Investigation of Normalization of Digital Technology in Language Learning and Teaching:
Teacher Training in MA Programs

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Abstract

    This paper describes qualitative research conducted in late 2019 and early 2020 into to what extent and in what way educational technology was incorporated in the curricula of several Master of Arts (MA) degree programs for language teachers and how administrative faculty viewed the use of technology in language learning and teaching. Institutions in Japan and Michigan, USA offering MA programs on English language teaching were identified and curricular information gathered from what was available publicly online, and then key faculty-administrators in each were identified and contacted. Data was collected from these administrators, who were asked to sit for in-person, semi-structured interviews. The spread of COVID−19 at the same time as some of the interviews resulted in some adjustments to data collection and some data loss. Analysis of the gathered data showed that the programs in general offered little if any instruction in technological pedagogy, and offered only limited experience in using educational technology in the classroom, even though the interviewed administrators expressed beliefs that it was an important element of language teaching. Some reasons for this limited instruction are noted in the results as well. Subsequent reexamination of the available online curricular information shows little apparent change in content of these programs as of 2023 in spite of the general spread of educational technology use during the COVID−19 pandemic.

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Background

This project was conducted in late 2019 and early 2020 and aimed to describe differences and convergences in how educational technology skills are incorporated into language teacher education at the Master of Arts (MA) level in Japan and in the state of Michigan in the USA as part of an exploration of digital literacy and the normalization[1] of technology use in second language education. These geographical areas were chosen partially based on accessibility, taking into consideration my own opportunities to physically visit campuses located in each, and also the fact that Japan is the primary context for my own teaching and research.

This research aimed to answer the following two research questions.

A. To what extent and in what ways do language teaching MA programs, particularly in Japan and Michigan, incorporate technology and technology training in their programs?

B. What beliefs do administrators in these programs have regarding the use of technology for language learning?

In setting out to examine these questions, I strove to develop a qualitative description of ways in which several programs in these locations incorporate technology and technology training. I also aimed to compare and contrast the types of technologies they use and the purposes they prefer to use them for in these two different settings.

Literature Review

I set out to examine available literature on MA programs in TESOL/TESL/TEFL/Applied Linguistics and the educational technology instruction and use in those programs. I found that a number of researchers in recent years have pointed to the growing importance of educational technology knowledge and skills for language teachers (Arnold, 2013; Bueno-Alastuey & Villarreal, 2021; Ertürk, 2022; Hegelheimer, et al, 2004, Kessler, 2018, Kessler & Hubbard,

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1 Bax (2003, 2011) defined normalization of technology for language learning and teaching as being the point where the technology is so widely used and accepted so as to no longer be explicitly noted.

2017). Developing this competency in language teachers was being advocated early this century by Hegelheimer, et al (2004), who stated, "At minimum, and in addition to theory and pedagogy, future teachers should attain the ability to conceptualize good (online) language learning tasks that are solidly grounded in theory and to create online learning tasks and upload them to make them accessible to language learners" (p. 435). More recently but still a decade ago, Arnold (2013) noted that use of technology in language teaching is a widely expected competency for teachers in the USA. Subsequently, Kessler and Hubbard (2017) stated, "Findings from research on teacher preparation include recommendations that teachers be able to evaluate technology for language learning, integrate tutors and tools, recognize relevant emerging technologies and align integration with pedagogical goals" (p. 287). Kessler (2018) described several general ways in which technology can be used in language learning, teaching and research and argued that technology use is so ubiquitous and normalized, and that technology offers so many opportunities for authentic communication, that it is virtually incumbent on language teachers to leverage it appropriately in their teaching. "Because all of these ideal conditions for language learning can be positively influenced by these digital domains and since the qualities that attract people to online communities make learning more efficient, pleasurable, and tailored, world language teachers in the 21st century should have an awareness of the potential for adopting digital tools and artifacts from real-world language practice so that they can be adapted for the language classroom" (Kessler, 2018, p. 214). In research published subsequent to my data collection, Bueno-Alastuey & Villarreal (2021) found use of technology still limited in the language-learning classrooms they examined, but they also noted that, "Our findings point to the need to integrate more innovative uses of ICT" (p. 124). Yet, competency development still seems to be lacking, as Kessler (2018) noted, "Unfortunately, many language teachers are unfamiliar with the extensive body of research and practice produced by professionals in the field of computer-assisted language learning (CALL)" (p. 206).

Given the expectations that language teachers be competent in leveraging educational technology, it seems logical that it should be a key component in language teacher education programs. Kessler and Hubbard (2017) presented

an outline of the history of CALL in teacher education starting in the 1980s, including a discussion of the evolution of technologies as well as the associated practices of teachers, and noted the recent development of related formalized professional best-practices and competency principles such as the TESOL Technology Standards. They stated, "This evolution toward professionalism has resulted in professional organizations establishing benchmarks, or standardized expectations representing the minimal technology skills, knowledge and abilities necessary for language teachers" (Kessler & Hubbard, 2017 p. 281). Hegelheimer, et al (2004), in an article describing one model for providing this education in an MA-TESL program, argued that appropriate education in CALL is vital for both future language teachers and future researchers in graduate programs and stated that "the goal of an M. A. program in the 21st Century should perhaps focus on empowering future teachers to successfully and competently implement technology in their classroom practices" (p. 435). Ertürk (2022) argued that "EFL teachers as well as preservice EFL teachers need to be equipped with the necessary skills so that they can demonstrate a profound understanding of the nature of today's technology systems and make use of [them]" (pp. 18–19). Bueno-Alastuey & Villarreal (2021) concluded that the student-teachers in their study "who had experienced an instructional technology course were more aware of the scarce use of technology [in the classrooms where they did teaching practicums] and of the possibilities and benefits technological tools can offer, thus, confirming the advantages of appropriate training" (p. 124). While not addressing technology specifically, Zhang (2021) stated that programs need to prepare language teachers with "a rich reservoir of effective pedagogical practices that are poised to facilitate effective student learning" (p. 447).

In spite of the clear importance of technology, there appear to be gaps and challenges in providing educational technology instruction for language teachers. Arnold (2013) noted that commonly used language teaching methodology textbooks generally provide an appropriate basic introduction to CALL, but argued more should be done. "In spite of considerable curricular pressure and increasing time constraints, teaching prospective teachers how to approach and evaluate new applications is one goal that is attainable and should be addressed in all teacher education programs" (Arnold, 2013, p. 242).

Kessler (2018) claimed, "Unfortunately, teacher preparation for technology use in language education has faced many challenges: It is still often neglected completely or focused on learning to use existing technologies rather than looking forward to the ways in which cutting-edge technologies can enhance or revolutionize teaching and learning" (p. 215). Miller (2020), for her dissertation research, examined the curricula of 51 MA TESOL programs and 49 TESOL graduate certificate programs at 71 universities across 33 states in the USA. As part of this research, she carried out word-frequency analyses of course titles and course descriptions for these 100 programs and presented lists of the top ten most frequent words for various categories. My examination of these numerous published word frequency lists found that neither 'technology' nor 'computer' appeared in any of them, nor did any related terms or associated acronyms such as digital, edtech, CALL, MALL, or TELL. The relative lack of these terms in course titles and descriptions seems to support the above concerns of inadequate attention focused on technology in language teaching education.

It would seem that if programs are not up to date with educational technologies, they might be doing a disservice to their students. Kessler (2018) noted that "What teachers seem to lack is the support and encouragement to use these increasingly familiar tools in the context of teaching" (p. 206). Zhang (2021) stated that "the success of any professional development program depends much on its content, particularly how it keeps abreast with the current knowledge and skills that trainees need to be equipped with" (p. 442). Arnold (2013) argued for looking beyond the content in textbooks he had examined and noted that "Viewing programs' CALL training in their entirety also means careful consideration of other coursework, informal learning, and external resources. Even if a curriculum does not allow for in-depth CALL training, technology can be infused in other courses to provide future L2 teachers with opportunities to experience instructional technology first-hand ..." (p. 242). Consequently, I felt valuable insight could result if I examined to what degree MA-TESOL programs were offering not only explicit instruction on, but also integration of, educational technology in their curricula and if there were any significant differences to be discerned between programs taught in Japan and the USA.

Methodology

I identified several institutions in Japan and Michigan which were offering Master degree programs focused on teaching English as a second language and directly contacted faculty members who had some administrative and/or oversight role in their respective programs. I asked each of them to meet me for about 30 minutes and sit for a semi-structured interview about how educational technology was incorporated in their MA program's curriculum. I identified and targeted four programs offered in Japan, all of which were being taught fully or primarily in English. I initially identified and targeted six programs in Michigan, and I received positive responses from potential participants in four of those programs. Prior to the interviews, I found what information I could online about course offerings and delivery for each program and developed a set of four core questions for all participants, which I provided to the participants via email in advance. These are the core questions:

1. In the program's core courses, are the application of educational technology or any theoretical underpinnings of educational technology part of the taught curriculum?

2. In the program's elective courses, as far as you know, are the application of educational technology or any theoretical underpinnings of educational technology part of the taught curriculum?

3. Regarding educational technology application and/or theory, has it been (or does it get) addressed in formal departmental discussions about curricular changes or course changes? What about in informal faculty discussions that you are aware of?

4. To your knowledge, how much do faculty in the program incorporate educational technology in teaching the courses? How much or in what ways do you personally do so?

I also asked follow-up questions as seemed appropriate based on the answers received in the interviews. In addition, prior to the interviews I identified one or two further questions I wanted to explore which were specific to each program. These typically aimed for clarification of information that I had found publicly available on the respective program websites about courses

that appeared to be specifically related to educational technology, possible uses of a learning management system (LMS), and any other online components of the courses and programs.

Initially, I arranged to meet the interview subjects in person and at their own campuses, and all four interviews in Japan were conducted in July 2019. The interviews in Michigan were scheduled for March 2020, a time chosen because I planned to be in the state to participate in a conference on educational technology. Unfortunately, the rapid spread of COVID-19 at that time meant that that conference was suddenly shifted partially online and then was ended early, that university campuses around the state closed down on short notice, that a state of emergency was declared by the state governor, and that I had to shorten my stay in the USA by a week. My data gathering was impacted significantly, and while in Michigan I was only able to conduct two in-person interviews and one other via a videotelephony application. Another potential interviewee notified me they would be unable to make time to meet in person or virtually, but they did provide me with brief written responses to my predetermined core questions as the best alternative they could offer under the circumstances.

Though I recorded all of the in-person interviews on two separate devices in order to ensure at least one clear and complete recording would exist even in the event one device failed, the interview which I conducted via videotelephony was able to be recorded only within that application and was kept online. I was unaware at the time that recordings were kept only online rather than on the device and only for a limited time. By the time I returned to Japan, managed the transition of my own classes to online teaching, and finally attempted to access the recording, the data had already been deleted from the system and was unrecoverable. As a result, for the programs in Michigan I only have data from two interviews and one email response.

For all the interview data, I used an online commercial transcription service which includes human transcribers and reviewers. I also listened to the recordings and compared them to the transcriptions to confirm accuracy and made edits as needed. I used the transcriptions to compare responses and identify trends across the programs.

For data analysis and to maintain privacy in reporting, I have designated the

respondents in Japan as J1, J2, J3 and J4 and the respondents in Michigan as M1, M2 and M3, and have chosen to use the pronouns they, them, their and themself as gender-neutral referents. I also have avoided references to the names of the institutions and intentionally attempted to avoid including information that would make a respondents' institution clearly identifiable, even through cross-referencing responses to different items. For this reason, in some cases the responses are not attributed to the specific participant who made them and some program-related data is intentionally not identified according to which participant's institution it relates to.

Results

In this section, I summarize the responses to each item and include illustrative examples using quotes from the respondents to build a richer picture of the practices in these programs. In some cases, responses have been addressed that were clearly and explicitly relevant to one of the core questions, even if not stated as a direct response to that question when asked.

Core Interview Question 1

In the program's core courses, are the application of educational technology or any theoretical underpinnings of educational technology part of the taught curriculum?

All four of the respondents from the programs in Japan and two from the programs in Michigan replied negatively, while the one other responded affirmatively. M1, the single one to respond affirmatively, started their response with, "I can respond, yes. First, I should say I'm interpreting educational technology to include tools for instructor productivity, pedagogical tools, also communication tools that might pertain." They then described three courses with elements addressing technology and mentioned particularly technology applied to assessment of learning, and to assessment of programs, technology for productivity, technology for research, and technology addressed as an emerging literacy.

As to the negative responses, M3 responded simply, "The answer is no." Likewise, J4 stated, "No, it is not." and J1 said, "I'm afraid not." Yet, both J1

and J4 went on to explain how they felt educational technology was something that is important for teachers to be familiar with, with J1 stating, "I think it is going to be a required part of knowledge [teachers] should have" and J4 saying, "I think it's really important that [teachers are] able to" use educational technology. J2, J3 and M2 were a bit more detailed in indicating it not being explicitly part of core courses. M2 answered, "Not per se" and "We don't have it built into the curriculum." Conversely, they noted that faculty have a great degree of freedom in their own courses, and that they themselves "think you'd be negligent if you didn't include some of [educational technology]." Additionally, they mentioned incorporating Kahoot in one core course they taught. J3 said, "I think in the core courses, the required courses, I would say no." J2 stated, "In the core courses, I would say there's no specific objectives related to the development of educational technology" and then expanded, stating, "... no explicit objectives related to developing competencies in educational technology in the core courses, I believe."

Core Interview Question 2

In the program's elective courses, as far as you know, are the application of educational technology or any theoretical underpinnings of educational technology part of the taught curriculum?

Only two respondents, both from programs in Japan, responded negatively about these areas being addressed in elective classes. J1 said, "Not really" and J4 stated, "No, it is not. We do not have any course for, that focuses on, technology in any way." Yet J4 also went on to state, "In my own teaching, I try to introduce the students to different online tools" and listed examples of language study aid technologies and a website building and hosting site.

Four of the respondents, two from Michigan institutions and two from Japan institutions, indicated that the students in their programs had access to at least one computer-assisted language learning (CALL) or educational technology focused elective course. The other, M1, explained that at least one of their colleagues addressed the TPACK theoretical framework (Mishra & Koehler, 2006) in their classes. M3 explained, "Students have the option of taking an educational technology course as an elective in another college of the university, but our program doesn't mandate it as there are other electives as

well." J2 noted that their program's elective CALL course had just been given an updated technology-focused name and another elective that was focused on vocabulary was known to be using several apps related to vocabulary learning. J3 was a bit less specific, stating, "We do have one elective course, which is a kind of using technology in the classroom, supposed to be quite practical, it's going on now, but that's an elective, it probably comes up once every two-ish years." This theme of an educational technology course not being offered every year was recurrent, with M2 stating their university has "a CALL class that's offered every other year" and J2 also having noted their course was not always offered.

I very intentionally did not define educational technology prior to the interviews, and less than half the respondents enquired as to how I envisioned it. One of them, M2, did address it directly when discussing this topic. They said, "Well, it depends, what do you mean by ... Like, are we talking about software packages or how to teach online?" Then they stated that, "We don't cover how to teach online at all." On the other hand, they were also one of the respondents that did mention either their own courses or others in the program using technology for research purposes. The participant who replied only via email was the only one who did not give examples of technology being addressed in research-oriented classes. The six interviewees all mentioned some examples, with statistical analysis tools and corpus-oriented sites being repeatedly mentioned.

Core Interview Question 3

Regarding educational technology application and/or theory, has it been (or does it get) addressed in formal departmental discussions about curricular changes or course changes? What about in informal faculty discussions that you are aware of?

This core question noted both formal and informal discussions, and the seven respondents all clearly addressed formal discussions, with three saying clearly that edtech does get discussed, two saying it doesn't, and two giving qualified negative responses. Two also made responses that explicitly indicated this area being discussed informally.

Of the four respondents from Japanese institutions, only J2 said that these

topics do get discussed, and they gave explicit examples of both formal and informal discussions. The others said, "Not yet." (J1), "Not much," (J3), and "No, not really." (J4). However, J1 also stated, "... it seems to me that the teaching staff is very careful in approaching and employing the advanced technology and so on in education as well." I am uncertain how they could have garnered this impression without discussions of some sort. J3 described doing their best to provide software requested by instructors and continued with, "But it's not like we have meetings where we spend 30 minutes or 60 minutes just talking about the use of electronic media or whatever in the meetings. So, no." While J4 responded that this was not discussed, when answering the question about elective courses they stated they had tried, unsuccessfully, to get approval for an educational technology course to be added to the curriculum.

The responses in Michigan were clearly impacted by the concurrent spread of COVID−19, with two responding that discussions were taking place in their institutions about applying technology in the event of campus shutdowns. The text-based response was, "There have been program discussions of offering more online and hybrid courses through technology, and there will likely be proposals to convert some existing courses to online and hybrid formats." My own interpretation was that they were indicating both discussions pre-dating the emergence COVID−19 and in response to it. M1 was more explicit, and noted the "COVID scare" had prompted discussions about "the real need to use instructional technologies to ready ourselves for the potential closure of the institution". M1 also indicated that these discussions pre-dated the pandemic response, stating that, "I would say sometimes incidentally, and sometimes more planfully and in a more structured way, we do discuss the use of instructional technology in the class." The other Michigan-based respondent said that these discussions don't take place in their department, stating, "I would say not. ... no, we don't talk about technology at all." They did not discuss the COVID−19 response on their campus during the formal interview part of our meeting.

Core Interview Question 4
To your knowledge, how much do faculty in the program incorporate

*educational technology in teaching the courses? How much or in what ways do
you personally do so?*

While the first two core questions focused on the explicit teaching of
educational technology use and theory, this question aimed to shift the focus
to application of educational technology by instructors in these programs. All
seven respondents indicated using educational technology in their own courses
and noted some or all of their colleagues using it to some extent.

J1 noted that in teaching both language testing and statistics courses, it is
essential to use computers. They described using statistical modeling software
like SPSS, and Moodle for basic learning management system (LMS)
functions, themselves. J1 also estimated that about 80% of the teaching staff in
their program were using Moodle. J2 talked about introducing online
"resources for determining readability" and vocabulary-related tools such as
"the new GSL and the academic word list" and having students use technology
to make presentations. They also noted using Google as a search engine and
Google Classroom for LMS functions in their own classes. J2 also explained
that each of the courses in the program was required to have a certain
percentage of the class delivered online, and that some other instructors also
used Google apps such as Groups and Docs for that. J3 described using online
videos as teaching materials to add variety and to leverage available short
lectures from leading theoreticians. They also noted that "pretty much
everybody" was using the LMS provided by the university to some degree, but
not to deliver courses online. J4 explained that the courses in their program
were all required to use Moodle, but that mostly it was only being used to host
text-based chat forums for students. They also noted introducing students in
their own classes to useful online tools, including Quizlet, VoiceThread and a
website building tool, as well as applying R for use in statistical analysis in a
research-oriented course.

M1 was the only respondent whose institution's whole program could be
completed online, and they noted that their own teaching was mostly online
and that they provided some materials in a "flipped" manner, such as recorded
lecture videos. They also said that the university requires all courses to be
hosted in an LMS. M2 also noted that all courses there must use the LMS
provided by their institution, although in their program it is as support for face-

to-face classes rather than online delivery of courses. M2 also mentioned incorporating Kahoot and having students use presentation software, the online Corpus of Contemporary American English and AntConc, and SPSS in their research methodology course. M3 stated, "I personally use Blackboard and PowerPoint (if you consider these as educational technology) as means of delivering course material, and so do my colleagues. We don't normally go beyond that."

Additional Responses

In addition to the core questions addressed above, in each interview I asked individualized and clarification questions. I also gave each respondent an opportunity to add anything further they wished regarding educational technology in language learning and teaching or their programs. In this section I outline some of those responses.

Several of the respondents indicated a perception that promoting the awareness of, and/or developing the skills in, educational technology is an important element of teacher education. M1 described the importance of technological tools in their response to the first core question, summarized above. J1 echoed that response with, "If you call DVD and PowerPoint slides and so on as technology, that's, well, we almost take for granted that we use them in the classroom. So, in that sense, technology is a part of education. There's no doubt about it." and described related teacher education as "important and crucial". M2 described feeling that they themselves should learn to teach online, and also described the situation for graduate students and colleagues who are asked to teach online. They noted, "... there's no training at all. It's just, 'Here's your course'" and expressed a sense that there should probably be some training. J2 noted that in their program "we do want them to experience those types of technologies." They further noted, "So, I suppose, in a sense, through our program, we're modeling the types of technology, and they're developing a certain competence with using them, which hopefully may, in the future, result in changes in their classroom as well." J4 described trying to add an educational technology course to their curriculum, noting, "I have said the more the teachers know, the more they will advocate for additional technology opportunities."

Thomas E. Bɪᴇʀɪ

Another theme that emerged was the barriers to including educational technology in the programs in Japan. J2 described the challenge of faculty not being prepared to teach educational technology, "But how to teach it, maybe we are not confident enough. I'm not confident enough to help them to get in, to catch up with recent development of it." J1 explained concerns with investing in getting new equipment installed only to have it become obsolete after three years or so, and therefore needing to have it be an ongoing project, yet some colleagues and students have no interest in it. J3 expressed similar concerns, noting that one barrier is knowing that one can invest significant time and effort into innovating and applying technology only to ultimately have a proposal rejected by the administrators or other instructors.

Multiple respondents in Japan noted that all or most of their students are practicing teachers and their professional settings are not conducive to applying educational technology, so it isn't a priority for them. J2 noted, "And as you know, in secondary schools in Japan, there's not a lot of opportunity to use technology in the classroom. Aside from some more progressive schools that might have screens and projectors for PowerPoint and whatnot, they can use that, but in terms of apps on phones and stuff, most of the schools still don't allow it, right? So, there is the practicality element to it as well, that 'what are teachers going to be able to take away and to put into their classrooms?'". Meanwhile, J4 gave one of the more comprehensive responses related to this, which merits inclusion in its entirety.

> J4: Well, I don't know what it's like in other places in Japan, but I find that the attitude of the administration is not really tuned in to where we are or where we should be with technology. And I've had some frustration, as I mentioned, that I tried to get some kind of digital literacy class in our curriculum, and because there isn't the demand for it now, they're not going to move forward with it. So that's a real disappointment to me. And the teachers I find that are in our program, and that's a requirement for the ... For a person to apply to our program, they have to be a practicing teacher, and they have to continue to teach throughout the program. So these are people really active in the field there. And the teachers typically are not that interested in technology. And earlier in

our conversation, you mentioned how your undergraduate students had been frustrated by their experience using email, and my students have expressed similar frustration learning these other tools.

Interviewer: Graduate students?

J4: Yes. That the teachers have, and I think that in our situation, these teachers are already overworked, and they are passionate about teaching because they're giving up their time, very limited, very valuable time to further their education and to try to become better teachers and serve their students better. And there's just not much bang for the buck when it comes to technology. Also, something that you mentioned earlier about how the teachers are so focused on entrance exams, and technology isn't going to take them anywhere with that, so there's a reluctance to put forth the effort.

In contrast, none of the Michigan-based respondents described barriers to including educational technology instruction other than M2's noted comments about lack of knowledge and training for those teaching the program courses.

Online Program Information Data

As noted above, I investigated publicly available information on the respective program websites prior to conducting interviews. Further, at the time of writing this article I revisited those sites to see if there were any significant changes, especially given the possibility for the COVID−19 pandemic to have prompted curricular or delivery adjustments.

Of the four programs offered in Japan, in 2019 two of them listed at least one elective course related to educational technology and two of them did not list any, information reflected in the interview responses. In the latter two, looking at available course descriptions and syllabi, I found one course noting a single session on "eLearning & CALL" and the use of an LMS at one school. At the site of the other of these two schools, I found no references to educational technology other than to an LMS in the syllabi. In 2023, there were no changes in the latter program and no significant changes I could find in the former program. Of the two that had offered educational technology electives in or prior to 2019, one started offering online-only or hybrid delivery

of their program in 2022 and the other was advertising a planned start of online-only or hybrid delivery in 2024. One of these had no other significant changes, while the other had offered a new educational technology elective in 2022.

Of the three programs offered in Michigan, one has subsequently stopped accepting students to the program. Another university in Michigan no longer offers the MA but does have a graduate certificate in TESOL delivered fully online. However, the program includes no specific course related to, or reference to, educational technology. The third program still does not have an explicit mention of educational technology in the current program objectives, but it does offer a CALL course, a Corpus Linguistics course, and an eye-tracking-based course, as well as allowing a multi-modal reflection as a final project for those in the non-thesis path.

Discussion

Limitations

It should be acknowledged that the data collected and discussed here is limited to self-reported information, by single individuals in a small number of programs, combined with the information these programs choose to make publicly available online. Surveys or interviews with a range of faculty and students and in a wider range of programs was not an option within the scope of this project. However, further research expanding the range of subjects, both within individual programs and in more programs in other locations around the world, would likely create a more nuanced picture. Engaging directly with students in these kinds of programs could also help create a better picture of what the learners themselves want of these programs and why the study of educational technology is or isn't important to them.

Another significant limitation in this project is related to the aforementioned challenges with the timing of data collection at the outset of the COVID−19 pandemic. Having to change the method of data collection in some cases, alongside having lost some data due to my own unfamiliarity with the technology in one of the alternative collection methods, has further limited the scope of the data collected and presented here from what was originally

envisioned.

In spite of these acknowledged limitations, and even without wider sets of data, I do feel the results presented here offer insights into the state of explicit instruction in educational technology, instructional uses of educational technology, and attitudes toward inclusion of educational technology instruction and use among faculty-administrators in language teacher education at the MA-level.

Implications

These results indicate fairly limited attention to educational technology in language-teaching MA programs. None of the programs had, or have, stated achievement objectives related to technology for language teaching and learning, and only one incorporated it into core courses in the program. Of the remaining six programs, four do offer electives related to educational technology. However, even of those, one offers it via cross-registration in another program at the university and the other three do not offer an educational technology elective every year. It also does not appear to be a widely discussed topic among administrators or faculty, though the COVID-19 spread seemed to have instigated related discussions at the time I was collecting data in the Michigan institutions.

On the other hand, all of the respondents described using at least some educational technology in their own courses and most of them also asked students to use some technology, especially related to conducting research. With respect to normalization (Bax, 2003, 2011), it was interesting to note that only one respondent explicitly mentioned computers and even they did it in a way that questioned whether computers were considered educational technology. Two people mentioned PowerPoint, but again along with some questioning of whether it fell within the definition of educational technology. Some kind of LMS was used in every program, and explicitly required in the majority of them. Yet, some of the respondents only mentioned it when directly prompted in the interviews, and the responses from the faculty of the USA universities in particular tended to imply that was considered normalized. Some type of online delivery was already happening for at least parts of courses in about half the programs, although only two had full courses online

and only one of those had a full program that could be completed online.

All of the respondents also expressed, to varying degrees, a belief that educational technology was important and should be given attention, but the majority also noted barriers to this. One respondent in Michigan addressed some personal lack of technical knowledge and a lack of training from the institution for instructors. All four respondents in Japan mentioned barriers, particularly related to administrative barriers, both in local schools where their students may not be allowed and/or be able to use technology in their teaching contexts, and in their own institutions where investing time and energy is wasted when subsequently not allowed to use the technology or adopt proposed new classes.

In spite of there being a sudden and widespread shift to online education and wider use of varied technologies to support instruction, including emergency remote teaching (ERT), during 2020 due to the COVID-19 pandemic (Barbour, et al, 2020; Hermanto & Srimulyani, 2021; Hodges, et al, 2020), that does not seem to have prompted significant changes in how educational technology is addressed in the programs described here, at least based on publicly available information about each. As noted above, educational technology course offerings do not seem to have been expanded, and two of the three programs in Michigan are no longer accepting students. On the other hand, two of the Japan-based programs have, or soon will have, adopted hybrid and online-only delivery of their programs, which seem likely to at least involve students experiencing the application of some learning technologies not previously used in these classes. However, my own assumption is that these changes are more to accommodate prospective students who have become more familiar with, and possibly preferring of, online courses than for any reasons related to a desire to provide student-teachers with first-hand exposure to educational technology.

Conclusion

Personally, I believe that the merits of, and opportunities to exploit, technology for language learning and teaching have only become more prominent as a result of the responses to COVID-19. While many teachers

have adapted their teaching practices on the fly and with support from personal learning networks, pre-service language teachers and even in-service language teachers returning to further their own education would benefit from having theories of educational technology and related methodology given explicit attention as a core part of their education. This could then promote more and better application of both normalized and emerging technologies, leading to better outcomes for language learners.

Acknowledgements

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