

# Exploring the Needs, Practices, and Attitudes Toward Technology Integration of Community College ESOL Instructors

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## **Abstract**

Research has established both the importance of integrating technology in English language learning and the importance of properly training teachers in order to integrate technology effectively. While this is true for English as a second language teachers in all contexts, there is a strong need for instructors working with adult learners to utilize technology and be properly trained in technology integration. The integration of professional learning communities or communities of practice and coaching/mentoring been shown to be effective professional development interventions. For professional development to be successful, it should cater to the specific needs of the instructors; it is therefore important to understand the needs of the instructors and to explore the different types of professional development that fit their needs. This research explored the needs, current technology integration practices, and attitudes toward the use of technology with English to Speakers of Other Language (ESOL) educators within a community college context in order to make recommendations for professional development in technology integration. Using an interpretive-descriptive qualitative design, this study utilized classroom observations, one-on-one instructor interviews, a focus group interview, and a researcher journal. Acting as a needs analysis, these sources were analyzed inductively in order to make professional development recommendations. Based on the needs of the study's participants, it was determined that they would benefit from a technology mentor/coach and a professional learning community or community of practice to provide support as well as offer collaboration opportunities, resulting in increased technology integration including both instructor and students uses of technology.

*Keywords:* professional development, technology integration, ESOL instructors, interpretive-descriptive qualitative design, community college

Research has established both the importance of integrating technology in English language learning and of properly training teachers to effectively integrate technology into their teaching practices (Kessler, 2018). While this is true for English as a second language (ESOL) teachers in all contexts, there is a strong need for instructors working with adult learners to utilize technology and be properly trained in technology integration (Bergey et al., 2018). Professional development (PD) is a way to increase successful technology integration and to overcome barriers that prevent it. For PD to be advantageous, it should cater to the specific needs of the instructors within the context of their instruction (Kopcha, 2012; Oliver & Townsend, 2013). This research explored the needs, current technology integration practices, and attitudes toward the use of technology of four ESOL educators within a northwestern United States community college context in order to make recommendations for PD in technology integration.

### **Literature Review**

Integrating technology into language teaching has shown to aid learners in reaching higher proficiency levels, as well as increase their autonomy (Adair-Hauck et al., 2000; Healey et al., 2011). Healey et al. (2011) identified three general themes that target a need for technology standards for the field of Teaching English to Speakers of Other Languages (TESOL). Those themes include: (A) research shows that there are benefits from the use of technology in language learning and teaching; (B) technology should be integrated to support acquiring the second language and to develop electronic literacy; and (C) research shows that technology in learning is not being used to its fullest potential because of inadequate teacher and learner training. The international TESOL organization developed these themes within its framework for best practices of technology integration in the language classroom because of the positive impact it has on English language teaching/learning (Healey et al., 2011). The benefits technology has for teaching adult English language learners in the U.S. include increasing motivation, engaging students in learning, providing authentic language use, and accommodating diverse learners (McClanahan, 2014). Eyring (2014) suggests that technology is a valuable tool for adult English language learners and can be transformational in increasing literacy, engaging students, increasing proficiency, and exposing learners to 21<sup>st</sup> century skills needed in the modern world. While it is recognized that there are challenges and barriers to using technology within adult ESOL programs (McClanahan, 2014), the benefits are too great not to overcome the barriers. The use of technology in language teaching and learning has been established as beneficial enough to have a dedicated subfield, computer-assisted language learning (CALL). Even though CALL is necessary to successfully utilize it for language teaching and learning, the majority of training is acquired through conference workshops, personal reading, and other modes of self-education (Healey et al., 2011; Kessler, 2006, 2007).

Teacher training and professional development (PD) regarding technology integration in English language teaching/learning needs to take place in order for technology to be utilized effectively (Arnold & Ducate 2015; Healey et al., 2011). Chapelle (2008) recognized that even though some language professionals have had limited technology training, such as in a general education course, more training is necessary to understand specifics about technology in language teaching. While this is true for ESL teachers in all contexts, there is a strong need for instructors working with adult learners to utilize technology and be properly trained in technology integration (Chisman, 2008; Warschauer & Liaw, 2010).

Three large bodies of research established both the importance of integrating technology with adult English language learners and the importance of properly training teachers to integrate technology: (A) The Center for Applied Linguistics (2010); (B) *Passing the Torch: Strategies for*

Innovation in Community College ESL (Chisman & Crandall, 2007); and (C) TESOL Technology Standards (Healey et al., 2011). The Center for Applied Linguistics (2010) determined that practitioners working with adult English language learners need continual PD following a specific framework, which they developed because of the rapid growth of the immigrant population in the United States in the last 20 years. In this framework, one of the essential elements is the appropriate use of technology to support learners before, during, and after their courses. Chisman and Crandall (2007) conducted one of the largest studies regarding adult ESL community college programs in the United States, which studied five exemplary ESL community college programs for two years. The study revealed that a contributing factor to the success of these colleges were a variety of PD activities offered through the colleges to their faculty and staff, including ongoing technology training and support (Chisman & Crandall, 2007). The study found that in-house PD and support is “essential to maintaining a high-quality faculty” (p. 91). In the TESOL technology standards, it is stated that there is a lack of proper training among ESL teachers and learners regarding effective uses of technology in English language learning (Healey et al., 2011). This suggests that PD is necessary in order to support teachers in technology integration in the language classroom.

PD provides the opportunity for teachers to acquire new perspectives, knowledge, and skills through both formal and informal experiences; these experiences come in a variety of formats including structured in-service trainings, peer teaching, mentoring, books clubs, and informal discussions (Coldwell, 2017; Gaines et al., 2019). PD is considered effective when teacher practices are improved and student achievement increases as a result (Evens et al., 2018; Twining et al., 2013). In order to determine what type of PD will best support teachers within a given context, it is important to understand the needs of the instructors within that context. Oliver and Townsend (2013) and Kopcha (2012) assert that a needs assessment is important in developing PD opportunities that cater to the needs of a specific teacher population and their context. A needs assessment is an effective way of determining the internal/personal factors, such as beliefs, that teachers hold that may impact the type of training that is best for them (Kopcha, 2010; Vatanartiran & Karadeniz, 2015). Therefore, prior to implementing PD in technology integration, it is essential to fully understand the context in which it will take place (Kopcha, 2010, 2012; Oliver & Townsend, 2013). Additionally, in developing and implementing PD opportunities for educators, it is important to align with theories of adult learning, which emphasizes the self-directed nature of these learners (Beavers, 2009; Center for Applied Linguistics, 2010).

Using PD as a vehicle for increasing technology integration practices is supported by numerous models for effective technology integration. To understand best pedagogical application for technology integration in classroom practices, the Technological Pedagogical Content Knowledge framework (Mishra & Koehler, 2006), the Technology Acceptance Model (Davis, 1989), and the Diffusion of Innovations theory (Rogers, 2003) were appraised. These models agree that PD in technology integration can lead to more effective technology integration in the classroom and suggest that ongoing PD is necessary for teachers to increase and improve their technology integration practices. In order to determine how PD should be designed to meet their needs and aid in overcoming common barriers found in the adoption of new technologies, understanding the pedagogical beliefs and self-efficacy values of the teachers involved, as well as the environment in which they teach, including the characteristics of their learners and their institutional context, is crucial.

The context of this research was in an adult ESOL program at a Pacific Northwest

Community College (PNWCC, a pseudonym) in Oregon. ESOL programs within community colleges fall within adult basic skills and are committed to aiding their learners in meeting the adult learning standards that align with the National College and Career Readiness Standards (Oregon Higher Education Coordinating Commission, n.d.). The standards for English language arts and literacy include several domains including, reading, writing, speaking, and listening. Within the standards across these domains is the analysis and integration of information from media to reflect the importance of the students' ability to adapt and utilize new technologies (Pimentel, 2013). The adult learning standards recognize the importance of technology in teaching and learning to prepare learners for the skills they need for work or educational endeavors after the community college.

### **Methodology**

The lead researcher of this 10-week study was immersed in the ESOL community college culture as a peer instructor. Because of the exploratory nature of the study, action research with an interpretive-descriptive qualitative design was used to systematically explore and analyze a phenomenon that allowed for recommendations for future action (Thorne, 2016). As described by Thorne (2016), interpretive-descriptive qualitative research was brought into existence through observation of the features and characteristics that make for valuable qualitative studies for real world application. Through classroom observations, one-on-one interviews, a focus group interview, and a researcher journal, the participants in this study illustrated their experiences with technology in their teaching, as well as the barriers they face in using it more. In exploring the needs, technology integration practices, and attitudes toward technology of the ESOL instructors at PNWCC, ideas and recommendations for PD regarding how to aid instructors in increasing their technology integration practices emerged; therefore, this study acted as a needs analysis for a type of instruction.

### **Setting and Participants**

The setting for this study took place within the ESOL department at PNWCC, which comprised five faculty, serving approximately 125 students. Students in this program receive English language instruction in the four major language skill areas of reading, writing, speaking, and listening. There is not an established curriculum in place for this program. There are, however, learning standards and benchmarks, all related to language skills needed in real life situations, which establish the normative standard within the local context. Instructors in the program are allowed to choose what standards and benchmarks they want to include in their courses. Benchmarks are the focus because they are intended to act as objectives, containing information about the instructional focus, and identifying skills students will need to practice (Oregon Office of Community College and Workforce Development, 2017). Embedded within a large portion of these benchmarks are expectations for students to utilize technology to support the development of their language and computer literacy skills.

Courses in the ESOL program at PNWCC are provided for students of four different proficiency levels: (A) Beginning Literacy/Low Beginning, (B) High Beginning, (C) Low Intermediate, (D) High Intermediate/Advanced. Each course meets twice a week for three hours, for a total of six instructional hours a week. The program consists of non-credit classes and students are able to stay in the program for as long as they like. Classes are taught in modern classrooms equipped with a podium that has a computer, internet access, sound system, projector, and document camera. Some classrooms have circular tables for students and some have longer tables, where students sit side by side. No classroom has individual desks. For one hour a week, each course is expected to meet in a computer lab on campus, where all students

have access to their own computers. Four PNWCC ESOL department instructors agreed to participate in this study. The participants range in age from 40-60, three have Masters degrees in TESOL and one instructor has a Master's in Education degree.

### **Data Collection**

Data was collected in the form of classroom observations using a modified version of the Looking for Technology Integration (LoFTI) instrument (William & Ida Friday Institute for Educational Innovation, 2010), one-on-one instructor interviews, a focus group interview, and a researcher journal. The purpose of the LOFTI instrument is to aid in the observation of technology integration into teaching and learning. The data gathered through the use of this instrument is helpful in planning and/or providing professional development in instructional technology (William & Ida Friday Institute for Educational Innovation, 2010). Classroom observations added to the conceptualization of the technology integration practices of the instructors. Each instructor, who participated in the study, was observed once for 45-50 minutes of a three-hour class. It was requested that the instructors use technology in some capacity during the portion of the lesson observed. As included in the LoFTI tool, PNWCC teacher activities with technology were observed, such as the use of technology to activate prior knowledge, differentiate instruction, lecture, and summarize. The use of technology for assessment was also observed.

One-on-one instructor interview questions offered an understanding of the participants' technology integration practices and attitudes toward technology, as well as their needs and the barriers they face. These interviews were face-to-face, semi-structured, and lasted approximately 20-30 minutes. Base questions for the interview were in place with follow-up questions asked as needed (Mertler, 2017). Gathering this information was important to determine how to design and implement an effective PD that may result in increased technology integration practices.

The focus group interview provided a more in-depth conception of the instructors' technology integration practices, but especially the barriers they face. The focus group interview also offered suggestions and ideas from the instructors about how to overcome these challenges and increase their technology integration practices. The focus group interview included open-ended interview questions and occurred after the classroom observations and instructor interviews were conducted.

A researcher journal was kept during the entire data collection process to document and recap interviews, email exchanges, and observations that took place at various other points during the data collection process. The lead researcher's reflective perspective offered in the journal provided a place to write about what happened immediately following the event, as opposed to relying on memory.

### **Data Analysis**

Acting as a needs analysis, these qualitative data sources were analyzed inductively in order to make recommendations, in collaboration with the ESOL faculty, regarding professional development in technology integration. The total number of digitized data sources uploaded to Delve software for coding was 13. From these 13 sources of data, 1,371 codes were applied. From these codes, Saldaña's (2016) first and second cycles of coding took place resulting in 10 final categories and three themes materialized. These three themes supported the assertion: Participants discern that the attributes of technology use outweigh student and instructor barriers for English language teaching and learning within this context (see Figure 1).

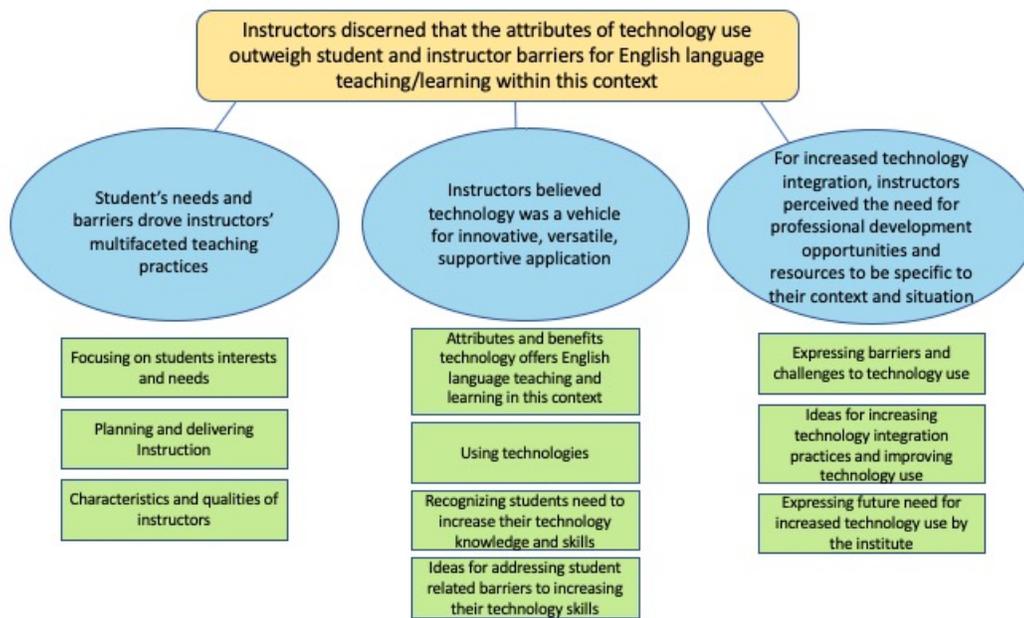


Figure 1 Assertion with supporting themes and categories.

In this study, the findings suggested that PD in technology integration within the community college ESOL be specific to the unique needs of the instructors. These findings were congruent with existing literature regarding PD in technology integration, PD in CALL, and PD within the ESOL community college context. Ottenbreit-Leftwich et al. (2010) and Kopcha (2012) both emphasize situating PD in technology integration to address the needs of the teachers that are specific to their environments. Kopcha (2012) suggests that situating professional development can aid in overcoming barriers such as vision and beliefs. The contextualized nature of CALL training is also emphasized throughout research, where it encourages that professional development focus on technologies that are applicable to the context of focus (Almuhammadi, 2017; DelliCarpini, 2012; El Shaban & Egbert, 2018). Situating and contextualizing PD based on the unique characteristics of the context is also recommended for PD for community college ESOL instructors (Rodriquez & McKay, 2010). Young and Petyon (2008) recognize the complexities of designing PD opportunities for educators working with adult ESOL learners in community colleges, and recommend using a data-driven, systematic process to determine the needs of these practitioners in order to plan for PD.

This study acted as a data-driven and systematic approach in determining the needs of the PNWCC participants. Without fully exploring their needs and coming to understand their barriers based on their experiences, it would not have been possible to recommend avenues of PD that met those needs. The input from the participants regarding their experiences and their ideas guided the recommendations, aligning with theories of adult learning (Chen, 2014), which encourage participants to be involved in decisions about PD. Trotter (2006) claims that teachers should be given freedom to develop PD opportunities based on their needs and personal interest. The recommendations made as a result of the findings of this study offered the participants the opportunity to determine the direction of the PD.

## **Recommendations for Professional Development in Technology Integration for ESOL Instructors**

It is hoped that the TESOL technology standards will motivate professional organizations, teacher education departments, and individual English language programs to evaluate and educate their teachers to meet targets articulated in the performance indicators of the technology standards (Healey et al., 2011). As has been established through the existing research and as evidenced in these findings, technology is a valuable tool for teaching and learning within this context. Participants recognized the benefits technology has for instructional purposes and utilized it frequently. Their uses of technology were largely driven by the needs and interests of their learners, as were the types of technological activities and resources used in their classes. These activities were centered on preparation for language use in the real world and were supported through the use of authentic materials, which were identified having been found through the internet. Participants realized that they could be using technology more, especially with their learners, and presented ideas for increasing practices in that regard. They had also identified PD opportunities specific to their needs within the situation of their context. The following PD for increased technology integration was identified:

1. A technology lead who:
  - a. Determines suitable websites for learners and creates a simple link or icon to these websites with an accompanying handout that lists these sites for learners to take home.
  - b. Creates and organizes an online space for instructors to share resources and experiences.
2. Collaboration in the online space, where resources, lesson plans, and experience are shared.
3. Collaborative meetings twice a year to share ideas and collectively share resources and organize the online space to ensure continuity in instruction and resources for students.

### **Technology Mentor/Coach**

Oliver and Townsend (2013) state that having a technology mentor or coach is a form of technology integration training, where those who are well-trained or experienced with technology support their less experienced colleagues. Peer coaching and mentoring provide collaboration and reflection, which are considered key components in effective PD (Spratt, 2019). They lead to positive outcomes regarding the increased use of technology integration in classroom practices (Charbonneau-Gowdy et al., 2016; Oliver & Townsend, 2013; Richter et al., 2011; Spratt, 2019). Mentoring or coaching provides an opportunity for expanding perspectives, analyzing preconceived notions, and sharing expertise to support adult development (Drago-Severson, 2008). The participants in this study identified the need for a technology lead from within the department who can vet suitable websites for learners, create and/or spearhead the creation of a simple URL or icon to these websites with an accompanying handout for students to take home, identify strategies for helping students increase their use of technology in the classroom, and develop and maintain an online repository for instructors to share resources and experiences, as well as facilitate collaborative meetings to further develop the online space. This technology lead could be considered a mentor or coach.

### **Professional Learning Community/Community of Practice**

Having a shared space could be considered a type of professional learning community (PLC) or community of practice (CoP), where there is a small group engaged in collaboration, discussions, the sharing of related resources, and a common practice (Jones et al., 2011). PLCs and CoPs are shown to increase technological knowledge and skills regarding technology in education (Cifuentes et al., 2011; Jones et al., 2011; Thoma et al., 2017). This can be attributed to the support, collaboration, and reflection offered through participating in a PLC or CoP. Research supports those opportunities for collaboration are among one of the characteristics that lead to successful PD (Bostancioglu, 2018; Sheffield et al., 2018; Spratt, 2019; Wennergren, 2015). PLCs and CoPs are forms of ongoing professional development that can better support educators than traditional forms of PD, such as one-shot workshops (Smaldino et al., 2012; Stewart, 2014; Thoma et al., 2017). Based on the idea generated by participants, a PLC/CoP is recommended for them. This would allow for continued communication via face-to-face meetings similar to how the focus group interview was structured. It was suggested that these collaboration meetings take place twice a year where sharing ideas, experiences, and resources could be a mechanism for overcoming challenges and increasing technology integration.

### **Action Research**

As established by Dawson (2012), action research is a powerful vehicle for professional development, particularly within the realm of technology integration, as it can offer teachers an intentional study of the ways that technology impacts student learning, as well as “a lens through which teachers may experience conceptual change regarding their beliefs about technology integration practices” (p. 117). Rodriguez and McKay (2010) suggest action research is a particularly effective option for practitioners working with adult English language learners within programs in the U.S. because of the unique needs of the experienced teachers within this context. They also indicate that mentoring/coaching and peer observations could provide the opportunity for teachers to step out of their normal teaching roles and develop new paradigms for their work (Rodriguez & McKay, 2010). Because of the ability action research has to positively impact a change in teaching practices (Avalos, 2011; Dawson, 2012; Manfra & Bullock, 2014), another cycle of action research is recommended for PNWCC as a form of professional development. In addition to identifying a technology mentor/coach, creating a collaborative online space, forming a PLC/CoP, and meeting biannually, the integration of peer observation into the next cycle of action research is recommended. Peer observation offers a form of active learning and can play a role in successful professional development (Avalos, 2011; Richter et al., 2011).

### **Implications on Future Research**

The three themes and one assertion from the interpretive-descriptive qualitative analysis of this study offer implications for future research regarding PD for technology integration within the community college ESOL context. The interpretive-descriptive qualitative study, acting as a needs assessment, sought to fully understand the resources, skills, and concepts that the instructors within the proposed context currently had. Through exploring their interests, needs, insights, and ideas, the lead researcher and fellow faculty collaborated to determine PD endeavors that could be developed to best support them in increasing technology integration in their courses. This study could provide other researchers with a model for designing and conducting a study that acts as a needs assessment regarding technology integration within this context, or potentially within other similar contexts. It should also be noted that this study offers

a recent contribution to the body of research regarding effective PD opportunities for instructors within community college ESOL programs, where there seems to be a paucity in research. This study shows promise for utilizing a needs-based approach to designing technology integration PD for practitioners of adult community college ESOL through the use of an interpretive-descriptive qualitative design within a cyclical action research study. These findings could inform and guide others in developing a needs assessment within a context of focus in order to determine directions for PD.

### **Limitations**

As is characteristic of qualitative research, limitations regarding the absence of quantitative data, ambiguities that inherently exist in human language, as well as the small population size need to be considered. Additionally, action research could be considered a limitation because it is focused solely on a problem identified within a specific context (Mertler, 2017), making it difficult to suggest the findings of this study as applicable to other contexts. A needs assessment conducted by an insider in collaboration with other insiders is a viable option to determining and creating PD opportunities. Further, the use of an interpretive-descriptive qualitative design within an AR model allowed for a thorough exploration of the participants' situations based on their experiences that led to solutions to problems unique to them. While these limitations should be considered, they should not prevent others from using this study to guide and inform their own practices.

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