

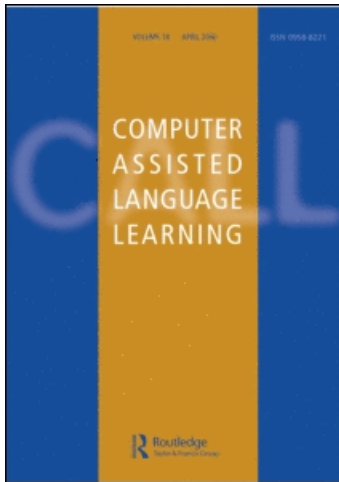
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### Does teachers' confidence with CALL equal innovative and integrated use?

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## Does teachers' confidence with CALL equal innovative and integrated use?

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This paper examines the relationship between confidence and CALL – specifically the use of audio and video technology among language teachers. Through logged usage of CALL, the authors tracked seven teachers at two large universities in the United States over a term. These teachers were also interviewed periodically in order to gain insight into their confidence with and use of CALL.

Upon data analysis, the authors identified the teachers as *less confident*, *contextually confident* and *highly confident*. *Highly confident* teachers used technology less often with less integration than the *contextually confident* teachers. *Less confident* teachers integrated CALL only in prescribed ways. The authors conclude that CALL teacher preparation may benefit from a focus on developing contextualized confidence within certain teaching domains or types of technology rather than expecting teachers to develop a high level of confidence with technology across domains.

**Keywords:** integrated CALL; contextual confidence; teachers' perspective; teachers' confidence; digital audio; digital video; teacher training; teacher preparation; instructional technology

### Introduction

The use of technology in language classrooms continues to be an important area for research, particularly in understanding the human element – teachers and students – and their attitudes, beliefs, and applications of technology. This study focuses on a variety of representatives from one group, teachers, and their use, attitudes and confidence in using digital audio and video in their language classrooms. The study addresses the relationship between confidence and innovative and integrated classroom use of CALL. While there are fundamental skills necessary to be literate users of technology, teachers may not need to develop advanced skills in order to be successful CALL practitioners since CALL is likely only one portion of their teaching resources (Hubbard, 2008). In fact, a moderate degree of confidence developed in specific contexts may serve teachers better. Further, it may be necessary to focus more attention on context and pedagogy for those teachers who initially appear to be technologically adept, but lack the ability to effectively integrate technology in a contextualized manner.

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## Review of literature

Investigation into teachers' overall comfort with technology has been an evolving area of research. These issues begin with the preparation that teachers experience prior to entering the classroom. Research has shown that knowledge of, and attitude toward, computer technology may determine the degree of success that novice teachers will have using technology following instructional technology teacher preparation (Atkins & Vasu, 2000; Milbraith & Kinzie, 2000). Researchers have also suggested that those who enter the teaching profession thinking positively about technology are more likely to find success in using technology while those who enter thinking negatively are not (Levy, 1997; Pilus, 1995).

Focusing on these issues of use and comfort with practicing language teachers, Kessler (2006) identified the importance of teacher comfort with CALL methods and materials. In a survey of 240 language teachers, he found that teachers who are less comfortable with CALL materials than with traditional print materials are likely to use CALL ineffectively or not at all. A sense of intimidation may prevail among users of technology who do not consider themselves technology proficient. In the same vein as Kessler's study, reports abound of language teachers, including young teachers, expressing discomfort at the mention of any activity requiring the use of computers (Egbert, Paulus & Nakamichi, 2002; Lam, 2000). Hegelheimer (2006) recognized the importance of confidence using technology for the language teacher. In his study, teachers who were more confident about technology and its use were more likely to employ it in innovative ways.

Logically, as anyone becomes more comfortable with computers in everyday life, they will experience a successful crossover into their professional lives. However, the skills and tasks relevant to these distinct contexts may complicate matters. Galloway (1997) found that teachers who felt comfortable using technology often relied upon the technical skills that they had learned to use for their personal lives and not for teaching. He concluded that this was likely to result in teachers who could adequately use word processing programs, but would be deficient in skills related to hypermedia, telecommunications and other programs less likely to impact people's personal computing needs. This reliance upon skills learned for personal purposes may prove inappropriate or insufficient for instructional purposes.

Many CALL researchers have made suggestions that language teachers should develop specific knowledge and skills regarding technology in their classroom setting (Hegelheimer, 2006; Hubbard, 2004; Levy & Stockwell, 2006). Rather than simply needing to expand their technology knowledge generally, teachers need to have enough background and familiarity with language teaching technology solutions. Peters (2006) identifies the need to prepare teachers to use technology effectively in the classroom rather than to prepare them to be technical or technology experts. Kessler (2007) found that ESL teachers have a general positive attitude toward technology, but when they are asked about using technology for specific teaching tasks their attitude becomes significantly less positive. This same study revealed that this is most severe regarding the use of technology to address aural/oral skills.

In order to understand better the impact of teachers' confidence with technology, the use of CALL in ESL classrooms needs more direct attention. This study focused on seven teachers' attitudes and use of audio and video during a term. The study was narrowed to the use of audio and video because previous research has found that teachers felt less positive about technology use in this mode (Kessler, 2007). This focus included language teachers' observations of the shift in technology from analog to digital delivery and

storage. Having this specific focus allowed us to collect very context-specific data in the classrooms and through interviews with teachers. The initial research questions were exploratory, and narrowed as we collected and coded data. These questions were:

- What are teachers doing with analog and digital audio and video in their language classrooms?
- How do they feel about using analog and digital audio and video in their language classrooms?

However, as the study progressed we included use of other CALL material in the classroom as they provided a better picture of each teacher's use and comfort with technology.

## Methods

We used a qualitative approach to collect and analyze interviews and records of classroom CALL use from seven ESL teachers to explore the initial research questions. The study used methods to collect data about actual classroom use rather than self-reported use because we felt this naturalistic perspective was lacking in earlier studies of confidence and use. The teachers who volunteered to participate in the study had a range of experience, employment status, and training/background with CALL. Table 1 provides an overview of the teachers.

The teachers were selected due to their use of technology. While they are not CALL experts, they all use technology to some degree. Rather than focus on highly proficient CALL experts, as many studies have done, we decided to track the use of 'typical' teachers. It is worth noting, however, that all of the teachers in this study report having colleagues who do not use technology in their classes at all. The teachers have pseudonyms in this article and their participation was voluntary. Most teachers had some experience with a variety of ESL/EFL programs with young and adult learners. Here is a brief description of the teachers:

Scott has taught EFL in Asia for eight years. He has also taught ESL in a university IEP (Intensive English Program) and ITA (International Teaching Associates) program. He is interested in pronunciation instruction and student autonomy.

Mike was trained to teach Russian but instead taught EFL in Asia for two years until returning to the US to complete graduate school. He has taught for two years in a university IEP and ITA program. His interests are in utilizing authentic materials for language teaching.

Table 1. Participant information.

Teacher	Program	Teaching experience	Employment status	Education	Gender
Scott	ITA	10 years	Teaching associate	MA Candidate	Male
Mike	ITA	4 years	Teaching associate	MA Candidate	Male
Anne	ITA	6 years	Teaching associate	PhD Candidate	Female
Rachel	ITA	4 years	Permanent	MA Graduate	Female
Mia	IEP	1 year	Permanent	MA Graduate	Female
Alice	IEP/ITA	16 years	Permanent	MA Graduate	Female
Rita	IEP/ITA	20+ years	Permanent	MA Graduate	Female

Anne is a doctoral student in linguistics who is completing a dissertation on early first language acquisition. She has taught various courses as teaching associate in ESL for the past five years and regularly attends/presents at the international TESOL conference.

Since completing her Master's degree, Rachel has taught in a university ITA program for four years. Her interests are in pronunciation and ITA teaching skills.

Mia has taught in a university ITA program for one year. She has also taught Spanish for three years at the university level in the United States. She is interested in student motivation.

Rita was trained to teach French but moved into English language instruction using audio-lingual methods while living in France. After moving back to the United States, she worked with refugee groups at a community college, then started teaching full time in the ESL programs. Her interests lie in teaching pronunciation as well as reading.

Since completing her Master's degree, Alice has been teaching ESL full time. She has given presentations on teaching pronunciation and the incorporation of drama into oral communication classes. She regularly organizes an exchange between ESL oral skills courses and native English speaking undergraduates at the university.

This study focused on these teachers' current teaching assignments in oral skills courses. For four teachers this was in an ITA course, for one this was an advanced IEP course, and for two this was both an ITA and IEP course. The students in ITA courses are post-matriculated Non-Native English Speaking (NNES) graduate students improving their language skills specifically for the purpose of teaching university courses while the IEP students are NNES graduate students preparing to enter American universities. These courses were taught at two large mid-western American universities, which have some differences in structure, curriculum, and access to technology. This diversity was intended to give the results of the study more breadth. All of the teachers were tracked over a term of 10 weeks.

Two kinds of data were collected, interviews and a record of CALL use over one term. At the beginning of a summer term, teachers were interviewed about their teaching and language learning experiences; attitudes toward using audio and video and using technology to teach; and definitions of CALL. In the interviews, participants were instructed in using the 'CALL Use Record Sheet' (Figure 1), in which they recorded their use of CALL and audio and video over the term. At the end of the term, teachers were interviewed a second time, focusing on their record sheets. They were asked to talk about what they had done, the purpose for the activity, any problems they had experienced and what they would do differently in the future. In addition, clarification and elaboration from issues in the first interview were followed up in these final interviews.

The interviews were transcribed and read for initial line-by-line coding by both researchers separately. After these initial codes were complete, they were reread in order to identify emerging patterns, which resulted in focused coding categories. These categories guided the initial research questions. NVivo7, a qualitative analysis software by QSR International, was used to analyze the data. The categories for the focused coding included: use of technology in the classroom, comfort-level with CALL, perspectives on CALL, the shift from analog to digital. These categories were used to recode the interviews, again conducted separately by the researchers. After this final coding, each category was read closely to explore and compare across teachers. The results from this analysis follow and will focus on these categories in more detail with examples from the participants' interviews and record sheets.

Date	Class	Type of Audio/video	Activity	Comments
6/1/2006	Low-intermediate Communication skills	Digital audio lab classroom	Listening diagnostic: 1. Model imitation activity: Ss repeat Ts short sentence 2. Listening comprehension: cloze hearing of reductions 3. Listening comprehension: listened to long excerpt and answer comprehension questions	Worked well
6/1/2006 (weekly assignment)	ITA Presentation Skills	Digital video camera & digital video files	Five minute presentations recorded followed with feedback. Videos posted on course info site so Ss and Ts can watch. Ss do self- evaluation for each presentation	Still trying to set this up. The filming easy but I'm very confused as to how to give Ss access to the movies.

Figure 1. CALL Use Record Sheet excerpt.

## Results

### *Teachers' use of audio and video in classrooms*

Before discussing the results in terms of teacher comfort, the actual use of audio and video in the classroom requires consideration (Table 2). In general, teachers used audio in class to record students speaking for self-assessment, evaluate students speaking and listening, provide students with feedback, and assign self-study. Audio was also frequently used in listening practice and modeling spoken language. In-class work was nearly exclusively with digital audio, with analog use appearing only in outside of class assignments. Most teachers discussed their purposes for audio use and were positive about these assignments, except Scott, who rarely used audio in his class and claimed he saw no benefit from its use. In the following section, the use of audio will be discussed along with the purpose for the activities.

### *Digital audio and video*

Much of the in-class digital audio and video work occurred in an audio lab classroom. Teachers used these facilities to capture students speaking in both controlled activities as well as in unprepared speaking tasks. After the recordings were made, teachers listened and provided feedback, often emailing the students their sound files with the feedback. These kinds of activities were used to help diagnose students' weaknesses, to listen for improvement over the term, and to guide students in realizing their level of speaking. In addition to recording, listening exercises were often delivered in the digital audio lab. The other main activity in the lab was giving tests and quizzes either in listening or in speaking.

Also common for in-class digital audio and video was the use of video recording. Teachers recorded students' presentations and performances. Mike described the purpose for this:

I like recording students whether it be in video or audio just for them to peruse and use these tools better to recognize their own errors in pronunciation so they can work toward improving them as well as their classmates. It is important that they just be able to recognize that there are problems.

Table 2. Audio and video use in the classes.

	What was used	IC*	OC*	Purpose for use
Digital audio/video	Audio lab: listening for comprehension & pronunciation; tests & quizzes; pronunciation practice; recording of teacher's feedback	X		Diagnosing students' weaknesses and giving feedback, which students can listen again for mistakes Testing pronunciation and vocabulary. Helping students realize their level of speaking ability
	Digital video: recording presentations & other performances	X		Focusing on something not classroom-related, but more social Improving flow in speaking Self-assessing
	CD/DVD: for listening in the classroom & self-study	X	X	Listening for sentence focus, rhythm. Came with book and is required (1 teacher)
	Homework recording (audio journal)		X	Required To hear students' improvement over the term Teaches students to self-evaluate pronunciation
Web	Delivery of student video	X	X	Easy/accessible for students to self-assess
	Websites in classroom reference Preparing class materials	X	X	Fun, engaging addition to the traditional class To get multiple perspectives on topics for class
Analog	Homework recording		X	Student self-assess & teacher feedback, students need option for analog because of affect & ease
	Self-study in language media center		X	Provides different books for different student needs

Note: IC = in-class use, OC = outside of class use.

Other teachers also voiced this purpose for the video recordings as a means for students to self-assess and become aware of their language issues.

Digital audio and video also appeared in classrooms through the use of DVD/CDs for listening and pronunciation practice. Several teachers commented that they preferred the digital over analog for this because it saved time and space and was less cumbersome than using analog equipment. These activities were largely for practice or assessment. One teacher remarked that he just used the digital audio because it came with the required textbook, but did not feel that it fitted into his conception of the course and that students were not interested in audio.

Digital audio appeared in outside of class work as well. At both universities, students were using CDs/DVDs to do self-study in language media centers. These media centers have a variety of materials, which the teachers felt provided students with opportunities for self-study using textbooks not assigned in their classes. Students were also assigned to watch/listen to their digital sound files outside of class and assess them. These assignments were intended to help students hear their improvement and to self-evaluate.



### *Analog audio*

The use of analog audio only occurred in assigning outside of class homework for ITA classes. Teachers who assigned a speaking journal usually gave students an option to use cassettes or digital recording. Mia describes several reasons for this:

Actually some students are afraid of using digital. There is one student in my class who knows how to use digital, but she stays at home when she makes her recording and her husband is always using the computer and she has a hard time finding time to get on the computer when her son is not running around making noise so she prefers to use audio tape. . . . Really I think it just depends on the individual students and their individual circumstance but there are some students who just don't feel comfortable. Last quarter I had an older student who was actually uncomfortable using the computer at all. He always used the tape. . . . He didn't care to learn about Audacity, I gave him instructions and he just didn't care. He was totally resistant to it.

Due to these kinds of student reactions, the teachers allowed some students to use analog recording for their assignments.

### *Frequency, variety and integration of use*

Across the teachers in the study, the frequency of using audio and video differed substantially. Difference also occurred in the variety of activities using audio and video as well as how it was integrated in the class. Clear comparison is difficult because teachers varied somewhat in how they recorded tasks and in the nature of the tasks; however, a rough comparison could be made based on the number of entries in the CALL Use Record Sheets. In addition, the variety of activities provides a sense of how many of these entries were repeated weekly activities as opposed to completely different activities. These comparisons appear in Table 3.

In addition to frequency and variety of use, the integration of audio and video into class time and course syllabus should be considered. This information was obtained from the teachers' record sheets as well as their interviews. For many teachers, courses began with diagnostic work using audio or video to assess students' listening and speaking skills. The results from these diagnostics influenced teachers' decisions about the course direction and individual students' goals. The assessment and self-assessment also occurred regularly throughout the term to see if students were achieving the course goals and to monitor the pace of the course.

In addition, for several teachers, the audio or video use was an integral part of the weekly course assignments that continued throughout the term and comprised a part of the final grade. Students were expected to produce audio or video recordings that evidenced their use of certain language features which had been studied in class. Several of the textbooks used by teachers included audio or video recording which assisted in the integration of audio into the course. Lastly, the purposes discussed by several teachers suggested that they had carefully planned how to present language features using audio or video in an interactive way. Only one teacher seemed not to attend to the integration of

Table 3. Audio and video use summary.

Teacher	Scott	Mike	Anne	Rachel	Mia	Alice	Rita
Number of entries	9	8	12	18	20	8	6
Different activities	2	1	5	6	5	8	4



audio for two reasons: because it was not required of him and not a part of his ‘active syllabus’.

Overall the results of audio or video use in the classroom show a good deal of variation in use, but generally a digital shift in the classroom. This shift has yet to fully expand to out of class work. The teachers used audio in a variety of ways for numerous purposes. However, the purposes seemed to be often related to teacher feedback/evaluation and student self-assessment, as well as listening practice and self-study.

### Confidence

The teachers in this study reported a range of confidence with technology for teaching. Confidence was determined through the interviews with the individual teachers. The terms and categories emerged from these interviews rather than being predetermined. This approach allowed the teachers to be the ones who defined their own level of confidence as well as their own understanding of CALL and its role within language instruction. In the interviews, several teachers used a 10-point scale to describe their level of comfort and self-identified between five and 10. Along with these numerical representations, they were asked to describe their comfort in detail.

They were then categorized by confidence level and type of comfort for the purposes of identifying potential shared characteristics. They were identified as *highly confident*, *contextually confident* and *less confident*. All of these marks of confidence are presented in Table 4.

### Factors influencing confidence

Comments that emerged during the interviews supported the teachers’ self-identification of confidence level. The highly confident teachers credited their personal interest in technology as contributing to their degree of comfort. Similarly, they argued that access to technology, continued practice, and technical support were critical factors in developing this level of comfort. As Mike stated, ‘Practice . . . and having access to the equipment is paramount. I mean you know having a whole class set of ipods has been great . . . and, you know the classes I’ve taken [specifically oriented toward CALL] or the people in the LRC downstairs I can get help’. Scott also credited, ‘the fact that I have taken classes and had a solid background in the ideas behind CALL. . . . I guess there is also the fact that I am a constant user . . . and my personal geekiness’.

Table 4. Confidence level and characteristics.

Teacher	Self ranking	Description	Category
Scott	10	Extremely high	Highly confident
Mike	8 or 9	Pretty good	
Anne	—	No problem, depends on what she uses	Contextually confident
Rachel	—	Depends on what she uses	
Mia	6	Pretty low in general, but strong with familiar contexts	
Alice	—	Isn’t really high, but getting better	Less confident
Rita	5	Getting better	

Tolerance of technological difficulties or their own problems using technology was also valued by the highly confident teachers as well as demonstrated persistence when encountering problems with technology. Scott demonstrated this well when he said,

the main way that I have learned things about technology is beginning with a belief that it should be able to do something ... why the hell can't it do THIS? Why can't I get the computer to do this ... or why can't I get the OHP to do THIS? And sitting down and pulling my hair out and figuring out how to get these things done.

Comments from the *contextually confident* teachers reflected thoughtfulness and concern for appropriateness in technology use. Rachel's comments reflect her increasing ability along with a frustration regarding issues of access and/or support, as she described her comfort: 'It depends. Uhm, let's see ... I would say with Audacity now I am finally comfortable, but that took me quite some time. Though, I would be more comfortable if I were able to use it in my office and make the recordings in my office.' Many of the comments offered insight into how they had constructed their level of confidence as well as indications of how it might soon be changing. This reflection in Anne's interview indicates an appreciation for the influence of other teachers and conferences: She said that her comfort level has been impacted by other teachers and other TAs. She also recalled that in her first semester of teaching she didn't use any technology, but then she went to the International TESOL Conference and came back with many ideas to use in her classes.

The *less confident* teachers demonstrated some reluctance to use technology. This is illustrated by Alice's statement: 'I am always a little apprehensive about using almost any of the technologies except a tape player or a CD player. Even a CD player can make me a little, like I need a little extra time to figure out how to put it on the right spot. Just everything I do takes a little extra time'. The less confident users also devoted much of their interview time to describing their reliance upon and interest in continuing to practice with CALL in new ways as new needs emerged in their classrooms. The two *less confident* teachers demonstrated optimism for future use and emerging confidence. As Alice said: 'Man, I'm really excited about what I know now and I can do, I know so much more. I'm getting it.' Similarly, Rita said: 'Getting more comfortable. Starting at level zero [laughs] on a scale of ten, I'm probably at a five now, but moving upward. Of course, I was extremely comfortable with the old lab [analog].'

Interviews indicated evolving needs and technology influenced their confidence. Nearly all of the teachers shared an appreciation for time to prepare and practice as well as access to technology. However, it was apparent that the contextually confident and less confident teachers were more appreciative of usable instructions and support personnel. Alice's comment quite bluntly indicates the frustration that teachers sometimes feel when faced with inadequate support: 'Another thing has to do with the clarity of instructions, written directions. Some of them are just shit, excuse me, they just are.'

There is a widespread belief that younger teachers who have grown up surrounded by technology, often referred to as *digital natives*, will seamlessly and intuitively integrate technology into all realms of their lives (Prensky, 2001). It is interesting to note that the youngest of the teachers in this study was among the contextually confident. Regardless of age, the *less confident* teachers seemed to share a general lack of interest in technology in general as well as a brief period of exposure. Rita said,

Probably my late coming to computers ... so I never learned computers in school. I learned to type, to type real fast. I never learned the computer. And I'm not really interested in just exploring it. Some people can just sit down and want to explore all this stuff and look up things ... and I just find it ... a little, boring [laughing].

### Confidence and use

Once teachers' confidence was established, their use of audio was reconsidered. Based on the interviews and records of use, those who were *contextually confident* were the most reflective and cautious in their use of technology. This group all had the highest levels of frequency and variety in their use of audio in the classes. The *contextually confident* and *less confident* users showed the most integration of the technology, using it for assessment, self-assessment, and regular weekly practice both in classes and as self-study and for diagnostic, formative and final evaluation. The *less confident* users seemed to be using the technology based on what they had done with earlier analog audio technology. While such use was well integrated, it may have kept them from finding new or different ways to use the technology. However, they showed optimism about future use and felt that other teachers in their program were helping them learn new ways to use the technology. Rita described the discovery of how to use a flash drive:

This department is encouraging me to move forward. For example, I would see the little keys [flash drive], I'd see other teachers with the little keys and they'd plug it in, and it seemed neat, seemed like something I could use.

In contrast to the *contextually confident* and *less confident* teachers, the *highly confident* users showed general low levels of use. They appeared not to have integrated it as much as the other groups, if at all, for diagnostic, formative or final assessment or self-assessment. They did include weekly speech journals and self-study. Table 5 summarizes the overall results when considering level of comfort and use of audio in the classroom.

### Discussion

The results of this study provide three important issues to consider with teacher confidence and audio use in language classrooms. First of all, high confidence is not synonymous with high/integrated use. Secondly, the teachers who used audio the most in integrated ways were those expressing contextual confidence. Lastly, the results indicated several important areas in which attempts can be made to help teachers gain confidence in their use of digital audio.

High confidence did not equal use. The highly confident teachers in this study used technology less than both of the other groups. Further, the highly confident teachers' limited use displayed little consideration for the appropriateness of the technology. When they used CALL it was typically in an unplanned or unconnected manner. Conversely, the less confident teachers used technology in ways that were connected to the curriculum or

Table 5. Confidence and use.

Level	Characteristics of use at this level
<i>Highly confident</i> Scott, Mike	Lack of integration, use as required General low use, little variety in use
<i>Contextually confident</i> Anne, Rachel, Mia	Most reflective, cautious in use, general high use, varied use, most integrated
<i>Less confident</i> Alice, Rita	Integrated use, use defined by previous experience, missing opportunities for creative use, optimistic about future use

institutional expectations as well as their previous experience integrating analog audio into the classroom; thus their CALL use was integrated well. This supports Galloway's (1997) earlier notion that general comfort with technology for personal use may not directly transfer to effective classroom use. This is at odds with previous survey based studies suggesting that higher confidence leads to a higher level of innovation and conversely lower confidence leads to less innovation (Hegelheimer, 2006; Kessler, 2007).

The contextually confident teachers demonstrated 'best use' among the teachers in this study. They used technology frequently in both required and creative ways. They also demonstrated thoughtful reflection upon the integration of their CALL use. While they had some apprehension about technology in general, they recognized the benefits of its use and made attempts to overcome their personal biases. This contextual concern expands upon the findings of previous research suggesting that teachers are least confident in the use of audio and video related technology if not with their creation and manipulation (Kessler, 2007).

Teachers in this study expressed a number of factors that increased or negatively impacted their confidence in using audio. These factors might be considered as a means to support teachers in audio use and CALL, especially those with less confidence. One factor that teachers at all levels found important was practice and time for practice. Teachers needed the repetition for familiarity with the technology, which simply takes time. In addition to practice, less confident teachers felt that having good written instructions was essential, but found such instructions increasingly less available, and in fact had taken to writing their own notes and flow charts to have on hand when using technology.

Another means of support for these teachers was their Communities of Practice (CoP). Fellow teachers helped the less confident teachers learn about new technology and feel comfortable asking questions about it. University based technical support staff was mentioned both positively and negatively by the teachers. Similarly, staff working in the language media centers improved confidence for some teachers and not others. The variability in these relations seemed to be based on how knowledgeable the staff were and their willingness to take time with the teachers. Others have also recognized the importance of a Community of Practice to teachers' confidence (Hanson-Smith, 2006). Meskill, Anthony, Hilliker-Van Strander, Tseng and You (2006) suggest that such CoPs allow teachers to address needs as they arise or to schedule topics.

A final avenue of support relates to the mindset of the teachers when trying to learn and practice with technology. One way of helping teachers learn to develop confidence in use of CALL is to offer them CALL specific preparation that recognizes the potential for encouraging contextual confidence. Many have identified the need to provide CALL specific preparation for pre-service teachers, but there are varied approaches to integrating such preparation into language teaching degree programs (Bauer-Ramazani, 2006; Hegelheimer, 2006; Kessler, 2006). By contextualizing CALL teacher preparation in tasks that simulate real world teaching challenges, we may be able to help teachers overcome their technology concerns.

For less confident teachers, having a goal to become contextually confident, rather than highly confident, is perhaps more realistic and, as seen in this study, more desirable. Teachers can be made aware that they are not likely to feel comfortable with all kinds of technology that they encounter in professional and personal life, nor should that be their goal. More important may be taking the time, practice, and support needed to gain confidence in the technology most useful in their classroom context. Peters (2006) also recommends that teachers not be trained as technology experts but instead as experts using technology in the classrooms. Having the awareness and a goal of contextual confidence

may make technology less daunting to these teachers, and that also may increase their comfort.

Finally it is important to note that contextual confidence may be defined in varied ways within varied contexts and technology usage. Some teachers may develop confidence with a single task utilizing a single piece of software, but be completely overwhelmed with other tasks. As we refine CALL within teacher preparation, we will certainly better understand specific skill sets required within specific teaching contexts. While it is certainly desirable for all teachers to have a foundational set of technology skills, some skills may be more critical for certain groups of teachers based on their language teaching situations, skill areas, types of technology or goals of students. Perhaps further investigation into this development of contextual confidence may inform future practice and preparation.

### **Limitations**

This study is inherently limited to the practice of the seven teachers who were tracked over a term. Obviously the observed behavior of seven teachers can not be used to predict the behavior of all teachers across all contexts. However, these teachers were specifically selected as representatives of teachers in North American university settings teaching typical courses within these contexts so they are likely to share characteristics with other teachers within this particular domain. There may be much these teachers also share in common with teachers in other contexts. It is worth noting that the contexts in which these courses exist allows these teachers exceptional access to technological resources.

### **Conclusions**

In this study, very confident users of technology did not always demonstrate consideration for the unique demands of a learning environment. Contextually confident teachers were sometimes hesitant about technology, but integrated it with consideration about the learning context. Less confident technology users employed digital audio for the same purposes as their previous experience with analog audio. These findings are limited to the two public universities where the studies were conducted, but these findings are likely to be reflective of realities at other universities.

Some have suggested that the ultimate goal of CALL is to render itself redundant or obsolete by integrating effective technology across language instruction and instructors (Egbert, 2006; Kern, 2006). This idealistic perspective offers much appeal as a long-term objective, but the limited scope of current CALL preparation has not begun to meet this goal (Kessler, 2006). This study found that often teachers simply lack experience and confidence with technology, particularly instructional technology. If all teachers are expected to view CALL resources and practices as they would any other familiar teaching resource options, such as materials from books, paper-based handouts and overhead transparencies, they must first be confident with the technology. High confidence alone may not guarantee successful or innovative integration of CALL, but teachers may benefit from an understanding and development of contextual confidence. This study explored specific teaching domains within American universities, but other domains may reveal a need for different skills and decision-making abilities. Within certain teaching domains it may be important to explore the specific skill sets necessary for teachers to develop this confidence. This study showed that not all teachers felt equally confident about using audio and video technology in their classroom, and that they wanted continued/improved

support and training to increase their confidence and potential in using the technology effectively and creatively.

While teachers may enter the profession with a predisposed attitude toward technology we may be able to influence these attitudes. Through enhanced support, ongoing training and Communities of Practice, we may be able to increase teachers' comfort using technology in integrated and innovative ways. We may also need to pay greater attention to those teachers who demonstrate a high level of proficiency with technology. Their technological skills may mask their ability to effectively integrate technology in a pedagogically sound manner. Further research into a variety of attempts to influence the comfort with technology and use of CALL among teachers is critical if we wish to see all teachers capable of demonstrating effective practices.

### Note

1. Texts including audio and/or video support included: Dauer, R. (1993). *Accurate English: A complete course in pronunciation*. Englewood Cliffs, N. J.: Prentice-Hall Regents; Gilbert, J. (1993) *Clear speech* (2nd edition). Cambridge University Press, NY; Miller, S. (1999). *Targeting pronunciation: The intonation, sounds and rhythm of American English*. Boston, MA: Houghton Mifflin; Tanaka, J. & Baker, L. (2001). *Interactions 2 Listening/Speaking*. New York: McGraw Hill.

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