Online Language Teacher Education:
A Review of the Literature

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Association for Quality Education and Training Online

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As English has increasingly been used as the global language for commerce, science, and technology, more people have been learning English, with an estimated 1.5 billion English language learners as of 2015 (Noack & Gamlo, 2015). This demand for English language education has led to a pressing need for a large number of qualified English language teachers who need access to high quality courses and programs to develop their knowledge base and their skills as teachers. Access to such courses and programs is of particular concern in developing parts of the world where the need for qualified English language teachers is the greatest, and qualified teachers are in short supply.

In parallel with the growth in English language use worldwide has been the development of new digital technology tools, especially the growth of second-generation tools referred to as Web 2.0 (the second stage of development of the World Wide Web), which can be characterized as moving from static to dynamic web pages and including not only user-generated content with a focus on ease of use by non-experts but also social media with a focus on interactivity and collaboration (Brown, 2010). Although distance learning (DL) has a long history dating from the early correspondence courses at the University of London in the 1840s, until recently, with the advent of digital technologies, the growth of DL has not been remarkable. Transnational education similarly has an extensive history with students from developing countries travelling to countries that offer the educational opportunities unavailable in their home countries. However, this type of education has been an expensive and dislocating proposition and so has often been restricted to a wealthy elite or those whom governments have been willing to fund. The Web has transformed transnational education to provide more equitable access to both educational opportunities and to English language through social media.

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In today's globalized world, which is connected through digital technology and a common language, DL has, therefore, grown exponentially. "[O]nline and distance education is very likely the fastest growing area of education in the world today, in both the developed and developing worlds" (Simpson, 2012, p. 1), so it is no surprise that the number of online language teacher education (OLTE) courses and programs have increased to meet the demand for qualified English teachers. It is also no surprise that along with the proliferation of OLTE programs has emerged the concern about quality, not only quality in terms of the content of the programs and courses themselves but also the effectiveness of the online delivery for promoting positive outcomes for teachers and, ultimately, their students. To determine the quality of content,

OLTE course and program designers are able to draw on several decades of research in second language teacher education (SLTE) (see Crandall & Christison, 2016 for a summary); however, research relative to the use of new technologies and the quality of online delivery in promoting teacher learning is still in its infancy stage (Shin & Kang, 2017).

Determining the effectiveness of new technologies for promoting learning is sometimes difficult because proponents of new technologies have often exaggerated their "fit for purpose" (Thornbury, 2016) or have sought to create a need for the technological innovation. On the other hand, the more cautious or skeptical individuals have created a fear of the new or, at best, proposed a thoughtful, deliberate, and staged development and study of the positive and negative impacts of new technologies. Historically technologies have been adopted, adapted, and transformed by cultural groups because they have met the current needs and aspirations of a group (see Murray, 2013a). In truth of point, the process of adoption, adaptation, and transformation has been more fitful than systematic and is often based more on trial and error than either the proponents or naysayers of new technologies have claimed.

The use of digital technology in SLTE has followed a similar jagged path. For example, in the 1990s Anaheim University began the first fully online MA TESOL program, which was developed by David Nunan. The classes used synchronous chat for tutorials, an asynchronous discussion forum, and selected readings. The nature of the synchronous technology at the time was not conducive to an in depth discussion of abstract concepts, but it did provide both the instructor and the students with human contact. The synchronous chat was primitive, and connections were via modems at very slow speeds. The limitations of technology resulted in the need for written protocols for managing student communication in the synchronous chat box, for example to indicate if they had a question (?), had more to say (…), or had finished their contribution (//). Time delays often meant the instructor did not know whether the student had nothing to say or the connection had dropped, which happened frequently, so these protocols were essential for promoting effective communication for both the students and the teacher. As it turned out, and much to the surprise of the instructor, the delays were eventually deemed pedagogically useful, as they gave students, who were quite often also non-native speakers of English, time to collect their thoughts (personal communication with David Nunan). Today, OLTE courses and programs have evolved to make use of advanced digital technologies, which include video conferencing, online supervised teaching practice, avatars, and multimedia.

Defining Online Language Teacher Education

Because both online learning and teacher education in general can be variously described, we begin this report by defining terms specific to online learning, teacher education, and OLTE.

What is Online Learning?

The term online is often used quite loosely among some researchers and practitioners, frequently referring to a course in which some instructional activities are conducted online; others confine its use to courses that are conducted totally online. The term has also been defined relative to the percentage of time that the students in the course spend online, compared with other activities (OECD, 2005; Bauer-Ramazani, 2006; Allen & Seaman, 2013). The most frequently used classification reported in Allen & Seaman was developed by the Sloan Consortium, which is now referred to as the Online Learning Consortium, whose focus is online education in U.S. higher education contexts. The percentage of time for what they deem necessary for an online course is 80%, which is meant to account for courses or programs that include some face-to-face (f2f) component, such as a residential in which learners meet f2f for a short, but intensive,

period of time. The four-part classification from the Online Learning Consortium is displayed in Table 1.

Table 1
Online Learning Consortium Course Classification

Proportion Online	Type of Course	Typical Description
0%	Traditional	A course in which no online technology is used and content is delivered in writing and orally.
1 to 29%	Web Facilitated	A course that uses web-based technology to enhance or facilitate what is essentially a face-to-face course. These courses may use a course management system (CMS), and learning management system (LMS), or web pages for posting the syllabus and assignments.
30 to 79%	Blended/hybrid	A course that blends online and face-to-face delivery. A substantial proportion of the content is delivered online. The course typically uses online discussions, and typically has a reduced number of face-to-face meetings.
80+%	Online	A course where most or all of the content is delivered online. Such courses typically have no regular face-to-face meetings but may have an intensive f2f residential requirement.

Adapted from and reprinted with permission. Murray and Christison (2017). Online language teacher education: Participants' perceptions and experiences (p. 16). Retrieved from https://www.tirfonline.org/wp-content/uploads/2017/03/TIRF_OLTE_2017_Report_Final.pdf

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Based on the obvious complexities involved in both the design and delivery of OLTE courses and programs, we find the system for categorizing OLTE courses and programs that considers only the percentage of time online to be rather simplistic because it fails to recognize the different configurations that are possible for content delivery and learning activities, such as MOOCs (i.e., massive open online courses) (Murray & Christison, 2017); flipped courses (courses that deliver core content online and reserve f2f time for enrichment and reinforcement activities, such as discussions and problem solving); and courses that include synchronous activities, such as videoconferencing. Consequently, in their 2017 study, Murray and Christison categorized courses and programs based on how online technologies were used in the delivery and design of instruction, rather than only by the percentage of time spent online. This categorization was essential to the design of the questionnaire they used in the study and was necessary in order to make instructional decisions salient (see Table 2). It is the course classification that will be used in the current report.

Table 2
Course Classification Used in the OLTE Questionnaire

Types of OLTE	Characteristics
Enhanced	F2f classes are supported by some course activity online.
Blended/hybrid	F2f and online activity are used with the number of f2f meeting times reduced.
Flipped	Key content is delivered online outside of f2f classroom; f2f time is devoted to interactive problem solving.
Totally online with a synchronous component	Students meet online at the same time.
Totally online with no synchronous component	Students do not meet online at the same time.

Adapted from and reprinted with permission from Murray and Christison (2017). Online language teacher education: Participants' perceptions and experiences (p. 17). Retrieved from https://www.tirfonline.org/wp-content/uploads/2017/03/TIRF_OLTE_2017_Report_Final.pdf

Language Teacher Education
Use of the term teacher education is most often restricted to describing pre-service programs, which are also sometimes referred to as preliminary certification or teacher preparation. It is generally assumed that teacher education takes place in tertiary (higher education) institutions at both undergraduate and postgraduate levels and is designed with a specific population of pre-service teachers in mind, for example K-12 public school teachers. It is important to recognize that practicing teachers also engage in further education, either to enhance their knowledge and skills or to learn new knowledge and skills for different contexts. Many teacher education programs for practicing teachers are designed for specific groups of teachers, for example, teachers in a private English language teaching school who may be involved in adding an online component to their courses. Such programs may be called in-service, professional development (PD), continuing professional development (CPD), continuing professional education (CPE) or programs for life-long learning. While OLTE programs may be designed to meet the needs of specific groups of learners, there are also growing numbers of tertiary institutions targeting teachers globally through open access courses such as MOOCs (Murray, 2013b). In this report we will use OLTE to include all of the types of courses and programs in which practicing and potential teachers of English (or other languages) learn the craft of teaching, unless we are referring to a specific study where a specific type of program is critical to understanding OLTE practices.

Courses and Programs
In this report, we use the term course to refer to a single class, which may be a standalone workshop or part of a larger program; program refers to a set of courses that form a curriculum leading to a degree or certificate. The term institution refers to the organization responsible for oversight of a program, which might be a department in a university or a company offering only OLTE programs of different lengths and with different content, such as from short 40-hour programs to 100-hour-programs. For participants in OLTE courses and programs who are already teaching or who are learning how to teach, we will use the term teacher learner (TL), reserving the term student for the individuals whom TLs teach. We use the term teacher educator for instructors of OLTE courses and teacher when referring to classroom, face-to-face (f2f) language teaching. When referring to general studies that are not specific to teacher education, the terms student and instructor will be used.

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Data on OLTE
As already mentioned, there is a dearth of research on OLTE. Much of the literature focuses on describing what individual teacher educators have done in their own instruction or on offering general comments about the issues around online learning (e.g., Smith 2014 on a K-12 in-service PD in the U.S.). There is also a general confusion in many studies where teaching TLs how to use technology in their brick-and-mortar classrooms is conflated with using OLTE. There is, in fact, a growing literature on the inclusion of instruction in CALL in teacher education programs (see, for example, Son & Windeatt, 2017). Moreover, many studies of OLTE have focused on one aspect of online learning, especially facilitating interaction and the use of discussion lists. Often these studies have not provided details on the configuration of the program or course being researched, even whether it is blended or online. This lack

of consistent reporting on programs and their components makes comparisons across studies impossible. It is possible that there are significant differences between the educational experiences of TLs in blended and online delivery. For example, in a blended program or course, which has both in class discussion or group work and an online discussion, it is likely that TLs social presence online will be affected by the social presence they have already established f2f. In contrast, TLs in totally online courses or programs will have to initiate sand establish social presence online. Knowing that there are difference across delivery options would likely influence studies on interaction and social presence. Similarly, there may be significant differences between OLTE courses and programs that include synchronous video, such as Skype and GoToMeeting software, in the design, and those that are entirely asynchronous. In addition, there are important differences among synchronous components. It is, therefore, vital for researchers to explicitly describe all aspects of an OLTE course or program configuration because all aspects of the configuration need to be considered when determining the quality of a program or course.

Purposes for Learning Online

The overall purpose of most SLTE programs in tertiary education is to provide candidate teachers with the foundational knowledge and skills for entry into the teaching profession. Foundational knowledge can be conceptualized in terms of professional standards, local teaching requirements, institutional course requirements, or program exit requirements, which are determined by individual SLTE programs in response to teachers' needs. SLTE is also a term that can be used to describe programs that offer courses for practicing teachers, such as CPD or CPE. The purpose of CPD or CPE is to bring about change in teacher practice; consequently, CPDs have a direct influence on the teachers they serve. The influence they exert can be characterized as bringing about change in the short term, such as making a decision to use a new teaching strategy, or in the long term, which can be characterized as influencing the type of teacher an individual will become.

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It should be possible for an SLTE program to achieve its purposes in both f2f and online formats. Nevertheless, making a decision to put an SLTE program online is a complex process, which involves many factors that can influence a program's purpose. For example, many TLs are socialized to believe that f2f interaction and direct involvement with their course instructors and other mentors are important components of teacher development (Wright, 2010). Moving an SLTE program online could change TLs' involvement and interaction with the teacher educators and other mentors and, ultimately, could change the very nature of an SLTE program and its purpose. There is a question as to whether an SLTE can maintain its purposes in an online format given the changes that occur in the process.

Diverse Student Population

As England (2012) and Murray (2013b) have noted, one obvious change that can result from moving an SLTE program to an online environment is that OLTE programs attract a more varied and diverse student population than f2f SLTE programs. Online education provides opportunities to learners who are unable to access brick-and-mortar classrooms, either because they live far from such institutions or because of family or work commitments (Murray, 2013b). Individual TLs are motivated to study in OLTE programs for a variety of reasons. These reasons may be personal, such as a desire to expand one's knowledge base and understanding of teaching or to learn about and use digital technologies, related to the nature of the technology being used or to the instructional approaches. They may also be related to motivations that are instrumentally based, such as satisfying the requirements for a degree or certification, upgrading teaching credentials, fulfilling the requirements for an employer, or even having no f2f option for a required course available.

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The fact that OLTE programs attract TLs who would be unable to attend f2f courses and programs and, therefore, are likely to have different goals and objectives for themselves as future teachers and have life experiences that are different from TLs in traditional f2f courses and programs, presents challenges for both OLTE administrators and teacher educators. Instructional goals and objectives must change to accommodate different types of TLs and how these instructional challenges are addressed can affect a program's purpose.

Attrition

Attrition is another factor that can influence a program's purpose. TLs persist or drop out of online programs for a variety of reasons, which may be personal or job-related and not necessarily linked to OLTE curricular issues. Simpson (2012) asserts that a "fundamental weakness" of distance education is the dropout rate (p. 6) as dropout rates for online courses in general are 10% to 20% higher than in traditional, f2f courses (Herbert, 2006). It is crucial for research on OLTE to determine why TLs terminate their participation in OLTE programs and to explore the underlying causes of attrition. It is also important to recognize that some factors related to attrition are not related to the quality of OLTE courses or programs. However, dropout rates and reasons for attrition are difficult to determine because few institutions are willing to provide these data and because acknowledging dropout rates when reporting enrollment figures may affect the reputation of the institution or program.

Banegas & Mansur Busleimán (2014) reported on a study of individuals in Patagonia, Argentina who participated in an online English Language Teaching (ELT) training course at the undergraduate level. The course was the only one of its type in the region and was intended for practicing teachers who had not yet earned their qualification to teach and needed a degree, as well as those who were interested in ELT but could not move to towns with brick-and-mortar institutions to take advantage of f2f teacher education courses and programs. In 2010, 77 TLs participated in the OLTE course. By 2013, 152 TLs were participating in the course; however, what is missing from these reported enrollment figures are data between 2010 and 2013. Data for this time period show that 144 TLs also dropped the course. Without access to dropout data and without understanding TLs' reasons for dropping the course, it is impossible to accurately determine attrition rates. Dropout rates could easily be the result of non-course or non-learning factors, such as the inability to pay course fees, get regular access to the Internet, or manage personal challenges, such as time constraints. Dropout rates could also be related to a number of factors related to the courses themselves, such as the design of courses, the inclusion of synchronous learning, or the content of learning modules.

Reasons for Choosing OLTE

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Flexibility

Even though there are various reasons for studying online, online education is primarily promoted because of the flexibility that it affords, in other words, its any time, any place characteristics. All of the programs investigated in Murray's 2013b study noted that their participants chose OLTE for its convenience or for the flexibility that it afforded. OLTE is especially well suited to practicing English language teachers because it is likely that they are unable to give up their jobs to study full-time on a campus (Copland & Garton, 2012; Hall & Knox, 2009). OLTE "encourages teachers to investigate new ideas and approaches as part of their course of study, in the context of a supportive online community and with a reliable link to an academic centre" (Copland & Garton, 2012, p. 66). Copeland and Garton also noted the benefits of cohorts of TLs who come from different educational and cultural contexts, providing a rich exchange of ideas and approaches to language teaching. Culturally diverse cohorts allow TLs to become familiar with contexts in which they might teach in the future.

In their recent study of TLs and teacher educators' perceptions of OLTE, Murray and Christison (2017) found that "flexibility" was the Number 1 reason given for participation by 309 TLs because they "placed a high priority on flexibility and the importance of flexibility in mediating the educational choices they were pursuing" (p. 84). Because TLs most often engage in OLTE for its flexibility, a global study of TLs in culturally diverse cohorts raises additional issues relative to flexibility. Synchronous interaction is either difficult or impossible for these TLs who must manage time zone differences to participate in synchronous online activities. It is important to remember that TLs have "chosen to study online because it fits conveniently into their busy lives (Shin & Bickel, 2012). To be required to be online at a particular time, in some ways defeats the advantages of any time, any place instruction" (Murray, 2013b, p. 37).

Participants in the 2017 Murray and Christison study also noted their objections to asynchronous design features of OLTE courses that they perceived as interfering with flexibility, such as teacher educators' decisions to unlock content modules at pre-determined times, thereby limiting TLs' opportunities for working ahead and managing their own time. At the same time, they also applauded features of synchronous course components that allowed for more flexibility, such as having open access to recordings of synchronous online classes, having no barriers to joining synchronous sessions, and allowing for access to synchronous activities from mobile devices. In addition, over half of the TLs indicated that they chose OLTE because they wanted flexibility in learning by studying at their own pace and in their own way, without the pressures inherent in f2f classrooms.

Other Motivational Factors

While there is a rich research base on language learning motivation (for example, see Dörnyei & Ushioda, 2011; Ushioda, 2011, 2013), research on the motivations of TLs in OLTE is scarce (Hiver, 2013; Kumaza, 2013); nevertheless, some key factors related to motivation are emerging.

Collaboration and interaction. In f2f and online teacher education contexts, collaboration and interaction are certainly motivating factors (Stockwell, 2013), and these same motivational factors are thought to be important in OLTE as well. Murray and Christison (2017) found that TLs and teacher educators have a preference for online activities that foster collaboration and interaction and that teacher educators "placed an importance on providing [TLs] with opportunities for interaction and on designing and delivering OLTE courses and programs with interactional components" (p. 84). This finding suggests that teacher educators and TLs find collaboration and interaction to be essential components in OLTE course design and would likely see the presence of these components in OLTE as important factors affecting TLs' decision-making processes, including whether to take an online course or whether to drop out.

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Qualities of teacher educators. Nunan (2012) notes that feedback and interaction from online instructors can be motivating in any form, whether it is related to course content or is of a personal nature. This observation is consistent with Wright (2010) who sees the teacher educator as a crucial factor affecting teacher learning in formal classroom contexts. Xiao's (2012) research found that participants in online courses see the personal characteristics of their instructors to be motivating, such as humility, approachability, and egalitarianism.

Online tools. The research by Anglada and Banegas (2012) found that online tools themselves could be motivating, for example, the use of social media, such as Facebook (Massi, Verdú, & Scillipoti, 2012). Gakonga (2012) points out that online tools that support asynchronous communication, such as asynchronous chats and discussions, can also be motivating for some TLs, particularly TLs who may lack high levels of confidence in their English abilities; asynchronous tools give participants time to prepare their answers before they have to deliver them.

Issues in OLTE

Kebritchi, Lipschuetz, and Santiague (2017) used Cooper's (1998) procedure to "synthesize and integrate empirical studies' results" and to "provide an integrative report on existing challenges in teaching online" (p. 5). Although their work focused on online courses in higher education, their findings are applicable to other contexts, such as OLTE. The issues they identified fell into three broad categories related to learners, teachers, and content, which teacher educators and course designers must address in any context. The issues identified for OLTE in the Murray and Christison (2017) study are similar to the ones identified by Kebritchi, et al (2017) in that they involve TLs and teacher educators, as well as the quality of the content of courses and programs. In this report, we have framed issues in OLTE in terms of TLs, the preparation of teacher educators, attitudes and perceptions of TLs and teacher educators in OLTE, as well as a variety of issues related to quality.

Readiness of Teacher Learners.

Charlier (2011) stated, "Online learning can be time-consuming as learners are faced with greater demands for self-organization" (p. 237). While it is true that TLs experience greater flexibility in OLTE courses and programs, it is also true that with the flexibility comes greater individual accountability for managing one's time in a way that results in optimal learning and interaction with the content, and that many TLs find this aspect of OLTE challenging (Luyt, 2013; Mayes, Luebeck, Yu Hu, Askarasriworn, & Korkmaz, 2011). Murray and Christison (2017) identified TLs' readiness for online learning in terms of their abilities to manage time and their own learning as issues in OLTE.

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Preparing Teacher Educators

As already mentioned above, teacher educators are a pivotal factor in the quality of OLTE (Wright, 2010; Nunan, 2012; Xiao, 2012). There has been extensive discussion and some research on how to develop online technology competence in language teachers and teacher candidates so that they

can use CALL effectively. Most recently, for example, has been the volume edited by Jeong-Bae Son and Scott Windeatt (2017), which covers many different contexts with details of courses and CPD that provide such instruction. The chapter authors and others (e.g., Compton, 2009; Ernest et al., 2013) have noted the increasing use of online activities in language education. While the programs described are not online as we have defined them, the authors raise the important issue for OLTE of the importance of modeling effective online instruction so that language teachers are "far more confident, skilled, and motivated to use computers with their own students" (Johnson, 2002, p. 74). In a study of PD for teachers in Iran, Ernest et al (2013) taught teachers how to use technology in their language classrooms by using it to deliver the PD. However, as in OLTE, there is very little research on the transfer of CALL coursework into the classroom (Murray, 2017; Son, 2014). Both Murray and Son note that this is often because of a lack of institutional support (especially allocations of time to develop CALL tasks) and lack of ongoing professional development. Support from the institution is under-researched, even though it is a focus in many QA systems. One study that did examine support services was conducted by the University of Oregon for the U.S. Department of State to determine what support services were needed for online PD in low resourced countries (Opp-Beckman, 2012).

England and Hall (2012), Hall and Knox (2012), and Healey (2012) have all acknowledged that the online context requires a different skill set from instructors. Rudestand and Schoenholtz-Read (2010) emphasize that replicating f2f instructional practices is not effective in an online environment. In summarizing the literature on the skills needed for an e-teacher, Murray (2013b) found general agreement that these skills include the following:

- mastery of the technology, including social software;
- developing new teacher roles;
- understanding distance learner needs, ability to foster online interaction among students, between teacher and students, and between students and course content;
- understanding the legal and ethical issues around online education;
- ability to situate learning and create communities of practice (Lave & Wenger, 1991);
- ability to employ project-based learning;
- ability to develop and support autonomous learning among students; and
- using constructive, timely feedback (pp. 32-3).

While the list that Murray (2013) provides is an excellent guide for identifying the skills needed for teacher educators in OLTE, it is important to note that the recommendations are based largely on research in related areas, such as teacher education, communities of practice (CoP), CALL, and online learning in general because of the dearth of research in OLTE. However, one study in Mexico that investigated a Spanish course on testing and assessment found that tutors needed to focus on the language they used in feedback to prevent misunderstandings because of the written online environment (Contijoch-Escontria, Burns, & Candlin, 2012)

Quality Assurance

> "*There has been considerable concern about whether online learning delivers quality experiences for students, both in academic publications and in the general press.*"

Defining quality. There has been considerable concern about whether online learning delivers quality experiences for students, both in academic publications and in the general press. Quality and best practice are often used as unrelated concepts. However, over the past two decades, higher education has increasingly begun focusing on quality assurance (QA) as a result of pressure for greater accountability, reduced funding, increased competition, changes in accreditation systems, and growth and advances in information technology. But, what is quality? It seems that even if we cannot define it, we can recognize it when we see it (McNaught, 2009). "[W]hat constitutes quality is contested, with different OLTE providers privileging different aspects of quality" (Murray, 2013b, p. 14). The same process applies to notions of best practice. While language teacher education and language teaching both profess an objective of best practice, the term is used loosely and is often unrelated to actual student learning (i.e., outcomes).

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For us, quality assurance is a system that examines both inputs, that is, all aspects of the OLTE enterprise, as well as outcomes, that is, TL learning. Best practice refers to the behaviors across all aspects of the enterprise that result in TL learning. By all aspects of the enterprise we include the following:

- Procedures for managing enquiries & enrolments;
- Induction arrangements-students & staff;
- Guidance & counseling services;
- Management of staff performance;
- Extra-curricular programs;
- Admin such as record keeping;
- Marketing & publicity materials;
- Financial management; and
- EO [equal opportunity] & other policies' implementation & achievement (McNaught, 2009, p. 169).

So, we consider the term quality to encompass the use of the term best practice and will use the term quality throughout this review.

Measuring quality. A variety of different organizations around the world accredit or assert quality for OLTE programs. In large institutions such as universities, the accrediting agency for OLTE is usually the one used by the entire institution. There is a range of agencies that smaller institutions have chosen, often ones dedicated to DL, but not specializing in language teacher education. Others have grown up in response to the growth of OLTE, for example, The Online Learning Consortium (OLC) and more recently, Quality Matters (QM), and the Association for Quality Education and Training Online (AQUEDUTO). The emergence of organizations that focus specifically on quality in OLTE is an indicator of the proliferation of OLTE (see Murray, 2013a, for an extensive list of organizations focused on quality assurance in OLTE). The three programs that we review here are representative of the fact that the field is maturing and that practitioners and researchers are becoming more informed and sophisticated in their understanding of quality in OLTE.

OLC (www.olc.org) has studied online education in higher education in the U.S. for over a decade. They established a quality framework around their five pillars: learning effectiveness, cost effectiveness and institutional commitment, access, faculty satisfaction, and student satisfaction (Moore, 2005). They developed quality scorecards for both online and blended models to help institutions "determine strengths and weaknesses of their program, and initiate planning efforts towards areas of improvement" (OLC, n.d.). The scorecard for fully online covers institutional support, technology support, course development/

instructional design, course structure, teaching and learning, social and student engagement, faculty support, student support, and evaluations and assessment. For blended learning social and student engagement is omitted, and we assume the omission is likely motivated by the fact that in fully online courses, engagement is difficult to achieve; whereas, in blended learning, one assumes the presence of engagement because of the f2f component. These elements include indicators of achievement. The elements that OLC considers to constitute quality are similar for other accrediting agencies. There are no measures of either student learning or of their future success as language teachers. Instead, the surrogate of student satisfaction and engagement is used. Many of the studies reported here, as well as others, use student satisfaction with their online courses as an indirect measure of quality.

QM (www.qualitymatters.org) offers various standards and rubrics for evaluating the design of online and blended courses for higher education, K-12, continuing and professional education (CPE), and publishers in higher education and K-12, as well as standards and rubrics for the development of online instructors' skills. "The rubrics are intended to guide users through the development, evaluation, and improvement of your online and blended courses." (QM, n.d.). QM reinforces two important measures of quality—the design of courses and the development of online instructors' skill sets.

AQUEDUTO (www.aqueduto.com) is a not-for-profit organization that is dedicated to three main activities: (1) evaluating blended and online courses against a quality assurance framework (i.e., accrediting courses and programs), (2) representing providers of courses, and (3) helping professionals identify courses and enroll in them with confidence. The Quality Assurance Framework looks at three domains of technology mediated training: institutional, technological, and pedagogical. Within each domain sub-domains and quality indicators have been identified (AQUEDUTO, n.d.).

Teacher Attitudes and Perception

"*Research studies that have examined attitudes towards online teacher education (although not for language teachers) as a measure of quality have shown mixed results*"

Research studies that have examined attitudes towards online teacher education (although not for language teachers) as a measure of quality have shown mixed results, with U.S. public school principals being apprehensive about the "teacher dispositions and the 'social' aspects of teaching that may be compromised in an online program" (Huss, 2007, n.p.). In contrast, a large-scale, multi-year study of online and on-campus graduates from K-8 teacher education programs in a large public education system (Chiero & Beare, 2010) found that employment supervisors considered online program completers to be well prepared or adequately prepared and that TLs considered themselves well prepared or adequately prepared relative to 12 measures of teaching. Additionally, supervising teachers found the TLs from online programs were better prepared than the on-campus TLs.

Discovering what TLs and teacher educators know, believe, and think about online learning is essential to the creation of effective OLTE courses and programs because TL satisfaction with OLTE courses and programs is one indirect measure of quality (Murray & Christison, 2017; Rodriquez, 2016). As Borg (2003) has pointed out, assumptions regarding the importance of teacher cognition (i.e., what teachers think and believe about teaching) are "now largely uncontested" in the literature. TLs are "active, thinking decision-makers" who draw on "complex, practically-oriented, personalized and context-sensitive networks of knowledge, thoughts, and beliefs," (p. 81). Research that investigates TL and teacher educator perceptions of OLTE helps us understand how they are affected by the online pedagogical practices that are available to them. "It is important to have a large number of teacher educator and TL voices to accumulate sufficient knowledge about OLTE from the practitioners' points of view" (Murray & Christison, 2017, p. 37).

Frameworks for Examining OLTE

If the goal of an OLTE program is for teacher graduates to be able to achieve positive outcomes, that is, to demonstrate effective TL learning, then research and SLTE need to focus on teacher work as the knowledge base for OLTE programs. OLTE sits within two strong traditions: distance education and language teacher education. Distance education has a long history, moving from paper-based to video-based and to online delivery such that most distance programs are now situated in online learning. Teacher education also has a long history of different implementations, and different frameworks have been developed to theorize the work of both traditions. Because there is a paucity of research directly related to OLTE, it is necessary to examine general principles that have been developed from studies of online higher education and language teacher education, as well as how those principles may have been applied to OLTE. Kebritchi, Lipschuetz, and Santiague (2017) provide an extensive review of the extant literature.

Frameworks for Online Education

One of the most commonly used frameworks in OLTE is that of community of inquiry (CoI). The core claim for the choice of CoI has been that "[i]n an environment that is supportive intellectually and socially, and with the guidance of a knowledgeable instructor, students will engage in meaningful discourse and develop personal and lasting understandings of course topics" (Rourke and Kanuka, 2009, p. 21). The three components of online CoI can be conceptualized as follows:

- Teaching presence. "the design, facilitation and direction of cognitive and social processes for the purpose of realising personally meaningful and educationally worthwhile outcome" (Anderson, Rourke, Garrison, & Archer 2001, p. 5).

- Cognitive presence. "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (Garrison, Anderson, & Archer 2001, p. 89). Cognitive presence has been identified as having four indicators: trigger, exploration, integration, and resolution, in ascending order of complexity (Garrison et al., 2001).

- Social presence. Social presence is defined as "the ability of participants in a community of inquiry to project themselves socially and emotionally, as 'real' people (i.e., their full personality), through the medium of communication being used" (Garrison et al., 2001, p. 94) and collaboration and interaction in OLTE are important components in actualizing social presence. Social presence has been identified as having three indicators: (1) emotional expression, (2) open communication, and (3) group cohesion (Garrison et al 2001).

More attention has been paid to social presence than to cognitive presence, probably because of warnings from early studies going back to the 1980s about the lack of visual or paralinguistic cues in computer mediated communication (e.g., Murray, 1988). In f2f communication, these cues carry affective meanings that facilitate community. However, today, both visual and paralinguistic cues are available through online tools such as video conferencing. Another impetus for this focus may be that educators are trying to replicate the f2f environment in an online one, instead of exploiting the specific affordances the technology offers. One study that focused on

higher order thinking in two discussion forums among TLs in the United Arab Emirates (McLaughlin & Mynard, 2009) found evidence for the cognitive presence categories of exploration and integration, but little resolution. They also found differences between the two forums, one of which was in a pedagogical grammar course, and the other in a Cognitive Academic Language Learning Approach (CALLA) course. The CALLA course postings exhibited more exploration postings, while the pedagogical grammar course had more integration postings. This finding seems to indicate that content can affect cognitive presence.

Edmett (2018) noted that discussions in online CoPs have the potential for bringing about a change in teachers' practices, but the discussions within the CoP need to advance cognitive presence and provide opportunities for deep critical thought. Edmett found that lower level discussions were dominant among CoP groups, with teachers retelling events rather than critically reflecting on them. He also noted that the examples of lower level discussions were not proportionate to the number of prompts. Changing the design of the CoP task impacted and shaped the substance of the discussion and, therefore, the nature of the reflection.

Since the early formulation by Garrison and his colleagues, a number of studies using the CoI framework (not on OLTE) have sought to refine and/or validate the framework, often by isolating one of the three components, but also by examining the intersection of all three. These re-workings have included a reconceptualization of the components, for example dividing social presence into two concepts: social presence that involves the degree of realness of the other person in the communication, and social space, that is, the salience of social interpersonal relationships (Kreijns, Van Acker, Vermeulen, & van Buuren, 2014). Yet, another study (Kim, 2011) found the social presence to include four constructs: "mutual attention and support, affective connectedness, sense of community, and open communication (p. 763)." In a multi-institutional study, Arbaugh et al. (2008) developed an instrument to operationalize the CoI framework. Their study supported the validity of the dimensions of social and cognitive presence. However, the analysis revealed that teaching presence as a construct consisted of two factors: course design, as well as organization and instructor behavior. Armellini and de Stefani (2016) in a study of online participant-tutor and peer exchanges in a blended CPD program in Uruguay found that teaching presence and cognitive presence had become social and, therefore, proposed the CoI framework should identify social presence as more dominant.

Social presence has been found to be an important contributor to student satisfaction (e.g., Richardson & Swan, 2003; Cobb, 2009). If satisfaction is an important aspect of quality, and it is facilitated by social presence, then we need to understand what contributes to social presence. Some studies indicate that video technologies improve interaction, especially students' perceptions of instructor presence, but have less impact on student social presence (Borup, West, & Graham, 2012). Studies have also shown that social presence is facilitated by collaborative learning (e.g., Richardson and Swan, 2003; Coleman Hampel, Hauck, & Stickler, 2012). However, the studies that have investigated online discussion as a tool for collaboration have not been consistent, with some finding that students collaborated interactively, while others found that students acted individually. In a study of the use of discussion boards by preservice language teachers, Arnold and Ducate (2006) found that their TLs were highly interactive and progressed in their understanding of pedagogy, while using social presence to facilitate their discussions on pedagogy. The results were unlike other studies of discussion boards that found TL participants were not very engaged interactively with their peers (e.g., Pawan, Paulus, Yalcin, & Chang, 2003).

Arnold and Ducate's (2006) TLs were actively engaged in dialoging with their peers. They attributed this difference to the fact that there was no teacher educator present on the discussion board, so TLs directed their attention to one another, rather than to writing monologues for the teacher educator. Furthermore, the instructors had also provided specific questions for students to respond to, as well as explicit grading criteria. Arnold and Ducate attributed the active engagement of TLs to both the absence of the teacher educator on the discussion board and the specificity of the pedagogical activity. These explanations reinforce other reports on interaction in OLTE (Murphy, 2004; Satar & Akcan, 2018; Coleman, et al., 2012).

Murphy found that TLs tend to engage in individual rather than group work, unless higher-level collaborative processes, such as developing shared goals or producing joint work, are explicitly promoted by the teacher educator (e.g., Murphy, 2004). Furthermore, online teacher educators need to "moderate activities, provide careful scaffolding of tasks, and give detailed instructions" (Coleman et al., 2012, p. 173) to promote interaction and collaboration.

The goal of Satar and Akcan's (2018) study was to train their pre-service TLs in how to facilitate online communities in their future teaching roles. This explicit instruction in tutoring skills and online social presence improved the TLs' own online participation and interactivity. In addition to using the CoI framework on social presence as an analytical tool, they also used Social Network Analysis (SNA) and found a relationship between the two frameworks. It would, therefore, seem that SNA might provide another useful analytical tool in future research.

In an effort to tease apart the role of teaching presence in the development of both cognitive and social presence online, Shin and Bickel (2012) report on multiple studies involving different teacher educators of and instructional approaches in a Teaching English to Young Learners (TEYL) CPD course. All teacher educators used discussion boards to facilitate a CoI, while using different approaches. In the first study the teacher educator provided the topic and conducted the discussion through questioning and problem posing. They found that, although TLs expressed satisfaction with the course and idea sharing, there was in fact no higher-level cognitive presence, findings similar to those discussed above. Subsequently, the program moved to participant-moderated discussions using a starter-wrapper approach (Hara, Bonk, & Angeli, 2000), in which assigned TLs moderated the discussion. These TLs initiated topics, asked questions, and summarized. Additionally, teacher educators restricted posts to 150-250 words, and modeled the process. Shin and Bickel (2018) report that the program found this technique facilitated social and cognitive presence through greater meaningful interaction. Over time, with more teacher educators using the approach, variations on teaching presence were observed as teacher educators grappled with how to model, as well as when and how to intervene. Earlier studies of online learning in general similarly found that instructional activities, including task type, influenced cognitive presence (e.g., Kanuka, Rourke, & Laflamme, 2007; McLaughlin & Mynard, 2009) and that without teacher presence, student discourse is diminished in quality, even though the discussions were student-centered (e.g., Meyer, 2003). No matter the approach, "participants value highly the opportunity to talk with and learn from their teaching colleagues who are working in diverse contexts around the world" (p. 118). However, Annand (2011), in a review of the literature (not in OLTE), found that "[r]elated research results indicate that social presence does not impact cognitive presence in a meaningful way" (n.p.). He suggests that cognitively oriented learning theories may lead to best practices.

While the CoI has been extensively used as a research tool, in a review of 252 studies, Rourke and Kanuka (2009) found that only five included measures of student learning. Studies seem to mistake student activity for student learning, as Mason warned back in

1992 (as quoted in Satar & Akcan, 2018). Our examination finds similar pattern of studies examining the indicators of CoI, but not necessarily studying the extent to which they contribute to student learning. Therefore, because we have taken the position that outcomes of instruction are a critical measure of the quality of instruction, further research needs to be conducted before CoI can be definitively determined to be a framework that defines effective online learning.

Frameworks for Language Teacher Education

Language teacher education over the past couple of decades has increasingly adopted an outcomes-based model, focusing on what teachers need to know and be able to do as a result of their education. Some of the impetus has been driven by accreditation systems, such as the Council for the Accreditation of Educator Preparation (CAEP) in the United States, which accredits Colleges of Education, as well as the focus on quality assurance as discussed above. If we are to adopt this approach to quality, then language teacher education must confront the problems of integrating theory and practice. Such an integration has been considered problematic because, unlike other professional training, teacher candidates enter with intact belief systems about best practice, beliefs that are based on their own schooling experiences (e.g., Lortie, 1975). Therefore, an essential part of teacher education is acculturation into the CoP.

To that end, Freeman and Johnson (1998) proposed "an epistemological framework that focuses on the activity of teaching itself—who does it, where it is done, and how it is done" (p. 405). They argue that this focus needs to address the interconnectedness of "(a) the nature of the teacher-learner, (b) the nature of schools and schooling, and (c) the nature of language teaching" (p. 406). Therefore, any discussion about quality in language teacher education needs to examine these three domains. The CoI framework has been widely, and the Freeman and Johnson framework has been applied specifically to language teacher education and research. The Freeman and Johnson framework has been recently updated in a special issue of Language Teaching Research. This issue elucidates who is doing English language teaching, with whom, and to what end (Freeman, 2018).

The TL comes to a program with prior knowledge and beliefs about language teaching, knowledge and beliefs that evolve over time depending on context, and teacher education seeks to facilitate this growth. The context of teaching and learning is embodied in schools, that is, physical and sociocultural settings, and in schooling, the sociocultural process through which both teacher and learners learn to be teachers and learners and learn the values and expectations of the community. Often these values and expectations are contested in terms of access, power, and whose ways of knowing count. The nature of language teaching includes pedagogical thinking and activity, the subject matter and the content, and language learning. However, this content is not facts for teachers to absorb, but rather an orientation to their practice, an examining of actual teaching to understand why it is the way it is, not the way it "should" be.

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Within this framework, then, reside the notions of reflective practice, CPD, and CoP (Lave & Wenger, 1991). Farrell (2016) analyzed 116 research articles on language teaching that focused on reflective practice from 58 journals over a 5-year period and were categorized under the topics of philosophy, principles, theory, practice, and beyond practice. These topics align with Freeman and Jonson's framework. He found that teachers overwhelmingly found that reflection in these areas help them develop as practitioners. However, whether this reflection improved the quality of their teaching or led to improved outcomes for learners was not demonstrated in these studies. Effective professional development is coherent, ongoing, context driven, and collaborative (see Crandall & Christison, 2016). A recent study on CPD has focused on teacher learning, and how that learning leads to emergent knowledge, which, in turn, leads to a paradigm shift that changes practice (Avalos, 2011; Brooke, 2014).Therefore, we are left with something of a dilemma. Teachers perceive the value of both reflective practice and CPD; however, can we assert that to prepare TLs for their teaching lives, institutional best practice should teach for and model reflective practice and CPD within a variety of contexts in which TESOL practices take place?

Reflective practice is also considered critical for teacher educators. In a study on feedback, Contijoch-Escontria, Burns, and Candlin (2012) found that the tutors in an OLTE program in Mexico needed to "reflect critically on their methodological procedures and assessment practices within the online medium…to consider the way language is used in online feedback, precisely because of the medium" (p. 36).

"Language teacher education has progressively adopted a constructivist approach to learning. (....), developing a CoP (Lave & Wegner, 1999) has become a dominant goal in instructional practices in general and in online teacher learning in particular"

Language teacher education has progressively adopted a constructivist approach to learning. Consequently, developing a CoP (Lave & Wegner, 1999) has become a dominant goal in instructional practices in general and in online teacher learning in particular (Murray, 2013b). The 18 programs studied by Murray adopted a variety of different approaches, in addition to discussion boards, to facilitate professional learning communities: "collaborative projects, facilitated online; peer review of assignments or videos of teaching; local tutoring; field experiences; and student presentations" (p. 95). These online programs all considered sharing of ideas and contexts was critical for knowledge development for TLs who were in disparate educational settings. Other research or scholarly discussions on OLTE, have also found that CoPs can be supported by technology (see, for example, Khalsa, 2012). Khalsa identifies the conditions that need to be explored to ensure the development of CoPs that result in learning: shared identity, empowering human relationships, real people and real people needs, more student choices, trust in a virtual team setting, guidelines for a virtual team setting, and issues of power. Mann and Talandis (2012) compared two different technologies for facilitating CoPs, one a discussion list that was archived and the other a platform that allows groups to network. The archive was accessible to all so that it could be used by potential students, TLs, and program graduates. The other platform was available to both TLs and program graduates. They conclude that forming and supporting online CoPs is highly complex and needs to be carefully designed for sustainability. In particular, they recommend that "the cognitive and social needs of the community [need to be balanced] with the needs of individual members" (p. 134).

By expanding their CoP to program graduates, Mann and Talandis promoted a form of CPD through a CoP initiated during initial teacher education. Copland (2013) also noted the importance of having TLs interact with teachers who had graduated from the program.

The Teaching Practicum

If a TL's ability to be a teacher is the measure of a quality program, then teaching practice

provides one window into this ability. There has been a long tradition of the importance of supervised practice teaching in TESOL, from Richards and Crookes' 1988 seminal article through numerous publications over the next 40 years, to The CATESOL Journal's 2015 special section on the practicum (Santos, Olsher, & Abeywickrama, 2015). These studies have confirmed its importance and, yet, have demonstrated how it fails to live up to expectations (e.g., Eröz-Tuğa, 2013; Freeman & Johnson, 1998; Gebhard, 2009; Santos et al., 2015). Research has found that, when accompanied by systematic reflection, TLs become "creators of their pedagogical knowledge and theorizers of their classroom practice" (Yazan, 2015, p. 194). While some form of supervised teaching practice is an essential component in most language teacher education programs that lead to official certification to teach in state-funded schools, that is not the case in non-certification programs. Challenges include difficulty in finding willing sites, such that many programs use micro-teaching and observation only, while others admit only students who are already certified or experienced.

In OLTE programs, the problem is exacerbated by the challenges of distant supervision. Of the 18 programs reported by Murray (2013b) only 10 reported including some form of teaching practice. Four of the programs admitted only experienced teacher students, while three were short CPD programs, and one was a course for a trainer of trainers so that all enrolled students were experienced language teachers. Of the 10 programs that required some form of supervised teaching practice, one had an on-campus residential, while another had a teacher educator visit the teaching site because this was an in-country training for new recruits to a language institute that had two sites. The remaining eight programs used a variety of strategies to supervise teaching practice remote from the institution: students video-taping their teaching with self-, peer-, and teacher educator evaluations; remote sites and supervisors or mentor teachers chosen and facilitated by the institute or students; action research projects; and a reported field experience in each course of the program.

However, online activities, such as asynchronous collaborative forums have also been shown to facilitate deep reflection (Bonadeo, 2013; Brooke, 2014). In Argentina, Bonadeo (2013) and her colleagues use the Moodle platform to support the practicum. The platform included forums for students to exchange lesson plans, materials, and teaching ideas; wiki texts for students to record their practicum experiences, and a library of articles and websites. Students were able to access one another's work, respond to it, or borrow from it. She reports that students found the collaborative, reflective activities built a CoP for them such that many continued to participate after graduation. Brooke (2014) studied preservice ESOL TLs during the practicum, in which they used asynchronous e-journaling and collaborative discussion forums to engage in shared reflections on their experiences. Brooke found he needed to use intensive scaffolding to help the students engage in a cycle of reflection (experience, reflection, generalization, testing), which resulted in new understandings. To scaffold reflection, he used Daloglu's 2002 model in which students ask themselves: What did I already know but benefited from observing/teaching in school? What did I not know but learned from observing teaching in school? What would I like to implement in my own teaching? What are my comments on and reactions to the experiences that I have had? Similar to the studies mentioned above on social and cognitive presence, careful teacher presence was essential to effective reflection. However, like Farrell's 2017 review of the SLTE literature, he found that while the reflection was effective, that is students learned to be reflective practitioners, the transformation to emergent knowing and a paradigm shift, did not take place.

The necessary hardware and software have emerged in recent years to simplify the process of making video-recordings of classroom practice so that the process is manageable and efficient (Hockly, 2018). Seidel, Stürmer, Blomberg, Kobarg, and Schwindt (2011) found that viewing and analyzing videos of teaching were effective in promoting critical reflection for both inservice and preservice teachers. While research on the use of video recordings in English language teacher education has focused on their use in f2f classrooms, it is easy to see the potential for using video recordings for OLTE. IRIS Connect (https://www.irisconnect.com) and Video Enhanced Observation (VEO) (http://www.veo-group.com/) are two recent platforms that allow teachers to record, edit, insert appropriate tags, and comment on their own and their peer's videos of teaching. Davies, Perry, and Kirkman (2017) found the IRIS Connect platform to be useful in promoting positive changes in teachers' thinking. IRIS Connect was used to facilitate interventions in a number of research projects that were designed to promote and develop online CoPs.

The Education Endowment Foundation (EEF) (educationendowmentfoundation.org.uk) piloted a professional learning program to determine the impact of IRIS connect and found, "the overwhelming majority of teachers believed that the intervention was a good use of time and had improved their teaching. There was also strong evidence that the programme changed teachers' thinking and classroom practice" (para. 5, Key Conclusion 1). Professor Christina Preston from the University of Bedfordshire and the Miranda Net Fellowship (http://mirandanet.ac.uk) partnered to investigate the impact of using IRIS Connect for developing CoPs. Key findings from this study include the following:

- ninety-nine percent of teachers reported an increase in conversations between teachers about teaching in their school,
- ninety-six percent felt they were willing to take more risks,
- ninety-four percent said their teaching had improved,
- eighty-eight percent felt there had been a positive impact on collaboration, and
- eighty-eight percent said their confidence had risen.

Compton (2009) suggested a virtual field experience for OLTE, however, most language teachers taking OLTE programs/courses will teach in conventional classrooms, even if they include CALL. Therefore, field experiences or practicum should give prospective teachers experience in f2f contexts (Shin & Kang, 2014).

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Recommendations

Based on the fact that empirical research on OLTE is still in its infancy stage, the recommendations that we will make in this section, have necessarily drawn on the research in other related areas, such as CALL, LTE, CoPs, computer mediated communication (CMC), and computer-mediated technologies (CMT).

1. OLTE is a complex endeavor and needs to be researched and defined in the literature so that discussions reflect the ways in which courses are designed and delivered. Much of the discussion regarding online learning is based solely on the amount of time TLs spend online. This finding would suggest that OLTE needs experienced teacher educators who are also knowledgeable OLTE course designers to make the curricular, pedagogical, and technological decisions about OLTE.

2. Moving an SLTE program online is a complex process than can affect teacher education in a variety of ways, including the diversity of participants who enroll in the program, the goals and objectives of the program, and rate of attrition, and all of these factors may in turn affect the purpose of the program. SLTE programs that are considering moving either individual courses or an entire SLTE program online need to think carefully about how making such a decision will affect instructional and non-instructional factors, such as enrollments and availability of qualified teachers.

3. Research in OLTE and in online learning in general highlights the fact that flexibility is the most appealing factor contributing to the reason why most TLs choose online learning. Therefore, it seems that flexibility must be taken into account in all aspects of OLTE from designing courses and programs to accessing and managing all aspects of instruction and administration. Making a decision about OLTE that limits the amount of flexibility TLs will have must be carefully considered. For example, in the 2017 Murray and Christison study, TLs gave OLTE courses that included required synchronous learning component a lower rating because OLTE courses that include a required synchronous learning component are less flexible than an OLTE course that is asynchronous. TLs also stated that they did not like features of course design that interfered with flexibility, such as restricting accessibility, Further, because TLs may be unused to flexibility, they may need additional instruction in how to manage their time.

4. Learning experiences in OLTE are obtained in a virtual, rather than a f2f environment. Can TLs in OLTE courses and programs who hope to teach in f2f environments successfully transfer knowledge and skill sets? Can OLTE teachers and TLs who hope to teach in f2f environments transfer knowledge and skills from the online experience to the f2f context?

5. In addition, Wright (2010) sees the role of the teacher educator as a crucial factor in influencing the development of teacher candidates in f2f contexts. Can teacher candidates in OLTE programs develop skills as reflective practitioners without f2f access to teacher educators? Can online teacher educators effectively model appropriate f2f activities TLs will need to use in their brick-and-mortar classrooms? What additional skills set do teacher educators need in order to navigate such dilemmas?

6. Much of the literature on OLTE works from the assumption that developing a CoP in the online classroom is an important (if not the most important) component of ensuring quality instruction. Yet, research on the role of online CoPs is just beginning (see, for example, Edmett, 2018); more research needs to be conducted before we can understand this aspect of transferability.

Conclusion

"*The education of English language teachers in online contexts warrants consideration as an independent domain of research because educating teachers online is very different from educating teachers in f2f environments in a myriad of ways*"

Based on the research that we have reviewed, including analyses of other research summaries provided by other scholars (see, for example Shin & Kang, 2017), we have drawn a number of conclusions about OLTE and made several recommendations. The education of English language teachers in online contexts warrants consideration as an independent domain of research because educating teachers online is very different from educating teachers in f2f environments in a myriad of ways, such as in the roles that teachers assume, the design of learning materials, access to peers and instructors, and the virtual environment. Although the f2f and OLTE environments are different, research needs to consider the SLTE knowledge base framework that is the basis for OLTE (Freeman & Johnson, 1998; Freeman, 2018). Furthermore, it is also important to recognize that OLTE is not a generic context. Online contexts vary as much as f2f contexts do. As such, there can be no "one size fits all" approach to OLTE. For example, researchers must take great care in defining the characteristics of the online environment, to describe the options for the delivery of materials and possibilities for interaction among teacher learners. The process of teaching and learning online is necessarily and intricately tied to the types of tasks and activities that are available and selected for online learning, and researchers are particularly interested in the types of tasks that are useful in building and sustaining online CoPs. CoPs, in turn, support teachers in developing a reflective practice (Freeman & Johnson, 1988; Freeman, 2018; Smith 2014; Wright, 2010).

Gaudin and Chaliès (2015) have noted that viewing videos of teaching has become an important component in SLTE and PD. Developments in technology, such as compact digital cameras and mobile devices, have made it possible for teachers to record their own teaching and share these recorded examples of teaching online. OLTE presents a new set of possibilities and opportunities for teaching and learning English. Along with exciting new possibilities and opportunities come challenges for researchers, teacher learners, and teacher educators. Reviews, such as this one, provide an opportunity for ongoing reflection about the development of effective OLTE courses and programs.

References

Allen, I. E., & Seaman, J. (2013). Changing course: Ten years of tracking online education in the United States. Retrieved from http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. Journal of Asynchronous Learning Networks, 5(2). Retrieved from http://www.aln.org/pubications/jaln.v4n2/v5n2...anderson.asp

Anglada, L, & Banegas, D. L. (2012) (Eds.). Views on motivation and autonomy in ELT: Selected papers from the XXXVII FAAPI conference. San Martín de los Andes, Argentina: APIZALS.

The Association for Quality Education and Training Online (AQUEDUTO) (n.d). Quality Assurance Framework. Retrieved from http://aqueduto.com/wp-content/uploads/2017/01/Aqueduto-Quality-Assurance-Framework-Version-3.0-Approved.pdf

Annand, D. (2011). Social presence within the community of inquiry framework. The International Review of Research in Open and Distributed Learning, 12(5). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/924/1855

Arbaugh, J. B., Cleveland-Innes, M., Diaz, S. R., Garrison, D. R., Ice, P. Richardson, J. C., & Swan, K. P. (2008). Developing a community of inquiry instrument: Testing a measure of the community of inquiry framework using a multi-institutional sample. Internet and Higher Education, 11, 133-136.

Armellini , A. & de Stefani, M. (2016). Social presence in the 21st century: An adjustment to the community of inquiry framework. British Journal of Educational Technology, 47(6), 1202-1206. doi:10.1111/bjet.12302

Arnold, N., & Ducate, L. (2006).Future foreign language teachers' social and cognitive collaboration in an online environment. Language Learning & Technology, 10(1), 42–66.

Avalos, B. (2011). Teacher professional development in

Teaching and Teacher Education over ten years. Teaching and Teacher Education, 27, 10-20.

Banegas, D. L., & Manzur Busleimán, G. (2014). Motivating factors in online language teacher education in southern Argentina. Computers & Education, 76, 131–142.

Bauer-Ramazani, C. (2006). Training CALL teachers online. In P. Hubbard & M. Levy (Eds.), Teacher education in CALL (pp. 183-200). Amsterdam, NL: John Benjamins Publishing Company.

Bonadeo, F. S. (2013). Using a virtual classroom in the practicum: Innovations and enhanced practices. Argentinian Journal of Applied Linguistics, 1(2), 79-87.

Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. Language Teaching, 36(2), 81-109.

Borup, J., West, R. E., & Graham, C. R. (2012). Improving online social presence through asynchronous video. Internet and Higher Education, 15, 195-203. Retrieved from http://www.northeastern.edu/nuolirc/wp-content/uploads/2014/04/video-and-instuctor-presence-.pdf

Brooke, M. (2014). Developing the reflective practice capabilities of pre-service trainees through online means. 4th CELC Symposium Proceedings (pp. 50-60). Retrieved from http://www.nus.edu.sg/celc/research/books/4th%20Symposium%20proceedings/8).%20Mark%20Brooke%2017-10-2014.pdf

Brown, S. (2010). From VLEs to learning webs: The implications of Web 2.0 for learning and teaching. Interactive Learning Environments, 18(1), 1-10.

Charlier, B. (2011). Actors: From audience to provider. The American Journal of Distance Education, 25, 226–237.

Chiero, R., & Beare, P. (2010). An evaluation of online versus campus based teacher preparation Programs. MERLOT Journal of Online Learning and Teaching, 6(4). Retrieved from http://jolt.merlot.org/vol6no4/chiero_1210.pdf

Cobb, S. C. (2009). Social presence and online learning: A current view from a research perspective. Journal of Interactive Online Learning, 8(3), 241-254. Retrieved from http://www.ncolr.org/jiol/issues/pdf/8.3.4.pdf

Coleman, J. A., Hampel, R., Hauck, M., & Stickler, U. (2012). Collaboration and interaction: the keys to distance and computer-supported language learning. In G. S. Levine, A. Phipps, & C. Blythe (Eds.), Critical and intercultural theory and language pedagogy (pp. 161–180). Florence, KY: Cengage Learning.

Compton, L. K. L. (2009). Preparing language teachers to teach language online: A look at skills, roles, and responsibilities. Computer Assisted Language Learning, 22 (1), 73-91.

Contijoch-Escontria, M. C., Burns, A., & Candlin, C. N. (2012). Feedback in the mediation of learning in online language teacher education. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 22-77). New York, NY: Taylor & Francis.

Cooper, H. (1988). The structure of knowledge synthesis: A taxonomy of literature reviews. Knowledge in Society, 1, 104–126.

Contijoch-Escontria, m de C., Burns, A., and Candlin, C N. (2012). Feedback in mediation of learning in online language teacher education. In L. England (Ed.), Online language teacher education (pp. 22-38). New York, NY: Routledge,

Copland, F., & Garton, S. (2012). Life after online learning. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 64-77). New York, NY: Taylor & Francis.

Copland, F. (2013). Distance learning at Aston University. Retrieved from http://www.tirfonline.org/wp-content/uploads/2013/02/TIRF_OLTE_CaseReport2_Copland.pdf

Crandall, J., & Christison, M. A. (2016). An overview of research in English language teacher education and professional development. In J. Crandall & M. A. Christison (Eds.), Global research on teacher education and professional development in TESOL (pp. 3 – 34). New York, NY: Routledge/Taylor & Francis.

Daloglu, A. (2002). Fostering reflective teaching from the start: journal keeping in pre-service teacher education. In J. Burton & M. Carroll (Eds.), Journal writing: Case studies in TESOL practice series (pp. 87-101) Alexandria, VA: Teachers of English to Speakers of Other Languages.

Davies, P., Perry, T., & Kirkman, J. 2017. IRIS Connect: Developing classroom dialogue and formative feedback through collective video reflection. Education Endowment Foundation. Retrieved from https://educationendowmentfoundation.org.uk/public/files/Projects/Evaluation_Reports/EEF_Project_Report_IRIS.pdf.

Dörnyei, A., & Ushioda, E. (2011). Teaching and researching motivation (2nd edition). Harlow, England: Longman

Education Endowment Foundation (EEF) (n.d.). IRIS Connect: Developing classroom dialogue and feedback through collective video reflection. Retrieved from https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/iris-connect.

Edmett, A.W. (2018). Online professional development of English teachers: An analysis of cognitive presence via the community of inquiry framework (Doctoral dissertation), University of Bath, Bath, England.

England, L. & Hall, D. (2012). The future of Online TESOL. In L. England (Ed,), Online language teacher education: TESOL Perspectives (pp.187-199). New York, NY: Routledge.

Ernest, P., Catasús, M. G., Hampel. R., Heiser. S., Hopkins. J., Murphy. L., & Sticker, U. (2013). Online teacher development: collaborating in a virtual learning environment. Computer Assisted Language Learning, 26(4), 311-333.

Eröz-Tuğa, B. (2013). Reflective feedback sessions using video recordings. ELT Journal, 67, 175–183.

Farrell, T. S. C. (2016). Anniversary article: The practices of encouraging TESOL teachers to engage in reflective practice: An appraisal of recent research contributions. Language Teacher Research, 20(2), 223-247.

Freeman, D. (2018). Arguing for a knowledge-base in language teacher education, then (1998) and now (2018). Language Teaching Research. doi.org/10.1177/1362168818777534

Freeman, D. and Johnson, K. E. (1998). Reconceptualizing the knowledge –base of language teacher education. TESOL Quarterly, 32(3), 397-417.

Gakonga, J. (2012). Collaboration or bust? An inquiry into the use of differing on-line models of delivery for a pre-service grammar course for English teachers (Masters dissertation). University of Warwick. Retrieved from http://englishagenda.britishcouncil.org/sites/ec/files/Jo%20Gakonga%20Impact%20statement%202012%20bEU.pdf.

Garrison, D. R., Anderson, T. & Archer, W. (2000). Critical inquiry in a text-based environment: computer conferencing in higher education. The Internet and Higher Education, 2, 87–105.

Garrison, D. R., Anderson, T. & Archer, W. (2001). Critical thinking and computer conferencing: A model and tool to access cognitive presence. American Journal of Distance Education, 15(1), 87-105.

Gaudin, C., & Chaliès, S. (2015). Video viewing in teacher education and professional development: A literature review. Educational Research Review 16, 41–67.

Gebhard, J. G. (2009). The practicum. In A. Burns & J. C. Richards (Eds.), The Cambridge guide to second language teacher education (pp. 250-258). New York, NY: Cambridge University Press.

Hara, N., Bonk, C. J., & Angeli, C. (2000). Content analysis of online discussion in an applied psychology course. Instructional Science, 28(2), 115-152.

Hall, D. R., & Knox, J. (2009). Issues in the education of TESOL teachers by distance education. Distance Education, 30(1), 63-85.

Hall, D. & Knox, J. (2012). Rewards and Challenges of Online Program Administration. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 137-153). New York, NY: Routledge.

Healey, D. (2012) Planning a Distance Education Course for Language Teachers: What Administrators Need to Consider. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 172-184). New York, NY: Routledge.

Herbert, M. (2006). Staying the course: A study in online student satisfaction and retention. Online Journal of Distance Learning Administration, 9(4). Retrieved from https://www.westga.edu/~distance/ojdla/winter94/herbert94.htm

Hiver, P. (2013). The interplay of possible language teacher selves in professional development choices. Language Teaching Research, 17(2), 210–227.

Hockly, N. (2018). Video-based observation in teacher education. ELT Journal, 72(3), 1-7. doi: 10.1093/elt/ccy022.

Huss, J. A. (2007). Administrator attitudes toward online teacher preparation programs: Are principals logging on—or logging off? Retrieved from http://files.eric.ed.gov/fulltext/EJ987301.pdf

Johnson, M. (2002). The role of computer-supported discussion for language teachers: What do the students say? CALICO Journal, 20, 1, 59-80.

Kanuka, H., Rourke, L., & Laflamme, E. (2007). The influence of instructional methods on the quality of online discussion. British Journal of Educational Technology, 38(2), 260–271. doi:10.1111/j.1467-8535.2006.00620.x

Kebritchi, M., Lipschuetz, A., & Santiague, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. Journal of Educational Technology Systems, 46(1), 4-29.

Khalsa, D. K. (2012). Creating communities of practice. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 81-92). New York: NY: Routledge,

Kim, J. J. (2011). Developing an instrument to measure social presence in distance higher education. British Journal of Educational Technology, 42, 763-777. doi: 10.1111/j.1467-8535.2010.01107.x

Kreijns, K., Van Acker, F., Vermeulen, M. & van Buuren, H. (2014). Community of Inquiry: social presence revisited. E-Learning and Digital Media, 11(1), 5–18.

Kumazawa, M. (2013). Gaps too large: four novice EFL teachers' self-concept and motivation. Teaching and Teacher Education, 33, 45–55.

Lave, J. & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge, UK: Cambridge University Press.

Lortie, D.C., 1975. Schoolteacher: A sociological study. Chicago, IL: University of Chicago Press.

Luyt, I. (2013). Bridging spaces: Cross cultural perspectives on promoting positive online learning experiences. Journal of Educational Technology Systems, 42, 3-20.

Mann, S. & Talandis, Jr, J. Developing communities of practice at a distance. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 122-136). New York, NY: Routledge.

Massi, M. P., Risso, Z., Verdú, M. A., & Scilipoti, P. (2012). Tagging Facebook in the ELT picture: Developing student motivation with social networks. In L. Anglada, & D. L. Banegas (Eds.), Views on motivation and autonomy in ELT: Selected papers from the XXXVII FAAPI conference (pp. 64–69). San Martín de los Andes: APIZALS.

Mayes, R., Luebeck, J., Yu Hu, H., Askarasriworn, C., & Korkmaz, O. (2011). Themes and strategies for transformative online instruction. The Quarterly Review of Distance Education, 12, 151-166.

McLoughlin, D. & Mynard, J. (2009). An analysis of higher order thinking in online discussions. Innovations in Education and Teaching International, 46(2), 147-160

McNaught, C. (2009). Ensuring quality programs. In M. A. Christison & D. E. Murray (Eds), Leadership in English language education: Theoretical foundations and practical skills for changing times (pp. 156-171). New York, NY: Routledge.

Meyer, K. A. (2003). Face-to-face versus threaded discussions: The role of time and higher-order thinking. Journal of Asynchronous Learning Networks, 7(3), 55-65. Retrieved from https://onlinelearningconsortium.org/jaln_article/face-to-face-versus-threaded-discussions-the-role-of-time-and-higher-order-thinking-2/

Miranda Net (n.d.) Innovation in teaching and learning. Phase one. Retrieved from https://www.irisconnect.com/us/wp-content/uploads/sites/3//2016/02/Innovation-in-teaching-and-learning-research-report.pdf

Moore, J. C. (2005). The Sloan Consortium quality framework and the five pillars. Retrieved from http://sloanconsortium.org/publications/books/qualityframework.pdf

Murphy, E, (2004). Recognising and promoting collaboration in an on line asynchronous discussion. British Journal of Educational Technology, 35(4), 421-431.

Murray, D. E. (2017). Should we offer a CALL course? In J-B. Son & S. Windeatt, (Eds.), Language teacher education and technology: Approaches and practices (pp. 169-183). London, England: Bloomsbury Academic.

Murray, D.E. (2013a). Technology for literacies. In C.A. Chappelle (Ed.). The Encyclopedia of Applied Linguistics (pp. 186-199). Oxford, England: Wiley-Blackwell.

Murray, D. E. (2013b). A case for online language teacher education. Retrieved from http://www.tirfonline.org/wp-content/uploads/2013/05/TIRF_OLTE_Two-PageSpread_May2013.pdf.

Murray, D. E. (1988). The context of oral and written language: A framework for mode and medium switching. Language in Society, 17(3), 351-373.

Murray, D. E., & Christison, M. A. (2017). Online language teacher education: Participants' perceptions and experiences. Retrieved from https://www.tirfonline.org/wp-content/uploads/2017/03/TIRF_OLTE_2017_Report_Final.pdf.

Noack, R. & Gamlo, L. (April 23, 2015). The world's languages in 7 maps and charts. Retrieved from https://www.washingtonpost.com/news/worldviews/wp/2015/04/23/the-worlds-languages-in-7-maps-and-charts/?utm_term=.a7909508448b

Nunan, D. (2012). Foreword. In L. England (Ed.), Online language teacher education: TESOL Perspectives (pp. vii-xv). New York, NY: Routledge.

OECD. (2005). E-learning in tertiary education: Where do we stand? Paris, France: OECD.

OLC. (n.d.). OLC quality scorecard: Criteria for excellence in the administraiton of online programs. Retrieved from http://onlinelearningconsortium.org/consult/quality-scorecard/

Opp-Beckman, L. (2012). Administration of online distance education academic services in support of ESOL e-learners. In L. England (Ed.), Online language teacher education: TESOL perspectives (pp. 157-165-77). New York, NY: Taylor & Francis.

Pawan, F., Paulus, T.M., Yalcin, S., & Chang, C. (2003). Online learning: Patterns of engagement and interaction among in-service teachers. Language Learning & Technology, 7(3), 119–140. Retrieved from http://llt.msu.edu/vol7num3/pawan/.

QM (n.d.). QM Rubrics and standards. Retrieved from https://www.qualitymatters.org/qa-resources/rubric-standards

Richards, J. C. & Crookes, G. (1988). The practicum in TESOL. TESOL Quarterly, 22(1), 9-27.

Richardson, J. & Swan, K. (2004). Examining social presence in online course in relation to students' perceived learning and satisfaction. Journal of Asynchronous Learning Networks, 7(1), 68-88. Retrieved from https://onlinelearningconsortium.org/sites/default/files/v7n1_richardson_1.pdf

Rodriquez, M. E. (2016). Effective pedagogical practice in online English language teacher education. Unpublished doctoral dissertation. University of Arizona. Retrieved from https://repository.arizona.edu/bitstream/handle/10150/613241/azu_etd_14601_sip1_m.pdf?sequence=1

Rourke, L. & Kauka, H. (2009). Learning in communities of inquiry: A review of the literature. Journal of Distance Education, 23(1), 19-48.

Rudestam, K.E. & Schoenholtz-Read, J. (2010). Handbook of online learning. Thousand Oaks, CA: SAGE Publications.

Santos, M. G., Olsher, D., & Abeywickrama, P. (2015). Charting our course: What the practicum still matters to us in TESOL. The CATESOL Journal, 27(2), 89-100.

Satar, H. M. & Akcan, S, (2018). Pre-service EFL teachers' online participation, interaction, and social presence. Language Learning & Technology, 22(1), 157-183. https://dx.doi.org/10125/44586

Seidel, T., Stürmer, K, Blomberg, G., Kobarg, M., & Schwindt K. (2011). Teacher learning from analysis of videotaped classroom situations: Does it make a difference whether teachers observe their own teaching or that of others? Teaching and Teacher Education 27(2), 259-67.

Shin, D., & Kang, H-S. (2017). Online language teacher education: Practices and possibilities. RELC Journal, 1-2. doi.org/10.1177/0033688217716535

Shin, J. K. & Bickel, B. (2012). Building an online community of inquiry with participant-moderated discussions. In L. England (Ed.). Online language teacher education (pp. 102-121). New York, NY: Routledge.

Simpson, O. (2012). Supporting students for success in online and distance education (3rd edition). New York/Abingdon, NY: Routledge.

Smith, S. U. (2014). Frameworks shaping and online professional development program for K-12 teachers of ELLs: Toward supporting and sharing of ideas for empowering classroom teachers online. TESOL Journal, 5(3), 444-464.

Son, J.-B. (2014). Moving beyond basics: From CALL coursework to classroom practice and professional development. In J.-B. Son (Ed.), Computer-assisted language earning: Learners, teachers and tools (pp. 122-149). Newcastle upon Tyne, England: Cambridge Scholars

Publishing.

Son, J.-B., & Windeatt, S. (Eds.) (2017). Language teacher education and technology: Approaches and practices. London, England: Bloomsbury Academic.

Stockwell, G. (2013). Technology and motivation in English language teaching and learning. In E. Ushioda (Ed.). International perspectives on motivation: Language learning and professional challenges (pp. 156-175). Basingstoke, England: Palgrave Macmillan.

Thornbury, S. (2016). Educational technology: Assessing its fitness for purpose. In M. McCarthy (Ed.). Cambridge guide to blended learning (pp. 25-35). Cambridge, England: Cambridge University Press.

Ushioda, E. (Ed.). (2013). International perspectives on motivation: Language learning and professional challenges. Basingstoke, England: Palgrave Macmillan.

Ushioda, E. (2011). Language learning and motivation, self and identity: Current theoretical perspectives. Computer Assisted Language Learning, 24(3), 199-210. Wright, T. (2010). Second language teacher education: A review of recent research on practice. Language Teaching, 43 (3), 259-96.

Yazan, B. (2015). "You learn best when you're in there": ESOL teacher learning in the Practicum. The CATESOL Journal, 22 (2), 171-199.

Xiao, J. (2012). Tutors' influence on distance language students' learning motivation: Voices from learners and tutors. Distance Education, 33(3), 365-380.

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