors' preparedness in conducting asynchronous and synchronous instruction to the forefront (Atmojo & Nugroho, 2020; Blake & Christian, 2020; Hawk, 2020; Stroozas, 2020).

1.1. The Current Study

The purpose of this study is to explore the influence of the beliefs on the practice of using technology in English-language instruction. This research study acknowledges the need to focus on instructor beliefs in development of their choices. As face-to-face classes were largely suspended due the Covid-19 pandemic in 2020, universities had decided to deliver courses on-line. A combination of asynchronous and synchronous methods of instruction had been implemented. Asynchronous instruction on-line meant the distribution and storage of various kinds of readings and materials on demand on the LMS. Synchronous on-line instruction involved 90-minute-long real-time lessons were delivered through video conferencing platforms (Moorehouse, 2020, p. 2). Presently, most university English language instructors in Japan are using one form or another of LMS, chat and messaging platforms, video conferencing, content makers, video streaming and sharing, online learning providers and other additional tools. The instructors are also conducting classes using google classroom, Microsoft Teams, Zoom, and other video conferencing platforms. Google docs and Microsoft OneDrive, and Dropbox are among the

popular sharing tools being used (Atmojo & Nugroho, 2020, p. 54). The effects of the ERT must be studied to gather insight into before and after experiences of instructors, as well as how that has affected their practice. Thus, this research study explores how English language instructors' beliefs affect teaching and how those beliefs may be impacting their use of computer-mediated tools in teaching. The findings from this research may well contribute to the knowledge base in English-language education, educational technology in higher education, instructor cognition, and the importance of professional development.

2. LITERATURE REVIEW

Self-efficacy regarding technology may be the cause of reluctance to adopt to these changing times. As noted by Wingo, et al. (2017), "computer self-efficacy, or a person's beliefs about his or her competence using computers determined that self-efficacy in using online course management applications effectively was the single most important factor affecting instructors' decision to adopt an application for online teaching" (p. 23). According to Martin, et al. (2019), while online surroundings continue to develop, instructors may be unwilling to adopt online structure because of various seeming impediments, including "perceived barriers to student success in online classes, uncertainty about their image as online instructors, technical support impediments, and their desire for reasonable workload and manageable class enrollments in online classes (p. 34)." Generally, the practice of teaching is seen as equal with instructors' choices and decision processes (Liu, et al., 2019; Woods, 1995); instructors are considered active agents who decide what should happen in their classrooms. The increasing body of research in education identifies the important role that instructors' thinking has in the way they teach and "Beliefs are the best indicators of the decisions individuals make throughout their lives" (Pajares, 1992, p.307). Instructors' choices and decision processes are deeply rooted in their beliefs and, thus, support this claim (Allen, 2008; Borg, 2003; Fang, 1996; Harrison & Lakin, 2018; Kagan, 1992; Marcinkiewicz, 1994; Met, 2006; Munby, 1986; Nespor, 1987; Pajares, 1992; Peacock, 2001; Richards, 1994; Williams, 1997; Woods, 1995). Numerous studies on instructional innovation or pedagogical change have supported the importance of studying instructors' motivational beliefs in developing or adopting different teaching strategies (Abrami, Poulsen, & Chambers, 2004; Breen, 1991; Breen et al., 2001; Borg, 2003; Ertmer, 2005; Foley, 2011; Harrison & Lakin, 2018; Hu, 2002; Karaman, et a.l, 2012; Lee et al., 2011; Surry & Land, 2000; Wozney, et al., 2006). Instructors' beliefs about using computer-mediated learning may be influencing their decision to use technological tools in their classrooms (Lam, 2000; Liu, et al., 2019). For the past twenty years, "online programs have been rapidly growing globally and universities have been adopting learning-management systems to offer flexible, hybrid, and online classes" (Son, 2019, p. 35).

While some research in the field has helped clarify the relationship between instructors' beliefs and their actual practice, the body of literature surrounding the relationship between instructors' beliefs and instructors' actual use of technology remains inconclusive. While many research studies support the claim that instructors' pedagogical beliefs inform the way instructors use technology in the classroom (Bai & Ertmer, 2008; Becker, 2000a, 2000b; Dwyer, et al., 1991; Gallini & Barron, 2002; Garthwait & Weller, 2005; Henry & Clements, 1999; Levin & Wadamay, 2006; Marcinkiewicz, 1994; Niederhauser & Stoddart, 2001; Ravitz & Becker, 2000; Son, 2019; Teo, 2009; Yasuson & Howell, 2005; Vannatta & Fordham, 2004), some reveal the presence of inconsistencies between instructor beliefs and their actual instructional practice with technology (Chen, 2008; Ertmer, et al., 2001; Judson, 2006; Liu, 2011, Liu, et al., 2019).

2.1. Theoretical Framework

The literature reviewed has established the importance of instructors' beliefs in affecting their pedagogical decisions and classroom practices. The current study is based on Social-Cognitive Theory's (SCT) assumption that there may be an association between instructors' confidence in their ability to carry out a certain teaching practice, and their beliefs in the efficacy of that practice (Bandura, 1977). The review also reveals that instructors' beliefs are subject to change. Specifically, SCT suggests that self-efficacy beliefs determine behavioral intensity (Bandura, 2012) and research has shown creative self-efficacy to be related to idea generation (Gong et al., 2009; Tierney & Farmer, 2002, 2011). Individuals with higher self-efficacy beliefs may increase their performance to serve broader collective goals if they believe that those collective goals are personally important (Bandura, 2001). It represents an individual's perceived competence, and belief that execution of action necessary to reach an objective, and positive assessment of his or her probability of success (Hughes, et al., 2011).

Utilizing self-efficacy beliefs allows the research question to encompass both the formation of English-language university instructors' pedagogical beliefs and the way these beliefs change over time. When deciding whether a teaching practice will bring about an expected outcome in implementation of teaching strategies, it is based upon their teaching beliefs. Therefore, as SCT suggests that individuals hold beliefs about their ability to make things happen through their own actions, Instructors are steered by their beliefs which have developed through lived experience through their environment, and behavioral factors (Bandura, 1977, 1988, 2001, 2012).

3. RESEARCH METHODOLOGY

This study adopted an Interpretative Phenomenological Analysis (IPA) methodological approach. Through one-on-one semi-structured interviews, the IPA approach permitted the researcher to identify the meanings that the interviewed

English-language university instructors in Japan attach to their personal beliefs when adopting different pedagogical strategies related to computer-mediation or technology-enhanced instruction. The research question raised in this study was: How do teaching beliefs of English language instructors in Japan influence their pedagogical practices related to computer-mediated instruction? IPA allowed the researcher to pull data from multiple sources of evidence, including both interviews and observations. This methodology shows how individuals make sense of their personal and social world (Smith et al., 2013). As a result, only through the participants' personal and subjective accounts can IPA researcher reach the lived experiences of his research participants. The research topic is best examined as a process over time because it is not just one or two incidents or specific lessons that have shaped participants' self-efficacy beliefs.

The IPA approach, nonetheless, has its shortcomings. The sample size poses limitations in terms of generalizability. The current study sought to overcome these limitations. A small sample size, with six participants in this study, allowed the researcher to treat each participant's individual account of experiences and then to make comparisons across cases (Smith & Osborn, 2003). Hence, a large sample size could have become a hindrance to a rich and in-depth descriptive and interpretative account of each participant (Pringle, et al., 2011). To lessen the potential threats of research interference and biases, the role and prior experiences of the researcher were addressed in terms of the phenomenon under investigation and the potential impact on the data analysis (Brocki & Wearden, 2006). The personal connection that was built with the participants allowed them to share their experiences in detail, and the researcher was then in a good position to understand their lived experiences. All the same, the study results may not be oversimplified or generalized.

3.1. Data Collection

Semi-structured, one-on-one, face-to-face interviews were conducted with the six participants in this study. These interviews were followed by 30–45-minute member-checking interviews conducted after the data analysis process. Each interview took place in the participants' own office at the university or in a private conference room of their choice to offer a secured environment. Each semi-structured interview lasted between 60 and 90 minutes. Written consent was obtained prior to each interview. Before the interview, each participant completed a form containing his or her demographic information (age, gender, highest educational qualifications, and total number of teaching years, before and after joining their respective university. The responsive interviewing model (Rubin, 2012) was followed, wherein the interviews consisted of a natural exchange between the researcher and the participants. The interview questions were enhanced or modified, depending on the input of the participants during the interviews (Smith & Osborn, 2003). The interviews were conducted in English, as all participants had native English-language ability.

The interviews were recorded on a portable digital recorder, with back-up recording on a mobile device and iPad. All interviews were transcribed precisely at the semantic level, including false starts, pauses, laughs, and other features that allow the voice of the participants to be fully heard (Reid, et al., 2005; Smith & Osborn, 2003). Aliases were assigned to each participant in all written and digital files, except for the signed agreement to participate in the study, to ensure confidentiality. All files were stored at the researcher's residence in a password-protected personal computer and audio recorder. The transcript and analysis of each interview was emailed to the individual participant for member checking. Other than during member checking, only the researcher had access to the transcripts and the audio recordings to ensure confidentiality. Data analysis was completed by the researcher.

3.2. Validity

According to Smith et al., 2013, the four criteria used to assess the validity of qualitative research included the following: credibility, transferability, dependability, and confirmability. The use of credibility ensured an accurate description of the subjectively created lived experience of the participants who shared the common phenomenon in this study. One possible threat to this study's credibility was that some participants might offer preferred social responses to achieve social desirability because sharing negative teaching experiences might make them feel incompetent as an instructor. To encourage frank sharing, the participants' anonymity and the confidentiality of their interview data were guaranteed in the informed consent process. Probes and iterative questioning were used in the interviews to avoid preferred social responses.

Another possible threat to credibility was the fact that the researcher knew the participants, which could have imposed preconceived ideas on the interpretation. This was alleviated by the researcher's clarification of bias at the onset of the study and bracketing in both the interviews and analysis. Reflexivity was assured by the researcher, who kept a reflective field journal of observations: feelings, ideas, questions, and problems during the whole process (Smith et al., 2013). To sum, in this study, the limitations of the small sample size (six participants) were addressed. A clear assumption was made that this IPA study would be descriptive and interpretative in nature. Common themes extracted were representative only of this research population. However, to help the understanding of readers, demographic data of each participant were detailed, and a thick description was produced to account for each participant's lived experiences. Readers were also provided selected narration from each interview (Smith et al., 2013). Acknowledging the limitations of the study due to the reasons mentioned above, it is important to restate them. First, the study is limited to six English language instructors in universities in Japan, and it would be unwise to generalize to other educational institutions. Second, the data which were collected from interviews to explore instructors' self-perceptions and practice in the classroom may have a bias as the interviewer knew

the instructors as colleagues. Third, there were no observations conducted of classroom practice by the researcher. Finally, as this researcher did not collect any documents related to the courses taught by the participants, it would be useful in collecting curriculum related material from each participant to understand the meanings of instructors' motivation through curriculum materials, and other documented teaching pedagogy, rather than relying solely on interview data, comprehensive as it may be.

Dependability can be an issue in a qualitative study due to the changing nature of the phenomena being investigated. However, the researcher explained IPA's idiographic nature and indicated that the research findings would not constitute a single definitive report but rather a credible one (Smith et al., 2013). Dependability was ensured through the provision of supporting interpretations with appropriate verbatim extracts from the full interview transcripts. Various perspectives were explored, even if only one phenomenon was discussed, to present a detailed and multifaceted account of that phenomenon (Reid, et al., 2005). A code-record procedure was used, whereby the researcher waited at least 2 weeks after the first coding activity before re-coding the same data and checking for consistency.

To reiterate, acknowledging inevitability of the researcher's biases, this researcher minimized bias by focusing on confirmability in the study to ensure objectivity. The researcher clarified predispositions in conducting this study from the beginning, such as the choice of IPA, the interpretivist paradigm, and a detailed methodological description. Ongoing reflective analysis was conducted using a field journal to achieve corroboration of the results.

3.3. Protection of Human Subjects

The researcher was certified through the National Institute of Health's (NIH) online training entitled "Protecting Human Research Subjects." To ensure the participants' voluntary participation, an informed consent form was developed, by modifying the Institutional Review Board (IRB) consent template for social or behavioral studies. All participants were guaranteed that the data would only be used for purposes of the study and in professional meetings and that pseudonyms would be used regarding the data. The participants could access their transcripts two weeks after the interview for member checking. They were given seven days to verify the accuracy of the transcripts, during which they could also retract any uncomfortable statement that they felt should not be revealed.

To ensure fair procedure and outcome in the selection of research participants, the selection was based only on the instructors' relevant experience in connection with the research problem. It should be noted that the researcher was not in a position of authority relative to any potential participants and treated all participants in a professional manner.

4. FINDINGS

In this section, the findings that resulted from the interview transcripts and from analysis of the interviews are presented.

4.1. Themes

As illustrated in Table 1, one superordinate theme and two sub-themes emerged from the interviews and the analysis of the transcripts. The superordinate and corresponding sub-themes are:

1. Instructor beliefs impact the use of computer-mediated instruction.
(1.1) LMSs in Japanese universities have changed instruction.
(1.2) Digital platforms are creating new opportunities.
Agree = A
Undecided = U
Disagree = D

Table 1 Theme provides the recurrence of each theme across the six participants.

Superordinate Themes Nesting Themes	Takuji	Yasu	Josh	Yoko	Airi	Aki
1) Instructor beliefs impact the use of computer-mediated instruction	A	A	A	A	A	A
1.1) LMSs in Japanese universities have changed instruction	A	U	U	A	U	U
1.2) Digital platforms are creating new opportunities	A	A	A	U	U	U

4.2. The Emergence of Themes

This section explores the superordinate theme and its respective sub-themes, with summaries and descriptions of the participants' perceptions and their understandings. The findings are supported by quotations from the interview transcripts. The section will conclude with a summary of the findings, which were developed in accordance with an IPA idiographic research frame.

4.3. Instructor beliefs impact the use of computer-mediated instruction

This superordinate theme captures the educational and personal experiences of the participants that pertain to the development of participants' teaching and their pedagogical choices. Each spent about 20 minutes describing their prior experiences and direction into the field of teaching using technology. All participants were of the

view that technology is influencing teaching and learning. This theme represents the participants' views on teaching through their shared experiences. It appeared through their responses that universities frequently could be the places where technological innovations shaped but not be necessarily the places for innovative uses of technology for learning. In these circumstances, the online learning, combined with a variety of computer-assisted language learning programs, was on its way to restructuring the concept of the language classes and the roles of the learner and the instructor in foreign language education. The two sub-themes that emerged were first, the LMS in Japanese universities changed instruction, and second, digital platforms were creating new opportunities.

5. DISCUSSION

5.1 LMS in Japanese Universities Have Changed Instruction

In this section, selected responses of some of the interviewees will be reviewed by identifying them by their pseudonyms. Participants were asked to recollect their experiences with technology that related to their use of the various types of tools for instruction. LMSs used in universities were discussed as they pertained to English courses and participants had variety of responses in the interviews conducted.

Aki, for example, stated that the learning system was efficient as far as information flow was concerned. However, he added that he feared there might be excessive confidence in learning systems in language learning and believed that computer-mediation particularly ERT might not have the lasting effect educators believe it would. Appreciative of the efficiency that came from technology, Aki was not entirely convinced computer-mediated learning affected educational outcomes. He held that technophiles were in love with technology and but did not see it as a mere tool but as a result. Acknowledging that they understood it as the centerpiece in some way and therefore, with that attitude, it seemed the computer-mediated learning, however, became another distance, another mediating factor to overcome. Emphasizing that technology was useful as a teaching tool but should not create a barrier between the teacher and student, he believed technology sometimes did. However, he was keen on using live zoom sessions, and blogging for discussion purposes. Referring to a cloud service, he discussed student peer review process of uploading essays to a website and having students comment on them electronically, adding that, with forming posts, writing, and responding was an efficient method to have the students engage in ideas that they might not get in a classroom discussion. There was a deeper engagement he thought in flipped classroom on LMS, combined with live sessions, as students had more time to process the material. In contrast, Yoko was of the view that many universities in Japan were still not adopting online systems quickly enough, and those universities that were, had not provided professional development on technology integration during the ERT. Most participants, however, were in partial agreement that e-learning system adoption in the universities had made it easier to provide lessons to the students during ERT

period. Participants were of the view that in many universities, prior to ERT, e-learning had been widely used for all kinds of purposes from announcing administrative tasks to posting instructors' updates, surveys, feedback on essays, presentations, and student assignments. Therefore, some universities and their instructors were better prepared to go online during the Covid-19 pandemic. She believed that LMS supported students by providing learning materials. Further, students could read course content, watch the lectures or instructional videos, participate in discussions, share their opinions with other students and instructor, engage in learning activities, complete learning tasks and assignments according to learning goal of the course. She emphasized that instructors could deliver their lectures at any time, and the students could receive them, listen to them repeatedly, and save them for reviewing. Adding that administrative tasks became simpler for instructors, as they could easily post announcements, and check student performance. Yoko contended that language instruction is being defined by changes in technologies that required instructors to be able to depart from the traditional models of teaching and move toward more progressive approaches. Thus, she asserted, technology must be more than a means to support lectures.

Equally, Yasu noted the universities where he has worked have LMS, and students can freely select course content and control their learning. In discussing the e-learning system at his university prior to ERT, he argued that there were many resources for instructors and program administrators, from multimedia-rich textbook websites to e-learning systems focusing on administrative needs. He was able to do a lot of his administrative tasks from home, increasing efficiency and time-management, as well as centralized access to materials through an e-learning system, there were many resources provided for faculty to use in their lessons. Contrastingly, Yasu appeared to be not particularly keen on computer-mediated instruction and noted that Japan was a technological society with high-level of technical know-how, but it was not the case in the university environment. And even if it were, he would contend that computer-mediation sometimes hindered communication because students may have the necessary technical skills; but if instructors focused on that only, students were not going to learn the communicative English skills. Furthermore, he stated that for communication classes, he did not want students sitting in front of a computer in communication classes after ERT was over. He seemed particularly concerned that some teachers depended on technology overwhelmingly and the students ended up focusing on developing technology skills when they should have been focusing on developing English communication skills. This was a concern that was shared by several participants: that as an instruction tool, the technology could get in the way of student engagement. However, Josh pointed out that there were universities, prior to the ERT, which had e-learning system, but instructors, as well as the students, were not utilizing it because they were not encouraged or trained to use that system. Noting, this was evidenced as it is easy to know when students and/or teachers were using the of LMS as it

automatically logs interaction data, such as number of views for course content, discussion boards, and total time spent online. Moreover, with these indicators, students' every action and interaction from the beginning of the course to end form their online learning experiences. He insisted that if various university departments promoted online instruction through professional development by running workshops throughout the year, it would be widely adopted by the instructors. Josh described the e-learning system at his university as a very effective way to get the information to the students in a timely fashion.

5.2 Digital platforms are Creating New Opportunities

In this sub-theme, the participants shed light on engaging with digital technologies using synchronous and asynchronous methods of teaching. Yasu, for instance, believed that one of the desirable features of asynchronous online discussions is that they give more flexibility than face-to-face or synchronous discussions because students could engage with them at a time and location which suited them. They could choose to follow a particular theme in the conversation after reading and then responding to the other students' contributions and ideas. This also applied to flipped classroom using synchronous online platform. He noted that essentially, asynchronous combined with synchronous student discussions allowed them to have extra time to read, and reflect, and then engage critically with the topics. As a result, more opportunities for critical thinking for the students were provided after proper reflection on a given topic. Airi, in her replies acknowledged that online systems could provide better ways for evaluation and feedback once they are strengthened. Existing assessment designs that focus on 'assessment for learning' rather than 'assessment of learning' could provide students with possibility to improve their answers iteratively over a duration. For example, through blogging or journaling their ideas in online shared spaces with other students. This type of online multi-stage design would provide new prospects for students to seek support and assistance to tackle the challenges they might experience. She also noted that she preferred paper to digital even though e-learning had provided higher level of efficiency, but she preferred to do things manually. Airi admitted that performing administrative tasks using LMS added convenience. She noted that because there was now shared knowledge in the field of courseware development, faculty who produce multimedia materials start the development process from beginning, building all necessary coding, scripting, digitizing, and editing audio-visual materials on their own do not have to do it alone anymore. Yet, changing a course format, especially to integrate learning technology, involved moving to different types of materials, the creation of new types of assignments, and the invention of new ways of assessing student learning.

Similarly, Takuji through his responses recognized his use of various online forums for discussion purposes and focused on the need for student engagement as his goal. Presently, he added that Zoom classes seem to be the method of choice along with

Google classroom, and Microsoft Teams, however, instructors must be careful not to over-extend themselves and their students by conducting the classes as face-to-face substitute because synchronous communication can be overwhelming for instructors as well as for the students online. He felt that ERT would have a lasting effect as many online teaching discussion groups were concluding. Takuji stressed that recent advancement in technology poses a dilemma for educators in connection with the use of digital tools in learning. He welcomed the use of digital technology post ERT in his classes if it did not interfere with communication and student engagement. Yoko in her answers provided perspective from her experience in conducting academic English Skype classes prior to the pandemic and noted that it was a good way to adjust the class size by lowering the teacher-student ratio. According to her, the outcome was not clear to draw any conclusions, but the teacher-student ratio was conducive to learning. The students were allotted appropriate speaking time and could ask questions and interacted with their group members well. However, she remained skeptical about integrating digital technologies in the classroom completely. Yoko maintained that the availability of technologies such as the video conferencing platforms or google class did not automatically translate into enhanced experiences, particularly when instructor training was inadequate to incorporate new technologies. She observed that a teaching method that does not work, will continue to not work, with or without a computer. In her discussion about mobile learning in higher education, Yoko indicated that while her university permitted mobile access, their contents were primarily instructional, for example, LMS on demand, email, and event calendars. She said that for mobile-learning to succeed in higher education, it was necessary to understand the factors university students considered important in the adoption of m-learning.

This approach was also apparent in Aki's responses, and he appeared to be in favor of using learning systems. He admitted students could access massive amount of information, and they could access it quickly, and that made the instructor's responsibility of keeping the learning goals clear and organized. Aki started to use different techniques, such as mind mapping, where students could map out a short story. The students were able to use the mind mapping functions to look at stories in different ways and see connections that they would not have otherwise seen. They all worked on the same mapping project together and yet, that was not the end-product; it was merely a step in producing the understanding of the story. As the participants veered towards social media and communication, they all had varying ideas. Aki stated that the number of social networking system (SNS) users have increased a lot and we are witnessing the impact of that on our students. As he noted, most students are expected to use a digital device, in carrying out an internet search when they write a paper or search for an appropriate website to practice a language skill and engagement with a SNS may be helpful in seeking assistance and getting answers or feedback from peers. Josh discussed the need for instructors to be more cognizant of the students as digital natives and not be afraid of adopting

innovative tools. He talked about the nature of online feedback and highlighted that formative feedback online is very effective using google docs or Microsoft OneDrive, keeping form and content separate, which was a crucial part of process writing. Prior to the ERT, he used a combination of feedback using digital platforms, such as Twitter using short comments, with online interaction being the first stage. Later, during subsequent drafts of the essays, after peer feedback, and his online written feedback, as a result, the final draft submitted by the students was much improved. His students were learning the skill of collaboration, thinking about how to take turns, how to share ideas, how to compromise and listen to ideas of others. Therefore, Josh said that collaboration with others using Google doc was a constructive way to learn. He maintained that ERT has shifted the virtual classroom interaction to the next level. Josh believed mobile learning in conjunction with SNS is something educators should look at. He underscored those students preferred to get their assignments on mobile devices, tweeted responses to their group projects, and made Facebook pages or groups centered on their interests or projects, adding that these attitudes were changing the way we communicate with students in and outside the classroom. The participants' knowledge and recognition of SNS and the impact of the mobile technology demonstrated that some of the learning environments might not be at all pedagogical in purpose.

The participants had conflicting viewpoints on the usefulness of mobile devices in education but acknowledged that their students preferred using mobile devices for assignments. In ERT video conferencing platforms were often accessed via mobile devices quite efficiently by all the participants. The participants acknowledged that computers had changed from being a tool supporting individual learning to a machine that allowed engagement in an authentic discourse with other users, facilitating interpersonal communication. Also, they accepted social media as a tool that was gradually being used increasingly and had great potential in application to teaching.

One superordinate theme emerged from analysis of the transcripts: 1) The influence of instructor beliefs on the use of computer-mediated instruction. This section discusses each theme with a focus on how it connected to the various theories and extant literature, the significance and limitations of the findings, and the implications for the educational community. This research showed that participants were willing to adjust and adapt their knowledge-based beliefs. In like manner, it was possible that affect-based beliefs because they were more closely connected to our personal identities, reside in a more central position in the belief systems, while knowledge-based beliefs, because they were less personal, existed somewhere on the margin. The centerpiece of the participants' narrative was that beliefs did change. Although beliefs were not readily changed, this did not mean that they never changed. It was possible that beliefs changed, not through the process of argument or reason, but rather through an adaptation progression.

Participants in this study were of the view that learning management systems (LMSs) were useful, but all shared some reservations about complete reliance on them, particularly, in terms of their lack of user-friendly interface and size limitation for uploaded material. All the instructors indicated that all higher-education institutions in Japan in one form or another used LMSs in which students could register for courses, checked their curriculum, projects, grades, downloaded materials, and took quizzes or tests online. Moreover, the participants were willing to use the university's e-learning system as a tool to further advance their pedagogy. None of them felt that it was a perfect system; however, all of them were of the view that administrative tasks had become simpler and saved time that could be used in other aspects of lesson planning. However, the participants' responses indicated that it was not clear whether digital technology was used to the same degree in assessing outcomes as it was in creating learning and teaching opportunities. Participants in this study were of the view that it was important to see if technology for assessment could be taken advantage of, particularly since e-learning had the potential for almost instantaneous feedback and adjustment of learning tasks and activities. They were of the view that had positive effects on students' writing. It was a good practice for trying to get their message across in a concise way and good for project-based learning to enhance their ability to write longer text that would develop their writing skills. Moreover, the participants thought that blogging was a constructive way for writing practice and group interaction.

Confirming findings of this study, Corry & Stella (2018) in their review article findings also note that there appears "correlations among instructional self-efficiency and technology self-efficiency and teaching practices"(p. 8). Furthermore, in their study, participants suggested that they altered their instruction in the changeover to online teaching; they were extra adaptable with time, organized methodically for synchronous meetings and gave feedback promptly. There findings suggest that a particular pedagogics might be required to efficaciously change from face-to-face to online education. In their study, findings indicated that instructors are quite comfortable with technological aspects, but not content with online instructional pedagogy. Furthermore, the research findings established a correlation between self-efficacy of instructor and favorable positions concerning online instruction. Similarly, Dolighan & Owen (2021) in their study "found a strong correlation for use of a learning management systems (LMS) prior to transitioning to fully online" (p. 108). They noted some likelihoods for this association. Instructors using LMS were easy to transfer to the ERT because of their prior experience and efficacy as instructors and students were familiar with "applications and expectations contributed to teachers' sense of efficacy for some of the subscale areas such as instructional strategies, online classroom management, and use of computer skills" (p. 108). Various instructors in the study, for example, specified their use of LMS for flip classroom and blended learning contributed to higher level of confidence in transferring to online format.

Notably, technology has influenced pedagogies considerably as adaptable technology-based instructional method is an important element in the formation of an environment for effective-Learning. This entails a substantial obligation of Instructors' effort and time; hence they can obtain technical proficiencies, create, and develop classes which are technology-based, and provide appropriate customized education. The constructivist pedagogy, which has been affected by technology, emphasizes the function of instructors as facilitators in learning objectives (Liu, et al., 2019; Son, 2019; Yükselir, 2016). In this context, "online course facilitation broadly refers to how, what, when, and why an online faculty member makes decisions and takes actions to help students meet the learning outcomes" (Martin et al. 2019, p. 36). Instructors may be unwilling or unmotivated to adopt technology if the promoted usage is inconsistent with their existing beliefs or practices (Zhao, et al., 2002). The types of applications and the degree of technology that will be integrated into a class depend on the teacher's perceptions. Technology is generally used in ways that accommodate teachers' needs, correspond to their cost-benefit interests, and maintain current practices (Zhao et al., 2002). Incompatibility between instructors' pedagogical beliefs and their technology usage can lead to results that would be deemed unsuccessful (Dexter, et al., 1999). Although beliefs of instructors are recognized as a fundamental factor in technology integration, various contextual aspects may cause the conflict between expressed pedagogical beliefs and practices applied with technology (Fang, 1996; et al., 2014).

Related factors such as instructors' professional development in technology integration are also found to affect their technology use. Notably, adequate instructor training was often cited as the most important to helping instructors learn how to use LMS in their instruction (Bauer & Kenton, 2005; Mitchem et al., 2003; Yang, 2008; Moorhouse, 2020). Several studies noted that effective professional development for instructors must be sustained, content-focused, and collaborative to effect change in teacher practices in ways that ultimately improve learning outcomes (Darling-Hammond, et al., 2009; Li & Protacio, 2010; Shi & Bichelmeyer, 2007). A focus on a specific content area or a pedagogical strategy would enable instructors to take this new knowledge from professional development and integrate it with their classroom practices. Therefore, professional development of instructors in using technology does not merely focus on applications; it connects with a specific curriculum and subject area and pays specific attention to the pedagogical practices associated with the subject area. Since the effectiveness of technology integration is more rooted in pedagogical and design principles, rather than in the technology itself (Chen, 2011; Dudeney & Hockly, 2007; Gorder, 2008; Koçoğlu, 2009; Parks, et al., 2003). The "transitioning an in-person course to an online format can provide challenges for instructors and their students" (Telles-Langdon, 2020). Nelson, et al. (2019) found "tensions between technology use and the traditions of subject area" (p. 332). Their research showed technology integration behaviors are affected by

instructors' beliefs in the usefulness of technology and their personal efficacy with it (Nelson, et al., 2019).

6. CONCLUSION

This research study sought to gain an understanding of the influence of English-language instructors' beliefs in relation to adopting computer-mediated learning in their courses. Thus, self-efficacy beliefs may assist instructors in attaching meanings to their related abilities, or lack of abilities, and their opinions and evaluations of their past, present, and future abilities. Acknowledging, SCT, which articulates that self-efficacy is the key to determining whether an individual can successfully shape their experience in the way they prefer. Self-efficacy comprises beliefs regarding one's capacities to organize and execute the courses of action required to manage prospective situations (Bandura, 2012). It represents an individual's perceived competence, and conviction that he or she can execute the action required to reach a goal, and an optimistic assessment of one's likelihood of success (Hughes, et al., 2011).

After rigorous analysis of interviews specific themes emerged that would help identify adopting technological tools to assist in instruction. The importance of the study on English language instructors' perceptions of the role of computer technology is twofold. First, the findings provide an understanding of why and how language instructors could integrate e-learning into their teaching practices. Since it has been clearly identified how instructors perceive the use of digital tools in classroom instruction, the findings would lead to the anticipation and understanding of their integration of computer-mediated language learning. Second, the findings may facilitate the development of preparation in educational technology at various levels. Understanding instructors' perceptions, needs, or interests regarding computer-mediated instruction will provide valuable input for the design and structure of teacher education programs. Social networks may prove to far more useful in foreign language learning, and it was the instructor's choice to select those tools that were the most appropriate for implementing their pedagogical approach and develop those skills that best fit their teaching. Looking through the SCT, the participants' perceptions of technology in language teaching were explored through their experiences. As a result, English-language instructors revealed attitudes which appeared to be changeable in the use of technology in their classroom.

SCT describes psychosocial functioning in the form of triadic reciprocal causation, "behavior, cognitive and other personal factors, and environmental events all operate as interacting determinants that influence each other bidirectionally" (Bandura, 1988). There is a complex relationship between technologies for classroom instruction and the knowledge on how to design effective and coherent lessons. Some participants believed in the meaningful use of technology, and others acknowledged that they did not completely grasp the role of technology in the English-language curriculum. This study indicates personal beliefs are central to

instructors' decision-making processes regarding technology use and integration. In addition, participants in the study repeatedly mentioned their students and that frequency revealed their satisfaction plays a major role in computer-mediated learning as instructors integrated student needs in learning through motivation, which in turn motivates the instructors to develop pedagogical strategies. It appeared that university English language instructors in Japan may be inclined to view computer use as interfering with the target language input and interaction. While recognizing, Instructors in Japan primarily use technology to replicate traditional learning; in addition, the lack of adequate instructor preparation restricts the level of technology-enhanced instruction in language classrooms. SCT's assumption that there may exist a connection between instructor's practice and their confidence in their ability may play a role in technology use. Despite being generally supportive of technology use in the classroom, the instructors were reluctant to endorse it completely. It may be because there was a lack of developing competencies through modelling, strengthening instructor's beliefs in their capabilities accordingly they would make greater use of their abilities, and developing self-motivation through target techniques as SCT deems essential (Bandura, 1977, 1988, 2001, 2012).

The Covid-19 pandemic situation and the subsequent suspension of face-to-face classes has forced universities into an unanticipated reliance on various forms of online educational delivery systems, synchronous and asynchronous. Moving online in an emergency demonstrated self-efficacy of faculty members who were confident in their ability to switch to a non-traditional instructional format. As research in the field has shown, even though creating online classrooms did not prove to be much more arduous than preparing for a conventional lecture, there remain gaps in computer-mediated instruction knowledge (Atmojo & Nugroho, 2020; Blake, & Christian, 2020; Blumenthal et al., 2020; Moorhouse, 2020; Stroozas, 2020). Following the pandemic, some courses may be transferred to an online format or at least use of technology will increase in teaching and evaluation as a method to reduce the environmental impact of a university for courses that return to a usual format (Telles-Langdon, 2020).

7. IMPLICATIONS OF THE RESEARCH

The findings suggest that the professional development training for instructors in using online technology may not necessarily mean practical application in classroom teaching practices, because some instructors may not see the need to change because of their lived beliefs. According to SCT, when confronted with challenging assignments, instructors who perceive ability as a skill that can be acquired take a "task-diagnostic focus" on causation of the problems and the best method to overcome the challenges. Instructors who think of ability as a fixed capacity take a "self-diagnostic focus" on personal insufficiencies and potential adverse results (Bandura, 1988, p. 287). However, the extent to which instructors can adapt their teaching practices to the new normal depends on the instructors' willingness to

develop and implement various pedagogical choices. Instructors hold professional beliefs that interrelate with personal beliefs, and those personal and professional philosophies may not always be compatible, yet they are the basis for action in class. Perhaps, in most situations, instructors' beliefs play an important part at the basic level of decision-making and are the stimulus for action and change, yet little time is devoted to reflecting on beliefs that may be the foundation of these pedagogical decision-making. Beliefs, at least, ought to be examined further and evaluated together with other influences that effect decisions in using technology for teaching.

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