Making a Case for Learner Training in Technology Enhanced Language Learning Environments

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ABSTRACT

In recent years, the range and complexity of both language learning technology and the environments in which learners utilize it have become more central factors in language education. Given the already stunning—and growing—number of technological options for language learning, teachers working with both established and emerging applications for learning tasks and activities face the problem of how their students can use them most effectively. While acknowledging that appropriately designed technology and tasks are important, this paper examines four strands of evidence to support the contention that learner training offers a complementary direction for addressing this problem. These strands include research on the gap between language learner needs and their technological proficiencies, results from implementation of a learner training framework, a review of research studies acknowledging the potential value of learner training in their discussion sections, and examples of research and practice that incorporate learner training, including a recent set of technology standards. Collectively, these strands converge on the conclusion that learner training for efficient and effective technology use should become a more central theme in research, development, practice, and teacher education.

KEYWORDS

Learner Training, Digital Natives, Normalization, Teacher Education, Research

INTRODUCTION

As technology has come to play a more central role in language teaching, research, development, and practice have focused on three main areas: the technology itself (both applications and environments), interactional and learning tasks, and teacher education. However, there is a fourth area that, while acknowledged from time to time, seems to have received much less attention: the learner. Based on the bulk of the literature in our field, language teachers and researchers using both established and emerging technological applications appear to assume that their students already have the knowledge and skills needed to turn these to their best use in language learning.

In this paper, I argue that there has been a convergence in the past few years toward the notion that learners need both initial scaffolding and in many cases ongoing guidance to thrive in this new learning environment. I bring in evidence from four strands to support the contention that *learner training* should be playing a more prominent role in computer-assisted language learning (CALL) research, development, practice and teacher education than it currently does. I begin by outlining the problem conceptually and briefly discussing four alternative positions. I then present the first strand, which provides evidence from

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research of the gap between learner needs and learner proficiencies. The second strand describes a set of learner training principles that emerged from classroom teaching and reports on the experiences of a group of English as Second Language (ESL) instructors attempting to implement these principles on a program-wide basis at their institution. The results show that this approach to learner training is feasible, that it appears to pay off at least in the short term, and that how to do it is a learning experience itself for practitioners. The third strand reports on results from a review of a number of research studies in leading CALL journals (Hubbard, 2005, 2006), showing how a high percentage mention the need for learner training in their discussion sections. This is updated and further supported by excerpts from a number of studies over the past four years. The fourth and final strand touches on a few examples of CALL research and practice that incorporate learner training, with special attention paid to the role of formal standards for language learners (TESOL, 2008). The converging evidence from these strands makes a strong case for the notion that targeted training can facilitate more effective and efficient use of technology for language learning.

LEARNER TRAINING: WHAT AND WHY

Learner training is a term that has been used within the field of language learning for quite some time. It overlaps with concepts such as learner autonomy, self-directed learning, and learner strategy development, but like many terms in our field remains somewhat vaguely defined. As noted in Sinclair (2006, p.1), "Those who object to the term 'training' for being too narrowly and too functionally focused, tend to use other terms, such as 'learner development', 'learning to learn', 'learning learning' and 'promoting autonomy'".

For our purposes, it is enough to think of learner training as a process aimed at the construction of a knowledge and skill base that enables language learners to use technology more efficiently and effectively in support of language learning objectives than they would in the absence of such training. As such, learner training can be narrowly defined for a specific application as part of a given course or more broadly defined in the context of aiding the development of independence.

As we will see, despite the long history of learner strategy training in mainstream language teaching (Cohen & Macaro, 2007), explicit references to it are all too often missing from CALL textbooks for teacher education, from research papers, from project development designs and reports, and even from theoretical frameworks. Exactly why this is so is not clear, but as a tentative explanation I would like to suggest four potential reasons for *not* having learner training.

1. Properly designed technology and tasks will more or less automatically lead to learner success. A look at the literature in the field suggests this is the majority assumption as most published research and development work (Hubbard, 2005) and virtually all commercial software products fail to explicitly include any learner training. As shown below, there is a fair amount of counter-evidence for this view not only because it presupposes that we already know how to properly design technology and tasks, but more importantly because it typically fails to take into account the degree of learner readiness.

2. Learners over time will gravitate to the most effective uses. First, as has been repeatedly shown with learning strategy research, even in non-technological environments, many learners do not utilize techniques and procedures that would optimize their learning. Second, when we track what learners do on their own, we discover that they do not necessarily do what language teachers think is effective. For example, Karlström, Cerratto-Pargman, Lindström & Knutsson (2007) report that a pair of students using a writing support program (GRIM) during a collaborative writing task focused entirely on eliminating grammar mistakes indicated by the program rather than using other features to improve their paper. As Fischer (2007)

demonstrated, we discover that what students think or report that they are doing does not always correspond to what the tracking records tell us. Third, a certain amount of training could arguably decrease the time that it takes for learners to reach an effective level of use—thus the argument against training becomes an argument against efficiency. Finally, for some unfamiliar and unintuitive applications, such as corpus study with concordance programs, it is not clear whether most learners have the ability or motivation to determine how to use them effectively in the absence of training regardless of the amount of time provided (Chambers, 2005).

3. Although previously training may have been warranted, the current group of "digital natives" (Prensky, 2001) do not require training. Indeed, collectively learners today are more technologically advanced in certain ways from those of a generation ago. The 2008 EDUCAUSE study of over 25,000 undergraduates in the US showed them to "…perceive themselves as Net savvy..." yet "…Net generation students, along with older students, report that they are not looking for extensive use of IT when it comes to their academic courses" (Salaway, Caruso & Nelson, 2008, p. 16). In fact, as Winke & Goertler (2008) demonstrated, they may still have issues with the application of even familiar technology to the specific task of language learning. Additionally, some of the "natural" behaviors of digital natives, such as multitasking, are increasingly being shown as detrimental to learning (Ophir, Nass & Wagner, 2009)

4. As technology becomes normalized (Bax 2003, 2011), specialized training for both teachers and learners is unnecessary. This may indeed be the case long-term, but as Bax himself points out, we have not yet reached that state. Further, if technology continues to change at its current rate (or even accelerate as many believe it will), it would seem that only more established applications and environments would reach the stage of normalization Bax predicts. Thus, there will continue to be a need for training with novel technology.

In the remainder of this paper, I expand on evidence that directly or indirectly makes all of the preceding positions problematic, buttressing the case for learner training in technology enhanced language learning environments.

Strand 1: Research on Learner Readiness

Barrette (2001) was perhaps the first to challenge the assumption that students who appear to be familiar with computer technology will be able to use it effectively for language learning. She began her work with a review of 14 recent articles from the *CALICO Journal* and *Foreign Language Annals*, noting that the study authors typically did not document the subjects' current level of familiarity with common computer applications nor did they provide any training in the programs used in the studies. Surveying her own students, she found a wide range of abilities and familiarity with a variety of applications such as those for email, word processing, and web page construction deemed useful for language learning at that time.

Building on Barette's work, Winke and Goertler (2008) explored learner preparedness for using technology in language learning. Their study focused on the results of a survey at a large Midwestern university in the US involving over 900 students in first and second year classes in French, German, and Spanish. They reported that students varied considerably in their access to and familiarity with technological tools for language learning, noting that "if classes begin assigning tasks that require the use of microphones and/or cameras, information and training on access, availability, and use will be essential" (p. 494). They also found that many students did not know how to type diacritics, handle compressed files, or record and edit audio and video files. In a companion piece (Winke, Goertler, & Amuzie, 2010), they extended the discussion to compare commonly taught and less commonly taught languages (LCTLs) in terms of learner preparedness, surveying over 2000 students.

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The overall results were similar to the 2008 study, but they found that students in LCTLs were even less prepared. More recently, Goertler, Bollen, and Graff (2012), reported on student readiness in two hybrid Spanish courses at the same institution as the previous studies. Comparing results in those courses with those in the 2008 group, they found that, although student readiness was generally somewhat superior to the previous group in several measures (e.g., typing foreign characters), "…we have to conclude from this that even the students enrolled in a hybrid course have only somewhat adequate computer skills for a successful experience in a hybrid or online language course" (p. 311).

From the preceding research studies, it seems clear that even though some students may be prepared for the demands of modern digital language learning, that is not universally the case. Additional training is necessary to bring all students to the level of readiness needed for effective use of technology in language learning tasks and activities. Perhaps more important, the preceding studies focus primarily on technical expertise alone. As we will see in the next section, that is just one dimension of learner training. Given the fact that technology-based activities often take place outside of the classroom and the direct supervision of the instructor, effective use requires learners to incorporate strategies and an understanding of pedagogical principles adapted appropriately to the digital learning environment.

Strand 2: Learner Training in Action

Early CALL work acknowledged the importance of developing "computer literacy" (see, e.g., Beller-Kenner, 1999) in students who may not have had much experience with computers in either educational settings or their daily lives. As students' basic facility with computers for everyday purposes became more commonplace, interest in this began to recede, although it is interesting that the need for promoting "digital literacy" remains in general education (see Warschauer, 2011). As part of the study mentioned in the previous section, Barrette (2001) was perhaps the first to formally highlight the value of learner training for CALL. Following the survey of her students' familiarity with computer applications, she trained the students in the effective use of these tools for language learning. A follow-up survey reflected significant improvements in students' familiarity and confidence levels with them.

A more comprehensive overview of the notion of learner training for CALL appears in Hubbard (2004), which offers a set of five learner training principles for teachers and developers, briefly summarized below:

1. Experience CALL yourself. Effectiveness in training students in CALL strategies and techniques is enhanced by the teachers' own reflective experiences as a technology-using language learner.
2. Give learners teacher training. If learners are to take responsibility for their own learning in a CALL activity, task, or exercise, then it is useful to provide them with some of the same information a teacher has in the form of language learning models and principles.
3. Use a cyclic approach. New skills and knowledge are best learned in small bites, with repeated reminders in a learning cycle or spiral; along these lines, it is often helpful to allow learners a chance to explore and orient to a new application or environment before providing any detailed training.
4. Use collaborative debriefings. Because students can learn from one another, in a classroom setting teachers should guide learners in discussing their experiences with new technologies for language learning and encourage them to reflect on and provide a rationale for the procedures they use.
5. Teach general exploitation strategies. In addition to training for specific applications and environments, it is desirable to train learners in general strategies for exploiting dedicated CALL materials in ways beyond those envisioned by the developer. This includes using media and support technologies (e.g., electronic dictionaries) as well

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as general information and communication technologies in ways that promote their language goals.

The study includes examples of how each of these principles was integrated in a language classroom and offers advice to others on exploring this domain further.

Kolaitis, Mahoney, Pomann, and Hubbard (2006) report on a three-year project in the ESL program at a community college in New Jersey that attempted to take the principle-based learner training approach described above and expand it on a program-wide basis. In the first phase (2002-2003), a core group of seven faculty developed and implemented learner training materials and procedures for their own courses with guidance from an external consultant (the present author). These were experienced teachers, some of whom had been using CALL materials in their classrooms or working with students in a lab setting since the early 1980s and who consequently found it enlightening to reflect on and articulate their own language learning approach in preparation for training their students.

Based on conclusions drawn from the initial stage, in the following academic year (2003-2004) the group collectively revised a number of the procedures, focusing on learning goals and steps students could take to reach them using the computer programs available. They also formally introduced "CALL journals" to their students, requiring them not only to document their time spent but also to reflect on why they were or were not successful. Examples of the journal formats for various skills can be found at http://staff.ucc.edu/alc-paez/esl/call/journals.htm. In addition to the development within the core group, they held workshops introducing other faculty to the concepts and materials.

In the third phase of the project (2004-2005), the core group continued to revise and refine the materials and procedures. To supplement the workshops, they conducted one-on-one mentoring sessions with interested faculty, albeit with mixed results. Some faculty continued with the mentoring for several sessions but "most faculty were reluctant to go beyond the first meeting, given that it was voluntary and no other compensation was provided" Kolaitis et al. (2006, p. 325). The consensus was that although the mentoring showed promise it "did not seem to offer the depth of learning and transformation that the collaborative approach provided for the project team" (p. 326). It is worth noting that during the first two years, although the consultant visited the campus twice for meetings and workshops and participated in several conference calls, the important adaptations and innovations, such as the journals, all came from the collaboration within the core group.

Kolaitis et al. (2006) report that the overall experience was significant in changing the way they approached using CALL materials with their students. Among the lessons learned were the following. First was the importance of identifying the language learning goal before attempting to train students in ways to go through their lessons. Second, in weekly lab sessions, the role of the teacher shifted from supporting and explaining course content to helping students develop effective CALL strategies. Third, the work on setting objectives extended back into the non-CALL elements of the class, where both teachers and students became more aware of why they were working on a given lesson and what strategies would help them navigate it most usefully.

In addition to the conclusion that the shift to a learner training approach was beneficial to the students in their classes, there was positive washback on the faculty as well, especially those in the core group, leading them to reflect on their rationale for both classroom and lab procedures. As one teacher reported: "My approach has changed completely… Now I feel that students are using the lab time in a more focused, active way" (Kolaitis et al., 2006, p. 327). Finally, although the project began with the guidance of the five learner training principles noted previously, over time these principles were adapted rather than simply adopted. For example, the approach seemed to be less effective with lower proficiency students, who may not have had the language necessary to engage in the level of reflective

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learning required by the CALL journals and perhaps also felt more comfortable with teacher-directed learning (see also Boling & Soo, 1999). Further, the amount of pedagogical training originally recommended in Hubbard (2004) was often reduced, as was the class time devoted to collaborative debriefings. Since the original principles were developed based on experience with advanced-level ESL students at the graduate level, it is not surprising that such adaptations were needed. Overall, though, the results from the project suggest that implementing principle-based learner training on a program-wide basis is a positive step that is feasible if the organizers are committed to the concept and prepared to make adjustments.

As part of the overall project described above, on two occasions teachers put into practice the first of the five preceding learner training principles: experience CALL yourself. In the first stage of the project described in Kolaitis et al. (2006), teachers spent two sessions together working with sample lessons of the online version of *Rosetta Stone* in a language they had little or no previous experience with. Even that initial "taste" of CALL was enough to get them reflecting on the learner's perspective.

Three years later the same group (with a few membership changes) decided to try CALL from the learner's perspective again, but this time over a longer period and in most cases working with languages they already had some familiarity with, bringing them even closer to their students' experience (as the project consultant I also joined in this endeavor). In this section I describe some of the insights that arose during this period as described in Hubbard, Kolaitis, Meng, & Stavitsky (2006). Though it was not formally designed as a research project, the awareness gained from the experience and reported here is nevertheless illuminating in understanding how stepping into the language learner's shoes can help teachers become more sensitive to the challenges involved in using technology for language learning as a precursor to determining when and how to provide training to their students.

In early autumn 2005 nine community college faculty members began working on this extended experience with CALL. Over a period of about eight weeks they held several face-to-face meetings and a couple of conference calls that I participated in. Most interesting however was the fact that they created a collaborative journal of the experience by posting their experiences, questions, and insights to a web board. The primary goals of the project were to 1) identify strategies that would be useful to their students; 2) reflect on the impact their experiences could have on their classroom practices; and 3) note strengths and limitations of specific language sites and programs, generalizing those to programs they use in their ESL courses.

The web board comments start out enthusiastically. Sample postings include the following:

> "Meaning is my number one goal. I don't want to do anything at all with the passage or exercise until I listen and understand the meaning."

> "I notice the pronunciation more when I choose sound only. While reading, I tend to focus on the vocabulary and 'chunks' of words."

> "I want to listen, listen, listen. Content is the key. I don't care about grammar, or pronunciation, but I am surprised at the importance of vocabulary."

> However, this initial enthusiasm gave way later on to more reflective postings:

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> "I have come to realize that I need a structured environment in which to study language. I need to know someone is 'watching' me."

> "I'm finding that I'm getting lonely in my 'sola' Spanish learning. I'm thinking of how helpful it is that our students have the opportunity to speak to one another and participate in a class community."

The consensus among participants was that the experience helped them see CALL materials and activities more from the learner's perspective, bringing them closer to their students' experiences. Putting themselves in the role of language learner, in some cases for the first time in years, also helped them to challenge their language teaching assumptions and to raise their awareness of potentially effective strategies for learning with technology. More importantly, they could understand more intimately what might be involved in training learners to use such strategies. With these insights fresh in their minds, they even found themselves extending what they had learned from their CALL experiences to non-CALL classroom activities.

The experience of this group suggests that teachers who have engaged in language learning using technology bring an added dimension to CALL that is missing from those who rely solely on the literature, teaching intuitions, and extrapolation from their social uses of the Internet and digital media. Having that experience allows a teacher, researcher, or developer to make more informed decisions regarding when and how to implement CALL learner training.

Although there has been little additional research specifically focusing on learner training in CALL, a few other studies are worth mentioning. O'Bryan (2008) completed a small-scale experiment applying elements of the previously described model to an ESL reading class to see if training could increase the rate at which students click on glossed words to support comprehension. She focused on pedagogical training, helping students understand the language learning potential (Chapelle, 2001) of using glosses in an electronic reading environment. She found that after a single 10-minute training session, students clicked on more glossed words than a control group did (22.83 vs. 15.83), though the results fell just short of statistical significance. Perhaps more interestingly, through debriefings three weeks after the training she found that students retained their understanding of the language learning potential of using the glosses.

Romeo & Hubbard (2010) explored the impact of pervasive learner training integrated throughout an advanced ESL listening class, using a revised model distinguishing technical, strategic and pedagogical training to support students' independent listening projects. Drawing on data from weekly student reflective reports and individual meetings, they showed that learner training had an overall positive impact on students and concluded that the benefits outweighed the cost of time spent on training. In a post-course interview, 10 of 12 students indicated that one of the most valuable things they had learned from the course was how to approach listening on their own, suggesting that learner training of this sort could have a long-term effect on increasing autonomy. A companion paper (Hubbard & Romeo, 2012) reported that the model was also effective in a blended setting, where the classroom time was cut in half and students did even more independent work. That paper further noted that students varied in terms of how quickly and thoroughly they responded to training and emphasized the individual nature of the transformation that learner training can bring.

Strand 3: CALL Research and Learner Training

Turning now to the third strand, until recently there has been limited evidence that learner training was considered in CALL research studies. Barrette (2001) noted in her review of 14

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CALL research articles from 1997 and 1998 that 10 of them had no information on either the subjects' computer literacy or any training in the technologies used in the studies. In a review of 78 CALL research articles from 2000-2003 that looked at subject and treatment characteristics (Hubbard, 2005), two of the eight research questions addressed were whether subjects received any relevant training before the study and whether they received any ongoing direction or training during the study. The articles came from four CALL-focused journals (*CALICO, Computer Assisted Language Learning, Language Learning & Technology*, and *ReCALL*). Following Levy's (1997) tool-tutor dichotomy, 25 of the studies involved the computer in a tutorial role, 41 in a tool role, and 12 in both. Specifically, two training domains were investigated: *technical* training in the operation of the application or environment and *pedagogical* training to help students link their conscious use of the application or environment to their language learning objectives.

Results from the review showed that 48 (62%) of the studies did not report training of any kind, presumably because it did not occur. Six of the papers made a point to *mention* that no training occurred: in some cases this was to keep the study free of outside influences, while in others no rationale for the choice was provided. Of those that did mention training, 17 mentioned implementing technical training only, often providing a single introductory session to help students understand the controls and operation of the technology. Only seven of the 78 included both technical and pedagogical training, where students were offered any advice or strategies on how to use the application in pursuit of their language goals.

A follow-up study (Hubbard, 2006) examined 64 articles in the more focused domain of computer-mediated communication (CMC), looking at CMC studies from 2000-2005 in the same set of journals. The results were similar to the broader and earlier review, though the trends in some cases were even more striking. A full 48 (75%) of the papers did not address the notion of training one way or the other. One is left to speculate why: perhaps the researchers assumed that since students were sometimes using similar applications (email, chat, and discussion boards for example) for other purposes that the carryover to language learning was obvious. Again, just under 10% (six) of the studies explicitly mentioned that no prior training was provided

Regarding ongoing training, which could have occurred either as part of the research design or as a response to obvious difficulties subjects were having, only five of the 78 papers in the 2005 study hinted at any attempts to provide it, and just three of 64 in the follow-up CMC study mentioned it. In some cases the lack of ongoing training was not surprising since only a single session was studied, but in about a third of both the 2005 and 2006 studies the subjects used the application over a period of more than 10 weeks, allowing sufficient time for intervention. In fairness to the researchers, such intervention, unless part of the original design, would have influenced their outcomes by introducing additional variables. However, the result is the somewhat disturbing trend observed in the initial study, that in the absence of training "CALL research as a whole is unbalanced in the direction of the study of novices working on novel tasks or using novel applications" (Hubbard, 2005, p. 363).

There is one striking set of results from these reviews that was not originally one of the hypotheses that led to the research but that is in line with the thrust of the present paper. In the 2005 study, 23 of the 78 articles (29%) acknowledged in their discussion sections that some kind of training or ongoing assistance might have helped the subjects achieve more favorable results. This included 14 articles that had not reported doing any training before or during the study, and an additional three that had explicitly mentioned that *no* training was provided. A similar pattern appeared in the 2006 study: 25% of the 64 articles suggested some kind of training or instruction would have helped students, including two that had overtly specified no training.

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Since the 2005-2006 studies, learner training has continued to be mentioned in CALL publications, but still primarily within discussion sections rather than in the research designs. For example, in a single edited volume (Oxford & Oxford, 2009), six of the 14 papers as well as the introduction mention the need for training in some form. In the first of these, van Compernolle & Williams (2009) note that both teachers and learners have to reshape the classroom with technology as an integrated tool for collaborative learning and that within a sociocultural approach "…students do in fact need some training in pedagogy…" (p. 18). Niño (2009) suggests using problem-based collaborative tasks to teach students how to use Internet resources so that the learner acquires more control. Fuchs (2009) emphasizes the importance of having teachers model implementation of technology to students. Reporting on a survey of students and teachers, Goertler (2009) calls for more education on the value of hybrid learning and more training in it for both teachers and students. Following a study of the influence of vocabulary and grammar software on students learning to write in Spanish, Oxford (2009) observes that students often fail to use available technology effectively and need more direction and monitoring. Finally, Ducate & Lomicka (2009) report on a study where some students did not download podcasts as expected because they did not know how, clearly indicating a need for targeted technical training.

Although a full-scale study of the type in Hubbard (2005) is beyond the scope of this paper, reports of researchers noting the potential value of additional training continue to appear in recent journal articles. A few examples follow.

In describing problems with implementing an effective self-access center, Castellano, Mynard, and Rubesch (2011) acknowledge the ongoing nature of the problem of limited learner training. "Lázaro and Reinders (2006) observed that learner training is often lacking for TLLT [Technology-based Language Learning Tools] and this seems to be the case in the present study" (p. 19). In the specific context of listening to news videotexts, Cross (2011) noted that while audio and visual channels can combine to enhance comprehension in line with dual coding theory, students do not automatically recognize the inconsistencies between what can appear in an authentic news video and what the newscaster is saying

> …it was evident that not all learners recognized congruence and discrepancies between the aural and visual elements as they strove for understanding. This suggests that such aspects need to be made explicit to learners if they are to better deal with the audiovisual vagaries of news videotexts. (p. 63)

Vinagre & Muñoz (2011) explored the development of learner accuracy from peer feedback in a three-month telecollaboration project. Noting the absence of uptake despite numerous instances of peer error correction, they focused on the need for additional training: "Thus, in future telecollaborative projects with a focus on form, it would be important to explain to the students the difference between feedback, correction and remediation in induction sessions, whilst helping them improve correction skills and providing examples" (p. 82). This result was echoed in Bower & Kawaguchi (2011), who concluded from their tandem project, "Just as it appears to be necessary to push learners to give corrective feedback in telecollaboration (Ware & O'Dowd, 2008), it may also be necessary to push learners to reflect deliberately on corrective feedback" (p. 63).

Finally, Karabulut, Levelle, Li and Suvurov (2012) explored the use of technology in a third-year French class and identified a mismatch between student and teacher perspectives. As part of their conclusion, they note that teachers should be more aware of students' use of technological tools, and their needs and preferences. That is, some responsibility for the failure of a technology implementation can be on the teacher side. However, they also observe:

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In particular, our analysis revealed that the instructor had a wider perspective on technology use for language learning as her rationales for using technology in L2 instruction were framed by theories of second language acquisition. The students, on the other hand, viewed technology mostly as a tool and rejected it when they did not see its purpose or did not need the skills the technology addressed. … Despite the claims that students are now increasingly digital natives (Prensky, 2001), it seems that a mere exposure to technology in everyday life does not automatically make them successful language learners who know how to effectively use technology for educational purposes. (p. 357)

Going forward, it may well be that a mix of teacher understanding and learner training will provide the recipe for success in both current and future learning environments, where the teacher recognizes and validates students' current uses of technology as well as providing additional scaffolding and training as needed.

Strand 4: Incorporating Learner Training in Research, Practice and Technology Standards

As previously noted, few papers have focused exclusively on learner training in CALL. However, a number of studies have incorporated learner training in some form as part of their overall methodology. There were several articles in the corpus of those reviewed for the two studies in the previous strand that had some examples of training. Barrette (2001) and Soboleva and Tronenko (2002) offer examples of incorporating technical training into research. Barrette in particular presents arguments for why this is important and criticizes previous studies because they often failed to show any evidence of the subjects' overall technological competence. Greenfield (2003) and Kol and Schcolnik (2000) provide examples that incorporate what could be called pedagogical training, including teaching learning strategies specific to the technology setting. More recently, recognizing that her students had no previous experience with wikis, Lee (2010) gave them both a brief training session and supplementary resources (a Wikispaces tour and links to YouTube tutorial videos).

Interestingly, even when learner training is incorporated into the research design, there is still sometimes a call for more in the discussion at the end of the study. Liang (2010) provided students in an online writing class in Taiwan with pedagogical training in collaborative skills for online peer review, including explanations of the value of peer feedback and how to offer it. She found that despite that training, anticipated meaning negotiation, error correction and technical actions such as using emoticons were rare. She concludes:

> To maximize learner-centered, collaborative opportunities for L2 learning, writing, and communication, training procedures and support systems should be employed according to group interaction and task performance along with students' progress in the writing process. (p. 57)

Kennedy and Miceli (2010) studied three students' use of a corpus to support creative writing in intermediate Italian. They found that even with a course designed to include a semester-long "apprenticeship," additional training was needed.

> More generally, in analysing the three students' work, we have come to see the process of "making the corpus your own" as a matter of developing not only skills in conceptualizing and executing searches and interpreting examples, but also appreciation of a set of principles that underpin effective use of the corpus and reference resources in general. In future, through class discussion around corpus-based activities we will seek to make these

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principles explicit, in order to help the students become more rigorous in their reference resource use, whatever their individual style. (p. 40)

The Kennedy and Miceli study is also an example of one of the more developed areas of learner training for CALL: teaching students strategies for utilizing corpora and concordance programs to engage in data-driven learning. Chambers (2005, p. 122) presents arguments for increased learner training, but also raises concerns about it:

…a delicate balancing act is required to ensure that the size of the corpus used for initial training does not unduly increase what they [learners] already perceive as the laborious and tedious analytical work…An increased allocation of time for training could provide the answer, although probably not within the context of most language degree programmes, where the curriculum is already under pressure from the competing disciplines of literature, cultural studies, area studies, linguistics, and language learning per se.

See Flowerdew (2012) for a more recent review of concordancing and a discussion of inductive vs. deductive approaches.

A final area of practice to discuss is the potential impact of technology standards on learner training. In late 2008, TESOL (Teachers of English to Speakers of Other Languages) released the first set of technology standards devoted specifically to language teachers and learners. For example, Goal 3 of the learner standards states "Language learners effectively use and critically evaluate technology-based tools as aids in the development of their language learning competence as part of formal instruction and for further learning" (TESOL, 2008, p. 25). The five standards subsumed by that goal cover productivity tools, skill-building tools, tools for communication and collaboration, research tools, and the recognition of the value of technology to support autonomy and lifelong learning. Considering just the first of these categories, productivity tools, the Standards provide the following performance indicators as targets for language learners to achieve (TESOL 2008, p. 25).

- Language learners use technology-based productivity tools as aids in production (e.g., word processing, presentation software, and Web-design software; associated applications such as spell-checkers and thesauri; templates for preparing presentations, newsletters, and reports; tools to assist in brainstorming and creating graphic organizers).
- Language learners use technology-based productivity tools as aids in comprehension (e.g., translators, electronic dictionaries).
- Language learners apply criteria to evaluate the appropriate use of particular technology tools for specific language learning tasks.
- Language learners use technology-based productivity tools collaboratively and individually in order to enhance their language learning competence.

It is incumbent on the instructor and the institution to insure that over time learners are able to meet these goals. Now that standards are in place, learner training is more likely to become an institutional mandate and by extension a part of teacher training as it is presupposed that at least some learner training will be necessary for students to meet the standards and that teachers will need training themselves in how to guide their students. A follow-up volume by the team that developed the TESOL Technology Standards (Healey et al., 2011) provides additional guidance in implementing both sets of standards.

CONCLUSION

At the beginning of this paper, I noted four possible positions that would lead to avoiding learner training. To counter those views, I have offered four strands of evidence converging on the conclusion that learner training has a more central role to play in CALL than has

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heretofore been the case. These strands include identifying the problem, reports of experiences as learner trainers and as language learners using technology, data from research studies acknowledging the important role learner training could play, and examples of some ways it has been implemented. Here, we briefly review those four positions and the range of evidence against them that the strands offer.

1) *Properly designed technology and tasks will more or less automatically lead to learner success.* The evidence from Strands 1 and 3 in particular provide strong arguments against this position. We have seen from the data in Winke & Goertler (2008), Winke et al. (2010), and Goertler et al. (2012) in Strand 1 that there are important technical skills for language learning that many students do not claim to possess, in which case the design of the technology and task alone cannot lead to successful implementation. More tellingly, in Strand 3, we have seen that for a number of research studies with apparently well-designed tasks, the researchers concluded that some learner training would likely have led to more favorable results. From Strand 4, we can infer from the promulgation of learner standards for technology by a major professional organization (TESOL) that more than excellence in design is needed.

2) *Learners over time will gravitate to the most effective uses.* Strand 2 provides examples of how learners undergoing training come to realize the value of strategic training in particular, and this type of awareness can be correlated with more effective technology use. Among the studies in Strand 3 calling for learner training in their discussion sections are a number that take place over a semester, providing the learners with a significant period of time in which they could have developed sufficient proficiency but failed to do so. Even in situations where students are given some training and use the technology over a period of several months, they still do not utilize it as effectively as expected (Kennedy & Miceli, 2010; Liang, 2010).

3) *Although previously training may have been warranted, the current group of "digital natives" (Prensky 2001) do not require training.* The first three strands provide arguments against this position. The studies in Strand 1 all support the idea that, even at the level of technical knowledge, significant numbers of digital natives are deficient in skills and knowledge necessary for language learning. For Strand 2, studies based on student interviews and reflective reports (Romeo & Hubbard, 2010; Hubbard & Romeo, 2012) demonstrated that technologically sophisticated learners from the current generation increased their awareness and implementation of effective strategies for using technology under the influence of pervasive learner training. Strand 3 includes numerous examples where learners do not appear to have the strategic knowledge to make appropriate use of familiar technology (e.g., synchronous CMC) for language learning purposes.

4) *As technology becomes normalized (Bax, 2003, 2011), specialized training for both teachers and learners is unnecessary.* Of all the positions, this one is the most difficult to counter directly, as it is about the future. As noted when this position was introduced, we have not yet "normalized" many language learning applications. It is indeed likely that students will become more effective users of technology for language learning over time as the technology for learning becomes integrated throughout education and other parts of our lives. Strand 4 with its reference to technology standards for learners is relevant here—once technology is truly normalized, separate technology standards will be superfluous. That is unlikely to happen any time soon.

In summary, given the evidence from the four strands, the preceding positions are not presently tenable. Thus, it is reasonable to conclude that learner training in CALL deserves more serious research and development.

Beyond the perceived value of learner training for making current CALL tasks and activities more effective, it also provides a foundation for the development of greater learner autonomy and support for lifelong learning. Yet we cannot assume this will come easily. In a

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review of diversity in the usage patterns of language learners working with technology, Fischer (2012) similarly concludes that more attention to learner training is important for CALL, but acknowledges that it comes with significant challenges. He writes:

> Regardless of how language learning programs are delivered to students, the survey of studies above shows the pervasive need for learner training. Training learners to be intelligent users of CALL programs will go a long way in addressing questions of student usage, but training learners to use CALL programs effectively—which is a particular case of the general principle of training learners to use language learning strategies effectively—can be a long and difficult undertaking. Learner training in CALL entails not only guiding learners to make good pedagogical decisions to facilitate their learning, but also instructing them how to use technological resources in support of those pedagogical decisions. (p. 28)

Despite those challenges, learner training in technology-enhanced language learning environments is deceptively simple in its underlying assumptions: it is not just the technology that matters, nor is it just how teachers use that technology that matters. What really matters is how *learners* use it. This paper has argued that teachers, researchers, and developers can—and should—provide significantly more guidance in how to use it well.

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