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Novice Language Teachers' Selection Criteria and Uses for Digital Voice Recording Software

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ABSTRACT

In order to address a lack of motivation to learn a second language, second/foreign language teachers must overcome a multitude of impediments in which to bring students to higher levels of language learning. Research on the integration of digital voice recording software into the language learning curriculum has focused primarily on the perceptions of veteran instructors and their students. However, there is a dearth of research on novice language educators and what influences their decisions to select such software. Following the literature review, the author discusses results from a study investigating novice language teachers' criteria and selection of digital voice recording software. The research has implications for language teachers as well as teachers in other content areas.

Keywords: Digital Voice Recording Software, Language Learning Curriculum, Language Teachers, Novice, Second Language

INTRODUCTION

The narrowing of the curriculum due to the lingering effects from *No Child Left Behind* and now *Race to the Top* continues to prioritize instruction in and the allocation of resources to the core areas of science, mathematics, and reading. Fostering student motivation to learn in today's classroom regardless of content area continues to challenge teachers due to multiple obstacles such as student misconduct and a loss of time preparing for seemingly endless testing (Zellmer, Frontier, & Pheifer, 2006). The challenges novices educators face daily can be particularly unnerving because many times

these neophytes are given the most challenging assignments with little to no professional support (Kalogrides, Loeb, & Teille, 2011). Additionally, they struggle with classroom management issues, are burdened by a lack of curricular freedom, and suffer from benign neglect in professionally unsupportive environments (Fry, 2007; Mathews, 2011; Melnick & Meister, 2008; Smith & Ingersoll, 2004). While all novice educators must develop strategies to overcome such barriers to teaching and learning, newly-minted second/foreign language (S/FL) instructors must learn to rise above other obstacles such as student perceptions of the irrelevance of authentic language applications

and lowering student anxiety about learning a second language.

Theoretically, as anxiety increases, learners may experience stress and a lack of self-efficacy, which tends to hinder second language acquisition. Conversely, as students begin to feel more comfortable in the learning environment, students demonstrate risk-taking behaviors when practicing and acquiring a new language (Krashen, 1981). In the area of S/FL learning, performance anxiety in the target language is often reported as one of the most influential factors impediments to language learning (Horwitz, 2001; Krashen, 1985; Swanson, 2013a). However, research suggests that the blending of technology and best practices in the teaching languages can foster a low-anxiety learning environment, improve student motivation, and foster innovative S/FL learning practices.

Background

For decades free and open source software has been of interest to government agencies, military, and educational institutions to name a few. Among other notable ideas, open source software is freely distributed, includes the source code, allows for derived works which can be redistributed under the same license, is absent of discrimination against persons, groups or fields of endeavor, and must not contaminate other software (Open Source Initiative, 1998). Additionally, it is free. That is, any one is freely licensed to use, copy, and even change the software in any way (Coppola & Neelley, 2004). In fact, people are encouraged to improve upon the software's design and functionality.

The movement to create such software began in the 1950s when software accompanying the first large-scale computers produced by IBM and other technology companies was distributed with modifiable source code that could be improved and shared (Koch, 2007). UNIX, a popular operating system, is a fascinating example historically. In the mid-1960s AT&T Bell Labs and others were working collaboratively to develop an operating system. While the system was functional, it was burdened with a plethora

of problems and Bell Labs ultimately pulled out of the project. However, others decided to remain and work on the system, but on a much smaller scale. Although UNIX was developed by programmers for programmers, over the years, it has become a powerful and flexible operating environment that is used widely in business, science, and academia (Abang, 2010).

To that end, educational institutions have begun to produce and use free and open source solutions for course management systems and electronic portfolios due to constricting budgets, growing resentment of vendor power, and a lack of innovation (Coppola & Neelley, 2004). Researchers have been examining the effectiveness of such technological advancements, and in the case of language teaching and learning, the research based on integrating technology into S/FL instruction for oral/aural purposes has focused on veteran teachers and their students' perceptions of technology integration. Swanson, Early, and Baumann (2011) noted that the teaching and learning of S/FLs in the communicative classroom is dedicated to the ideals, if not the practice of developing second language proficiency. As the paradigm of teaching languages has changed from the Grammar-Translation Method to the Communicative Language Approach, language teachers now place focus on the three modes of communication: the Interpersonal, the Interpretive, and the Presentational (National Standards *in* Foreign Language Education Project, 2006). Instead of basing language study on the four skills (reading, writing, listening, and speaking) individually, communication in the target language becomes three parts of a single goal, communication. Within the framework of the three modes of communication, language learners demonstrate proficiency through thematic integrated performance assessments.

To that end, learners first listen to watch, and/or read an authentic text (e.g., radio broadcast, podcast, magazine article) and then answer informational questions so that instructors can assess comprehension of the material. During the process, instructors guide learning by providing students consistent and constant

feedback on performance. Afterward, students engage in interpersonal oral communication about a specific topic which is related to the interpretive text and theme. Later, students demonstrate learning in the target language by presenting their research, ideas, and opinions in forms such as skits, brochures, speeches, broadcasts, posters, and even essays.

During the development process of such assessments, digital recording systems can play a role. Although it can be argued that Cuban's (2001) claim that school systems have not been restructured completely to support the integration of technology for instruction since the turn of the century, the Science, Technology, Engineering, and Mathematics (STEM) initiative certainly helped, especially in unspecified areas such as language teaching. In 2010, the *America COMPETES Act* (H.R. 5116, 2010) was passed in order to provide for educational development and progress at all academic levels in the STEM fields. Despite being created for the STEM areas, the new legislation supported the development of language labs. Combined with emerging technologies, the new centers transformed the teaching and learning of S/FLs in schools by allowing learners to become information developers as well as information consumers as they entered the blogosphere, creating and disseminating podcasts, and developing and using thousands of interactive apps newly designed specifically for language learning in mind.

However, many schools and school districts continue to restrict teachers and students access to a plethora of these innovative Web 2.0 technologies for a variety of reasons. Nevertheless, instructors, in collaboration with school's technology specialists, have been able to work with instructor by installing innovative free or open-source software on school computers to facilitate teaching and learning (Swanson, Early, & Baumann, 2011). Such practices have generated a body of research that focuses on emerging technologies and their potential uses to improve learners' speaking proficiency in the target language.

The Integration of Digital Voice Recording Software in Language Learning

In order to investigate the utility of integrating a digital voice recording system into instruction at the introductory level of language learning in more than a dozen languages, Swanson and Schlig (2010) studied the effects of immediate feedback when using the *Wimba*® voice recorder (Wimba, 2008). The authors noted that this rather costly voice recorder was selected because it could be embedded in the course management system (*uLearn*), saving instructors from having to learn how to integrate a separate digital tool into the existing course management system. Results from more than one thousand novice language learners showed that there were statistically significant improvements in target language.

Comparable findings have been reported with language learners in grade level schools. Opting to use free and open source software for students' speaking assignments, teachers developed a system for students to turn in in-class and out-of-class assignments. Swanson, Early, and Baumann (2011) reported that both middle school students and their instructor preferred using digital voice recording software to traditional face-to-face speaking assessments. Meister (n.d.) reported similar findings at the high school level. Both studies support the notion that traditional face-to-face speaking assessments tend to heighten performance anxiety — the feeling of nervousness, worry, and apprehension experienced by non-native speakers when using the target language, which is supported by earlier findings (Horwitz, 2001; Early & Swanson, 2008). Students who use digital recording software for speaking exercises tend to report a decreased sense of performance anxiety. Additionally, the recordings allow instructors to collect and save an artifact of student learning. The recordings allow for increasing inter-rater reliability of assessment, measuring similarities and/or differences in learner progress toward proficiency goals, and form a body of evidence to support assessment

outcomes for school and program accreditation. Taken collectively, students in the three afore-mentioned studies reported that the use of the digital technology helped improve their ability to communicate orally in the target language.

From an instructor perspective, the use of digital voice recordings added precious instructional time. In addition to having more time to work with students on interpersonal and interpretive tasks, the instructors reported that evaluation of student performance was faster and more accurate. The recordings could be listened to multiple times if needed whereas student performance using the face-to-face method was fleeting. Instructors found that they could assess student responses at uncon-ventional times and locations (e.g., at night, on the weekends). Moreover students' recordings seemed more creative, animated, and complete. However, instructor cautioned that students could easily write their responses with the assistance of native speakers, and then read, record, and turn in their responses. Thus, it was strongly recommended that digital voice recordings be integrated into language learning as a formative assessment. Summative assess-ments should take place in language labs where student performance can be monitored.

However, there has been a dearth of re-search focusing on novice educators perceptions of technology integration in the S/FL classroom. In an effort to understand these individuals' thought processes as they investigate different digital tools to adopt for oral/aural language learning purposes, the author designed the following study. In the following section, the author discusses options available and then presents the findings from a study of novice S/FL teachers in the southeastern part of the United States (US).

Free and Open Source Software Recording Tools

The growth of emerging technologies for educational uses has been unprecedented since the turn of the century, especially in the area of language labs. Unfortunately, many of these new technologies may not be available to language learners in public schools and institutions of higher education due to policy restrictions or dwindling budgets. Advances in free and open course software platforms have the potential to allow language instructors to use digital technology to gauge and measure student oral proficiency in the target language free of cost. Given the number of digital tools available for this purpose, the author outlines four free op-tions that do not contain adware, spyware, or license limitations, and that do not monopolize computer processing and storage resources.

Moo0 Voice Recorder. A rather simple sound recording tool for Windows, the *Moo0 Voice Recorder* <http://www.moo0.com/>can be downloaded and installed in a couple of minutes. In addition to the recorder, users also receive the *Moo0 YouTube Downloader* for recording audio from *YouTube* videos (Moo0, 2013). Once installed, the recorder can be used to record voices as well as other sounds such as web audio, internet radio, and even *Skype* conversations via the computer's microphone. Its interface is semi-transparent when displayed over other open programs on the computer screen allowing users to record and work with other programs while recording. Using a drop down menu system, users can select one of three recording modes: Only PC Sound, Only Voice Sound, and both PC Sound and Voice. Files can be saved as either in the popular mp3 or wav formats using another drop down menu. A third drop down option allows users to boost or reduce input in 10% intervals up to 500%. Once the record button is activated, the user's voice is displayed via a modest audio spectral graphic to the right of the record button. Users can activate the optional Max Duration panel in order to set recording lengths, which is useful for practicing speaking in public and creating announcements.

NanoGong. A derivative of the Gong project, *NanoGong 4.2* (2013) is a free and open source recording option that can be used to record, playback, and save voice recordings. Unique among other free standing audio record-ing platforms, *NanoGong* is an applet −a small application that performs a specific task that

runs within the scope of a larger program such as a webpage. It does not require a complicated setup procedure and users only need a simple webpage in order to use it. *NanoGong* runs Windows, Mac, and Linux systems, and only requires the Java environment to be installed on the computer. Before downloading the program <http://gong.ust.hk/nanogong/>, users need to check if the computer is configured with Java first. Unfortunately, *NanoGong* is unable to run on *iPhones* and *iPad* because they are not able to use Java scripts at the time of this writing.

One of the interesting features of this tool is that users can manipulate the speed of the playback by increasing or decreasing the rate of playback without changing it. Moreover, *Nano-Gong* can also be used with course management systems (e.g., *Sakai, Moodle, Blackboard*). Unlike other recording devices and platforms that use the common *mp3* file format, *NanoGong* only two types of audio format, *Speex* and *IMA ADPCM*. Fortunately, the *IMA ADPCM* format is one of the forms of the *wav* audio file formats and can be played using any music software.

Audio Dropbox. Part of the Rich Internet Applications (RIA) toolset <http://clear.msu.edu/teaching/online/ria/>, *Audio Dropbox* was developed via a Title VI grant from the US Department of Education at the Center of Language Education and Research at Michigan State University. It is free to users and can be put on any web page. Users simply create an account which gives them access to it as well as the rest of the applications. Instructors create individual dropboxes for assignments and students access the dropbox and record themselves using the interface. Once recorded, the audio files are inserted automatically in that dropbox and are ready for the instructor to access. There is no need to save recording as a specific file format because they are automatically converted to *mp3*. They can be accessed and listened to from either the hosting server or they can be downloaded to the instructor's computer.

Audacity. Mazzoni and Dannenberg's (2000) *Audacity*® <http://audacity.sourceforge.net/> is one of the most popular and well-know

free and open source recorder and sound editor. It is available in a variety of platforms (e.g., Windows, Mac, and UNIX) and the latest release, *Audacity 2.0.4*, is supported in *Windows 8 and later versions*. The software is =frequently updated so users are encouraged to check the website periodically for innovations. *Audacity* downloads in seconds, and once installed, users will find its interface intuitive (see Figure 1). Its graphic display shows sound waves of what is being recorded second by second and there are level meters to monitor volume levels before, during, and after recording.

The familiar recording buttons along with others that quickly help users cut, copy, and even splice sounds together. Additionally, it has a function that allows users to change the tempo of the recording, which allows language learners to slow recordings and perhaps listen for specific details more easily. For example, instructors of Chinese can use *Audacity* when having students listen for case markers and word boundaries. Instructors of other languages such as Spanish or Portuguese can use *Audacity* to teach listening and speaking in terms of unit ideas, which is consistent with best practices (Cervantes & Gainer, 1992; Griffiths, 1992). By default, audio files are recorded in the *wav* format. However, if users wish to save recordings as *mp3* files, they can download the *LAME™ MP3 Encoder* from the aforementioned website. Once installed, recordings can be exported as *mp3* files. Mazzoni and Dannenberg do not distribute the encoder; however, a link to a third-party site is provided on the website where the *LAME* encoder can be downloaded free of charge.

While there are a variety of digital recording tools ranging from free to rather costly, studies using *Audacity* indicate that it is an effective platform in P-20 settings (Early & Swanson, 2008; Swanson, 2013b). In the following sections the author discusses an empirical study of novice in-service S/FL teachers' perceptions and uses of digital voice recording software in US P-12 public schools. The two research questions guiding this study were:

Figure 1. Audacity interface. Audacity® software is copyright©1999-2013 Audacity Team. The name Audacity® is a registered trademark of Dominic Mazzoni. Used with permission.
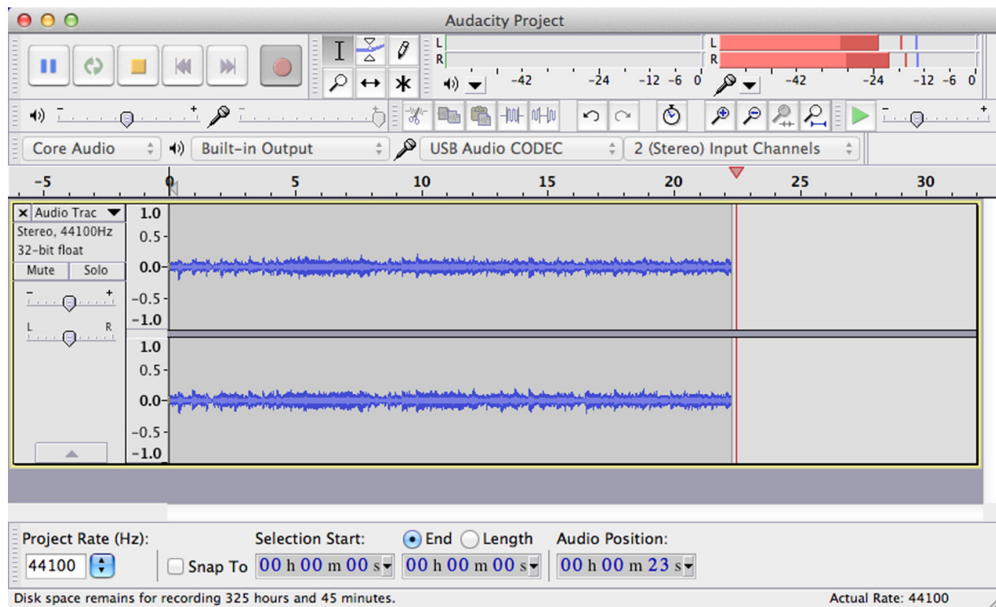
1. What factors affect novice S/FL teachers when choosing digital software platforms for instructional and assessment purposes?
2. Which software do they use?
3. How do these individuals use such technology educationally?

Methods

Subjects

Framed in the three modes of communication (National Standards *in* Foreign Language Education Project, 2006), this research was conducted at a research university in the southeastern part of the United States and included 96 novice pre-service teacher candidates studying to become FL teachers between 2010 and 2013. The majority of the subjects were female (82%) from diverse backgrounds. Slightly less than half of the participants (44%) were not from the US and represented four target languages (French, German, Latin, and Spanish) that are taught in public schools. Those not from the United States were from the Americas, Eastern Europe, Asia, and western Africa. Average age of the participants was 36 years. All of the subjects were working as language teachers in urban and suburban schools. The demographics for this sample are representative for language teachers where more than eight out of ten language teachers are female (Swanson, 2010, 2012, 2013).

Participants were administered a technology survey requesting information about the factors affected their preference of digital voice recording technology for instructional and assessment purposes, how they used the software, and a participant demographic sheet requesting information regarding age, gender, language of study, and context for teaching (e.g., rural, suburban, urban).

Instrument

Data were collected using a researcher-designed qualitative survey (Appendix B) that asked participants to discuss their reasons for choosing

to use digital voice recording software to use for teaching and learning purposes. The surveys were administered during the first year of their service as fully licensed instructors.

Findings

In order to answer the first research question about the factors affect novice S/FL teachers when choosing digital software platforms for instructional and assessment purposes, the survey data were inspected using a constant comparative method (Strauss, 1987). That is, participants' responses were coded and the codes were then grouped into similar concepts in order to generate categories of responses.

Data analysis revealed that the two of the top five most important considerations when selecting a digital voice recorder platform was the cost and ease of use of the software. Participants noted that their budgets were almost non-existent and that cost is a primary consideration when contemplating adopting materials for classroom use. Moreover, once adopted, they did not want to spend inordinate amounts of time learning how to use the software. Nor did they want to lose substantial instructional time teaching students how to use the software. As Kylie, a pseudonym for a 35-year old female Spanish teacher, noted, *I don't want to get a software system that has a steep learning curve for me or my students*.

Next, participants rated the ability to use the software on different computer operating systems such as Mac and PC highly. Many noted that their students had access to or used either PC or Mac computers outside of school. They wanted to find a platform that would allow learners to use it on a variety of computers. They noted that students had remarked that some use PCs at school and then have access to Macs at home or in their parents' places of work. Margaret, a pseudonym for a 22-year old female French teacher, remarked that her students had downloaded *Audacity* and placed it on her jump drive. Regardless of where she was, she could access the recorder on a computer and work on her assignments.

The final two top five criteria for selecting digital voice recording software was that it had to have an in intuitive interface and the ability to import and export most audio file formats. Many of the participants noted that they did not want to spend an inordinate amount of instructional time showing students how to use the software. They wanted software with a relatively flat learning curve so that students could begin working with it immediately instead of spending a lot of time reading the user's guide and asking questions how to use it. Additionally, a versatile platform that would allow their language learners to import and export audio files in multiple formats was an important consideration for selection. Edward, a pseudonym for a 31-year old male French teacher, remarked that he creates instructional files in either *wav* or *mp3* format and students need to be able to open those files and then record and save responses in a format that he can open easily. He recommends that his students save files in the popular *mp3* format because it compresses the file size when archiving it.

The rest of the criteria from the survey were not as highly rated at the aforementioned top five criteria. It was not highly important that the software could only be used on a single operating system or that it was an open source utility. However, a relatively important consideration for the participants when choosing a digital recording software platform was that the software needed to have a variety of features. Several of the participants noted that they liked that *Audacity* has a feature allowing users to change the tempo of the recording so that learners could slow down the recording in hopes of improve listening comprehension. They also mentioned that having a graphic of the voice waves was engaging for their students.

With regard to the second research question about which digital recording software did the participants reporting to use, *Audacity* was the overall favorite of more than 86% of the participants. Next was *Wavepad* (NCH Software, 2013) followed by a variety of proprietary software found in schools' computer labs. As mentioned earlier, the participants noted that

they really liked the feature that allows learners to decrease the tempo of an audio file so that students can hone their aural interpretive skills. Patrice, a pseudonym for a 44-year old female French teacher, stated that she liked to record native French speakers from throughout the francophone world talking about real life events. At times she found that the speakers tend to increase their rate of speech out of excitement, which can decrease comprehension for even intermediate level language learners. She plays such recordings at regular cadence, but provides the audio files to students via her blog so that interested students can download, slow the tempo, and listen to the native speaker outside of class.

Another feature cited by the participants was *Audacity's* ability to record and blend multiple voice tracks for instructor questions and students' responses to those questions. Using such an approach (see Figure 2), an instructor could record a series of questions and leave blank space immediately after each question in which to allow for a student's response.

The file could be saved and emailed to students or could be posted on a blog, which many of the participants noted that they used in their instructional practices. Students could listen to the questions, fill in the spaces with their responses, and then save the recording with both instructor's and student's voices merged as one file. As Figure 2 shows, the top track graphically depicts the instructor's voice with the three questions and the two lower identical tracks are the student's responses in between the three questions.

Turning to the final research question about how the participants use digital voice recording technology educationally, eight of the ten (82%) of the participants reported using recording software outside of the classroom for homework focusing on the interpretive skills.

Figure 2. Instructor's three questions and student's responses
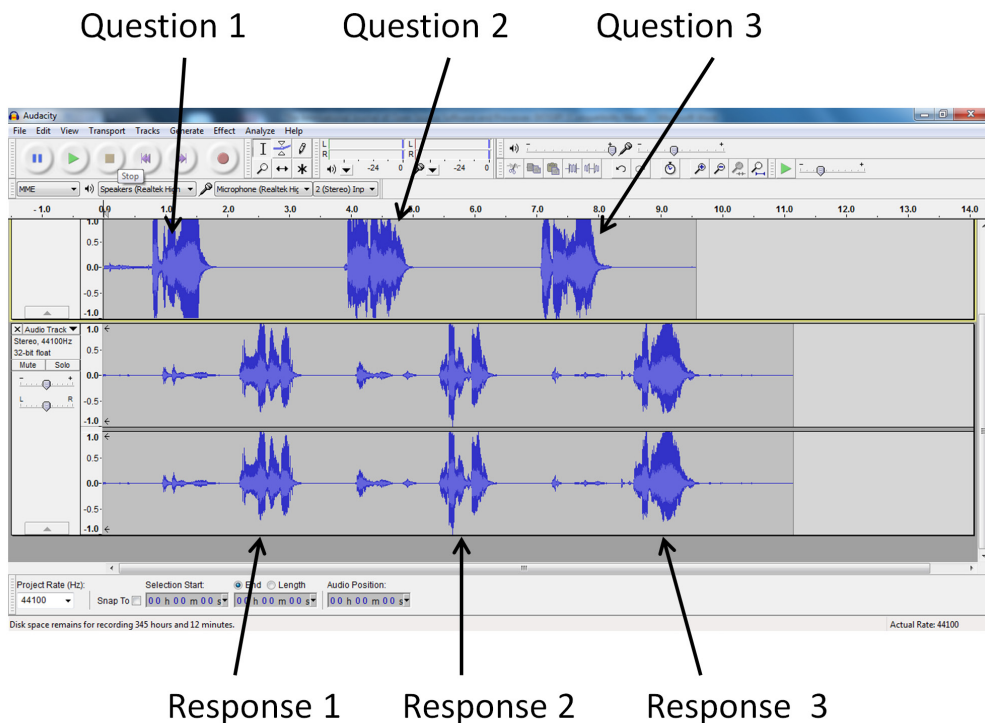
Natalia, a pseudonym for a 26-year old female Spanish teacher, reported having introductory level Spanish language learners record themselves frequently reading cultural excerpts from the textbook for pronunciation purposes. Other participants reported similar uses where students were given reading aloud exercises and were instructed to record themselves reading the passage for class credit.

At the lower intermediate level, Juan, a pseudonym for a 32-year old male Spanish teacher working under provisional certification in a high needs school, reported assigning students interpersonal tasks in the school's media center. Students were required to model a conversation presented earlier by the teacher with a partner on a specific topic. They were to record the conversation in class and then save and place the file in a folder on the on the lab's sever. Juan would copy the files and evaluate student performance at home later that day. Another female participant, 25 year-old Emilia (pseudonym), working under provisional certification, reported having students use *Audacity* for presentations created outside of class time. Students in her class would create *PowerPoint* presentations and embed recordings of themselves and others using *Wavepad*.

At the higher intermediate level and lower advanced levels of language learning, several of the participant reported using voice recordings for integrated performance assessments. As mentioned at the beginning of this article, an integrated performance assessment is a thematic communicative-based approach to language learning assessment that begins with an interpretive task. Afterward, the instructor gives learners feedback during the comprehension stage before assigning an interpersonal activity. Then, students are given a performance task that is based on the same topic. These participants reported using the recording software for a variety of interpretive tasks such as recording audio from *YouTube* clips, music videos, online video news stories, and movie reviews. For interpersonal tasks, the participants assigned students various recording tasks that were recorded during class time such as dialogues. For presentational tasks, learners were instructed to embed sound clips into presentations, cartoons, and video advertisements.

DISCUSSION

Without much debate, the development of free and open source software has changed the educational landscape dramatically. New free and open source operating systems like UNIX as well as specific digital tools like *Audacity*, *Wavepad*, and Michigan State University's *Rich Internet Applications* toolset, offer educationalists and researchers dynamic software free of cost. To that end, this research focused on language teachers' selection criteria and use of digital recording software for language teaching. Overall, most of the participants favored *Audacity* and *Wavepad* for use within the three modes of communication. Their cost, intuitiveness nature, ability to be used on different operating systems, and capability to use a variety of audio file formats were important considerations when selecting such software. While the software's features were not rated as highly as the other factors used when choosing the recording platform, the participants did note that several interesting and useful features were important such as the ability to change the tempo of recordings.

Without doubt such criteria and features for selection are important to note, the instructors' uses for the software are perhaps even more important to note. Several of the participants alluded to the fact that they were using the recording software platform as a tool for out-of-class assignments. Language learners can download free and open source software on personal computers, tablets, and mobile devices for educational purposes. Instructors can easily spend minimal time showing students how to use the software for different tasks. Learning tasks can be assigned early in the language learning sequence so that the technology is a mere tool in the language learning process. Such practices help increase instructional time.

Earlier research noted that precious instructional time can be increased by integrating digital recording systems into the language learning curriculum (Early & Swanson, 2008; Swanson & Schlig, 2010). The researchers reported that language teachers noted an increase in instructional time and improvement in linguistic accuracy and completeness of the assigned task, which can allow learners multiple opportunities for success in the language. Additionally, Early and Swanson (2008) reported that the use of digital recordings in the language learning process tends to encourage more student creativity, engagement, improvisation, and lower performance anxiety, which tend to lead to increased risk taking.

As Krashen (1981, 1985) theorized, when language learners' affective filters are heightened, they tend to experience increased stress, anxiety, and a lack of confidence, which can serve as a barrier to second language acquisition. Conversely, as the affective filters lowers, students are more likely to display risk-taking behaviors when learning a new language. When integrated with the three modes of communication, this research supports earlier studies in that there is merit in using digital recording platforms in the S/FL classroom with students. Moreover, there is merit for teachers who integrate such technology into instruction for assessment purposes. Compared with the traditional forms of assessment, the face-to-face assessment model, research indicates that by having students record speaking assignments outside of class allows instructors to evaluate student performance in unconventional ways such as during commutes and at places outside of the workplace. Additionally, instructors noted an increase in the reliability of scoring student work as well as a decrease in classroom disturbances (Swanson, 2013).

However, integrating such practices in the S/FL classroom is not without its challenges. The digital divide —the discrepancy between people who have access to and the resources to use new information and communication tools — is an ever-present reality today. In these instances, instructors must be aware of not assigning tasks that learners cannot complete due to the lack of technology tools. While a lack of technology at home or parents' workplace environment may be a reality for some language learners, instructors can work with school media specialists to download and install free and open source software such as *Audacity* on the students' workstations in media centers and computer labs. For labs that do not have computers with integrated microphones, instructors must find ways to work with school administers to purchase sets of headphones with microphones. The author recommends purchasing relatively inexpensive headsets in the event that students mistreat the equipment.

CONCLUSION

Educators face multiple challenges daily. The narrowing of the curriculum due effects of recent national and state educational policies indeed prioritizes instruction in and the allocation of resources to the core areas of science, mathematics, and reading. The present study highlights S/FL instructors' selections of digital voice recording software and the reasons that led to their decisions. While their decisions were guided by primarily by the cost and ease of use of the software, it must be noted that even though the world economy has improved since the Great Recession as it has come to be known (Wessel, 2010), policy makers tend to continue to under fund education and allocate more resources to students who have more resources, and less to those who have less (Carey & Roza, 2008).

Research has shown that there are multiple benefits to teachers and learners of integrating free and open source software like *Audacity* and *Wavepad* in today's classrooms. While much of the research on integrating digital voice recording software into language instruction has focused on students in middle and high school level students as well as those in higher education, it would be interesting to study its effects on younger language learners and how their instructors use such technology for language learning. Additionally, research focusing on other content areas may reveal provocative

findings from various perspectives. The challenges faced by S/FL teachers may be similar to teachers in other content areas. By focusing on innovative educational practices in a variety of disciplines, perhaps interdisciplinary approaches to teaching and learning can lead to improved outcomes for both learner and their instructors.

In this article the author has briefly presented an historical account of the free and open source movement, outlined several free and open source digital recording platforms that teachers regardless of content area can access and use within minutes of download. While all software systems have their own unique advantages, instructors need to determine appropriate learning objectives and outcomes for its use in and out of the classroom. It is apparent that engaging students to learn subject matter is a crucial aspect of teaching and learning and the integration of innovative technology holds promise when motivating students. New technology with educational applications seems to appear daily, and findings from this study support the notion that more research on teaching and learning using technology is warranted.

NOTE: "Audacity(R) software is copyright (c) 1999-2013 Audacity Team. Web site: http://audacity.sourceforge.net/. The name Audacity(R) is a registered trademark of Dominic Mazzoni."

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APPENDIX A

Key Terms and Definitions

Affective Filter: The Affective filter is a theoretical screen between learners of a second language and the input needed to learn and acquire a second language. If the filter is high, the learner is blocking out input. Conversely, if the filter is lower, more input is received. Learning environments with low levels of anxiety are deemed better for language learning.

Communicative Language Approach: A broad approach to teaching rather than a teaching method. The central emphasis is placed on learning to communicate through interaction in the target language.

***Mp3* Files:** A digital audio recording file format that compresses the size of the file for storage purposes.

Second/Foreign Language: Regardless of purpose, whether an individual is part of a language program termed as *foreign language*, *immersion*, or even *second language*, the teachers and their students are collectively grouped as S/FL teachers and students because they share the same educational goal, learning a new language.

Three Modes of Communication: The three modes describe the Interpretive domain (the appropriate cultural interpretation of meanings that occur in written and spoken forms), the Interpersonal domain (active negotiation of meaning among people), and the Presentational (the creation of oral or written messages).

APPENDIX B

Digital Voice Recording Technology Integration Survey

Please answer the following questions regarding your preference of digital voice recording technology to use your practicum experiences by circling the appropriate answer and answering open-ended questions.

1. Did you use digital voice recording technology during instruction as a new foreign language teacher? Yes No
2. If so, what program(s) have you chosen to use? (move to question 4 after answering)
3. If not, why not? (move to question 4 after answering)
4. What is the name/producer of the digital voice software?
5. Rate the following factors from most important (1) to least important (11) when choosing digital voice recorder software:
    a.   ability to import and export most audio file formats
    b.   ability to save files in mp3 format
    c.   ability to use on Mac
    d.   ability to use on PC
    e.   ability to use on both Mac and PC
    f.   cost
    g.   ease of use
    h.   intuitive interface
    i.   variety of features
    j.   open source

6. Please explain why these factors are important to you when making a decision to integrate digital voice software in the classroom.
7. Why did you choose this software?
8. What features of this software do you as an instructor find useful?
9. What features of this software do you as an instructor find not useful?

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