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A Developmental Framework for Online Language Teaching Skills

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Abstract

This article focuses on the need for teachers to develop online skills and describes how experiential, participant focused workshops can change the way in which language teachers can integrate technology into their teaching and help them to successfully implement these 21st century skills. It starts by briefly sketching the development of online language teaching in distance pedagogy and introducing the skills development for teachers and the necessity of online teaching skills before outlining previously developed frameworks in this area. The article then describes how—within a European context of increasing demands on language teachers' technological competence—a dynamic framework for experiential teacher training workshops was developed that is based on a pyramid of online teaching skills. Bringing together insights from research and more than a decade of experience in online teacher training, this article sets out this developmental framework and argues for the need of participant focused, flexible and dynamic training opportunities for language teachers.

Keywords: online teaching, teacher development, frameworks

Introduction

Today the question is not whether to use Information and Communication Technology (ICT) for language teaching but how best to integrate these new media. Many teachers are alienated by top-down (often governmental) requirements for the integration of new technologies into their teaching for which there is often insufficient training. This—combined with reliance on their already developed pedagogical expertise—may negatively influence their attitude towards technology integration. Thus, a recent OECD (Organisation for Economic Cooperation and Development) report found the following regarding the use of ICT in classrooms and schools:

Data Availability Statement: *All relevant data are within this paper.*

> *[T]here is limited preparation and support available for teachers that could enable them to implement innovative practices in their instruction. Only 56% of teachers across the OECD received training in the use of ICT for teaching as part of their formal education or training, and only 43% of teachers felt well or very well prepared for this element when they completed their initial education or training. Moreover, about 18% of teachers across the OECD still express a high need for professional development in ICT skills for teaching. Finally, with 25% of school leaders reporting a shortage and inadequacy of digital technology for instruction as a hindrance to providing quality instruction, TALIS data suggest that teachers may be limited in their use of ICT.* (OECD, 2018, p. 29)

The need for teachers to develop online skills is undeniable. Therefore, this article sets out how experiential, participant focused workshops can change the way in which language teachers integrate technology into their teaching and help them to successfully implement these 21st century skills. The workshop model we present here is a response to dealing with the issues outlined by the OECD as well as other institutions. It provides a context-sensitive, participant-focused method of enabling teachers to make the best use of ICT while respecting their pedagogic expertise and beliefs as well as taking account of their previous experiences with educational technology and building on this.

We will first present the background of how the need arose for us as distance teachers and educational researchers to develop such a model. We will then present other skills frameworks for the technology training of language teachers. Next, we will describe our workshop model in more detail and show how the model—based on our research—is being disseminated across Europe for language teacher training.

We will finish with a look into the future and discuss how continuing research is helping us to keep our approach up-to-date and suitable for teachers in different educational contexts. This includes a global survey of language teachers whose aim it is to find out what their needs are in terms of developing their ICT skills and integrating these into their teaching and whether these needs are being met.

Context

Pedagogy and technology in distance language education

With the communicative turn in the 1970s, interaction and communication became central to learning a language. At the same time, however, this focus on the development of interactive skills posed serious challenges for distance language education, which traditionally had used written correspondence courses to develop reading and writing skills—a format which is not conducive to fostering interactive and communicative skills. So, when in the mid-1990s new digital tools, such as email, were becoming more widely available, distance education institutions—including the Open University—were keen to make use of these technologies to support distance language students as well as develop new tools that enabled even greater facilitation of interaction and communication.

The Open University started this process by combining telephone tutorials with email in 1996; this was followed by online tutorials via VoxChat, an early synchronous Internet-based audioconferencing client with a text chat facility. VoxChat was further developed into Lyceum, also built in-house. Lyceum brought together audio, text chat, a whiteboard and a concept mapping tool, and after a trialling period the system was mainstreamed across all language courses in 2002. It has since been replaced by several generations of videoconferencing (for more information, see Hampel & de los Arcos, 2013). This move from old to new technologies has been replicated across language teaching

at higher education institutions more generally, albeit generally with some delay and with less focus on interactive tools, especially in the early days of computer-mediated communication when off-the-shelf systems for online spoken interaction were not yet available.

Skills for teaching online

The development and subsequent introduction of new digital tools at the Open University has been driven by research. This has shown that learning and teaching a language with the help of new technologies and increasingly online is substantively different from doing so face-to-face and has the potential to disrupt and transform more traditional approaches (Hampel, 2003, 2006, 2019; Heins, Duensing, Stickler, & Batstone, 2007)—even if many online learning environments today try to replicate various features of the face-to-face classroom. Thus, both learners and teachers at the Open University have had to develop new skills to ensure that they were using the environments to best effect.

The team involved in rolling out the first beginners language courses developed a special training programme for the new online tutors which was accompanied by an evaluation of the benefits of the programme through a brief questionnaire, tutorial observation and in-depth interviews with selected participants. The questionnaire was answered by 421 students (116 of whom only received online tuition) and 26 tutors (8 of whom taught only online, and two taught an online as well as a face-to-face course). Seven online tutorials were observed and compared to face-to-face teaching of the same language and level. The experience of teaching online was discussed with tutors during training sessions and following the classroom observations. In addition, a specific questionnaire about satisfaction with online tutorials was answered by 39 students on the German beginners' course. 80% of participants were very satisfied with the quality of tuition. Results of the comparative study were presented at conferences and published in peer-reviewed papers (e.g., Duensing, Stickler, Batstone, & Heins, 2006; Heins *et al*., 2007; Stickler, Batstone, Duensing, & Heins, 2007).

The outcomes of this study were two-fold: proof of the necessity of pedagogical training for tutors who work in a new and fast-moving field, and some recommendations for best practice in training tutors for online tuition (Stickler & Hampel, 2007). This also helped us to create a framework for tutor training which includes a pyramid of skills necessary for successful online teaching—from the more general skills of dealing with the technology and using its advantages, the social skills of community building, language teaching skills, to the skills to teach creatively and develop a personal teaching style in an online medium (Hampel & Stickler, 2005). Ten years later we would revisit the skills pyramid in the context of a book that focuses on the theory and practice of developing online language teaching in different settings and across different countries (Hampel & Stickler, 2015).

In 2008, a research collaboration between the Open University and the Universitat Oberta de Catalunya—the Open University of Catalonia—brought together experts in synchronous language teaching at a distance with experts in asynchronous language teaching at a distance. The idea was to develop a small-scale professional development programme which was piloted with tutors at both universities and to evaluate it. Participating teachers experienced online group work themselves and trialled a set of pilot activities which raised awareness of factors contributing to successful collaborative online activity. The project also helped to identify professional development needs in this area. An evaluation of the programme (Ernest, Catasus, Hampel, Heiser, Hopkins, Murphy, & Stickler, 2013) highlighted the importance of experiential learning where teachers are immersed in the technology and construct content and at the same time develop self-reflection skills, peer feedback, and support strategies (Hoven, 2007, p. 137).

Mainstreaming online teaching skills training

The collaboration between the two distance teaching institutions exemplified how theoretical research and practical teacher training can be mutually beneficial. However, research has shown that teachers are not engaging fully with research findings that might be relevant for their pedagogical practice (Borg, 2009). Therefore, the onus is on institutions and on teacher trainers to bring the two together. We thus decided to upscale our previous training efforts at the Open University and the Open University of Catalonia to a multi-national level, initiating a project entitled Developing Online Teaching Skills (DOTS). This project was funded from 2008 to 2011 by the European Centre of Modern Languages (ECML), an organisation under the auspices of the Council of Europe. The collaboration brought together colleagues from the Open University (UK), the Universitat Oberta de Catalunya (Spain), the University of Zagreb (Croatia), and the University of Ottawa (Canada), amongst others. DOTS and its follow-up projects will be explained in more detail in the section below entitled 'DOTS: Creating a developmental training framework for language teachers'

Literature review

The European Union recently developed a framework which endeavours to help educators assess and (further) develop their digital competences and to inform national, regional or local policies and professional development programmes (Redecker & Punie, 2017). The corresponding website (https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/european-framework-digital-competence-educators-digcompedu) states that "the ubiquity of digital devices and the duty to help students become digitally competent requires educators to develop their own digital competence." The DigCompEdu framework is designed to guide national and regional policy approaches and to feed directly into professional development tools or programmes. This reflects the increasing societal and professional expectations on teachers to add digital competence online teaching skills to their skills portfolio.

These societal expectations are accompanied by professional ICT standards and requirements. Professional bodies such as ACTFL (American Council on the Teaching of Foreign Languages) and the British Council have adopted teacher recommendations for an increased integration of technology in language teaching to enhance student learning (ACTFL, 2017; Kessler, 2018; Motteram, 2013). However, the successful integration of technology into language teaching can be daunting for many teachers.

A number of criteria need to be fulfilled if language learning is to take place with ICT, criteria which roughly can be categorized as technological and pedagogical. However, we need to emphasise that a strict division here is not useful; technological innovation without a sound pedagogical foundation is as unwelcome as a pedagogy stuck in 20th century ideas of technology use, where for example practices around technology use "are largely under the control of the instructor and are teacher-centered" (Galanek, Gierdowski & Brooks, 2018, p. 20), as found in a large study of undergraduate students and information technology, involving 130 US and international institutions and more than 64,000 students.

Student learning with ICT is more likely to be successful if language teachers develop the skills to successfully integrate digital tools into their classroom practice. In the literature a close connection can be found between professional development of teachers, effectivity and improved student learning, exemplified in the work done by Darling-Hammond and Mclaughlin (1995) and Borko (2004). Mann (2005) suggests that self-directed, bottom-up development is core to the development of language teachers, a view supported by Rutherford, who claims that effective professional development needs to be "[c]ollaborative and involving the sharing of knowledge, […] [p]articipant driven and

constructivist in nature" (Rutherford, 2010, p. 63). We will therefore devote the first two sections of this literature review to the specific skills that teachers need in terms of technology and pedagogy, then discuss frameworks that try to integrate skills and studies that deal with the development of skills.

Technological skills

There are different levels of technological skills which are necessary for effective integration of technology into teaching. Although technology changes quickly and so do the foci of research (Stickler & Shi, 2016) as well as the skills that are needed for using it in teaching, Kazemi and Narafshan (2014) and Hu and McGrath (2011) list some basic skills such as email, word processing, internet use, software installation and others. A 2015 ICT skills audit for returning teachers published by the National College for Teaching & Leadership in the UK also includes spreadsheets and databases, handling files, creating presentations, and working with mixed media such as an interactive whiteboard, a digital camera, audio recording devices (National College for Teaching & Leadership, 2015). Further skills at the basic level include the use of networked computers (Hampel & Stickler, 2005, p. 316). For the purpose of communicative, learner-centred language teaching, familiarity with interactive Web 2.0 technology including Twitter, Wiki, Facebook, blogs and forums is also considered an important skill today (Stickler & Shi, 2016; Beaven, Emke, Germain-Rutherford, Hampel, Hopkins, Stanojevic, & Stickler, 2010) together with security and maintenance skills (Peeraer & Van Petegem, 2011, p. 979).

In addition to the above-mentioned skills teachers also need to be able to act as a guide for students in terms of information access and to provide technical support (Yücel, 2011, p. 63). This requires a certain amount of confidence in terms of the use of technologies to enhance learning (Knezek & Christenden, 2016, p. 312; Kazemi & Nafshan, 2014). Confidence building is crucial for the integration of ICT into language teaching since "a lack of competence goes together with a lack of confidence" (Peeraer and Van Petegem, 2011, p. 980). Yet teacher training often does not help future or current teachers develop these skills.

Pedagogical skills

Fundamental to sound pedagogy for ICT integration is the teachers' ability to plan, foster and manage a collaborative and communicative learner-centred classroom where technology enhances language learning (Ernest *et al*., 2013; Stickler *et al*., 2010). Successful online tutors need to be able to create opportunities for interaction (Hauck & Stickler, 2006, p. 465), which is considered necessary in communicative language learning as shaped by theories of second language acquisition and sociocultural learning (Duensing *et al*., 2006, p. 36). Interaction helps students develop community building skills, which have also been shown to be important when integrating ICT into teaching practice (Compton, 2009; Hampel & Stickler, 2005) as they encourage socialisation, collaboration and active participation (Compton, 2009, p. 77).

Online teachers should also strive to promote learner autonomy (Ernest *et al*., 2013; Hu & McGrath, 2011; Levy, Wang & Chen, 2009; McAnear, 2009; Gray *et al*., 2007; Lund, 2006). Hu and McGrath (2011, p. 49) further highlight the need for teachers to consider every aspect of teaching a language with ICT carefully, including supervision, learning resources, learning strategies, feedback and collaborative learning. On the students' part, the process of autonomous learning involves selecting appropriate learning materials, self-learning, self-testing, self-evaluation as well as receiving feedback from tutors. In other words, teachers need to be prepared to engage in "pedagogy for autonomy" (Smith, 2003). This is also supported by Compton (2009, p. 77) who notes that teachers need the skill of identifying strategies and techniques that would not only facilitate online learning but would also assist learners in exploiting the advantages of both independent as well as collaborative learning.

Teachers also ought to consider individual student learning needs (McAnear, 2009, p. 5), and the importance of individualisation in online teaching is emphasised by Hu and McGrath (2011) and by Mullamaa (2010). In order to do so, language teachers need to, for example, have recourse to different styles of teaching such as cognitive or social (Hauck & Stickler, 2006, p. 465), which is crucial for quality classroom technology integration (Knezek & Christendsen, 2016, p. 313). Also, teachers need to be able to give clear instructions (Ernest *et al*., 2013) and subsequently check that these have been understood by learners (Levy *et al*., 2009, p. 32).

Among other skills necessary in ICT classrooms is the teachers' ability to correctly assess the level of ICT proficiency of their students as well as to allocate appropriate portions of time to the various stages of the lesson (Levy *et al*., 2009, p. 32). In addition, language teachers also need to be able to identify the similarities and differences between online and face-to-face teaching and learning contexts and select strategies and techniques accordingly so as to facilitate learning (Compton, 2009, p. 77; Bennett & Marsh, 2002).

Skills frameworks and the development of skills

Frameworks

The technological skills outlined above are insufficient if the teacher is not able to employ the appropriate pedagogical skills for effective integration of technologies into teaching practice (see below). Simply providing a tick list for the required skills is not sufficient; instead, technology and pedagogy in online teaching and learning environments intersect in complex ways. Owing to this complexity of skills required for online teaching, Hampel and Stickler (2005, p. 316) suggest that "online tuition skills for languages build on one another in a kind of pyramid, from the most general skills forming a fairly broad base to an apex of individual and personal styles." Figure 1 shows the updated skills pyramid (see Hampel & Stickler, 2015).

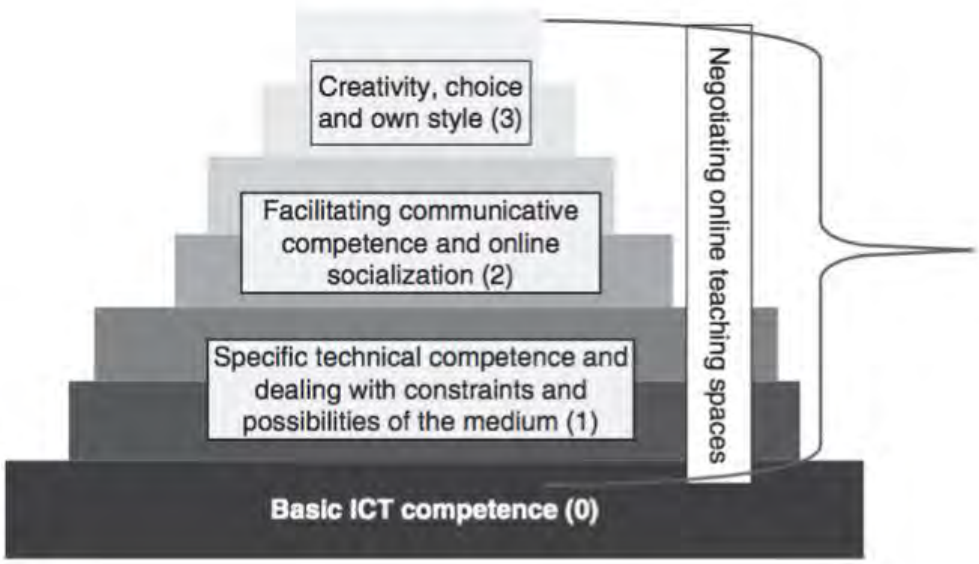

Figure 1 *Skills pyramid (2015) from Hampel & Stickler, (Eds.), Developing online language teaching: research-based pedagogies and reflective practices, 2015, Palgrave Macmillan, reproduced with permission of Palgrave Macmillan.*

According to this pyramid, online tutors need to possess some of the basic skills outlined above (level 0). The skills at level 1 incorporate the development of technical competences for the use of specific

software applications for language learning and teaching and enable tutors to address any constraints and affordances of the particular software being used. At the next level (level 2) language teachers need to be able to facilitate online socialization by creating a sense of community, which encourages students to engage in meaningful communicative interaction, thus fostering communicative competence. Level 3 of the skills pyramid encompasses creativity and choice, with language tutors being able to select, adapt and implement suitable tasks and activities. It also includes the teachers' development of their own personal teaching style, exploiting the media and materials to form rapport with their students and to facilitate active and communicative language learning (see Hampel & Stickler, 2005, pp. 316–319).

In contrast to the pyramid model, Compton (2009) proposes an alternative framework for teaching skills necessary in an online environment consisting of technological, pedagogical, and evaluation skills, which are further divided into three levels of expertise: novice, proficient and expert. She argues against a sequential development of skills and also focuses more on skills that help to facilitate L2 acquisition. More specifically, Compton (2009, p. 81) proposes that focus on the curriculum, tasks and the delivery method is more important than the creation of online community. In addition, Compton (2009, p. 81) highlights that with the exception of facilitating communicative competence all other skills in the pyramid appear to be applicable to any online teaching context, and other important skills such as the application of language learning theories are missing.

However, within the training framework a focus on the skills of promoting second language acquisition is less central as teachers will already have an understanding of this based on their language teacher training, an understanding that is adaptable to computer-mediated communication environments. The metaphor of the pyramid acknowledges that teachers are at different levels, and it helps them to gain confidence moving organically from one level to another but also between levels.

Also, if we take a sociocultural and ecological approach to language learning and teaching where interaction is central and learning is understood as being socially, culturally, institutionally, and historically situated (Vygotsky, 1978; Wertsch, 1991), then the tools used for communication and interaction are crucial and teachers need to ensure that they develop the skills for using the affordances of the online medium and facilitating online socialisation. Only then can they create a space where students can interact and collaborate in the second language.

Given the various skills that are necessary for effective language teaching in online contexts as well as their complexity, we will now examine how these skills can be developed.

Skills development

In the literature the theory-practice gap, that is, the relational difference between research-based theoretical knowledge and its impact on teachers' professional development, has been deplored (e.g., Johnson, 2016; Korthagen, 2016). The same is true for specific skills development in the area of language teachers' ICT skills. Notwithstanding a rather large body of literature addressing the general area of online teaching, there seem to be limited resources focusing specifically on the preparation of language teachers for teaching in an online environment (Compton, 2009, p. 76). However, a number of available publications highlight the need for both technical as well as pedagogical support in the form of developmental opportunities, ideally integrated with one another (Hu & McGrath, 2011; Beaven *et al*., 2010), with the focus on the numerous skills that language teachers need to develop so as to not only become more adept at integrating technology into their teaching practice but also to become more confident in doing so.

Collins and Liang (2013, p. 441), for instance, propose that online professional development ought to focus on the design of such web-based learning activities that would enable the educators to practise addressing some of the problems that they are likely to encounter in their schools and as such should integrate technology, pedagogy and content knowledge. However, they also point out that in the case of English language teachers, professional development is a particularly complex issue owing to the multi-dimensional skills relating to the teachers' preparedness for linguistic as well as cultural sensitivity together with their ability to reflect on and understand their own educational background, which often is very different from their learners' experience. In addition, the authors argue that online teacher development should offer flexible, accessible and efficient avenues to help close the gap between teacher preparedness and the learners' needs (Collins & Liang, 2013, p. 441).

Online teacher education classes are also discussed by Levy, Wang, and Chen (2009) who suggest a process of moving through online training modules followed by online teaching practice. This should lead to a gradual increase of confidence and familiarity in terms of the use of the tools available in the online learning contexts through a cyclic and iterative process of action and reflection whereby the trainees learn not only from their own experience but also from suggestions of others who work in the same online environment. In a follow-up article, Wang, Chen, and Levy (2010) extend this holistic teacher e-training model called Practice, Reflection and Collaboration (PRC) with the added element of collaboration. The updated model consists of a two-stage training process with platform training in the first stage followed by teaching practice. In this model the importance of constant reflection and collaboration among the trainees is emphasised in achieving the goal of personal as well as professional development. This is supported by Hu and McGrath (2011, p. 54) who also note that "stimulating teachers' reflection during their training process is another effective measure to improve the quality of training programmes."

Raising trainee teachers' awareness of the availability and use of digital tools through reflection is also noted by Røkenes and Krumsvik (2016, p. 12), who suggest that reflecting individually as well as with others is a powerful way of becoming familiar with issues surrounding ICT use, leading to the notion of "reflective practitioners," a concept created by Schön (1983). In addition, Ertmer and Ottenbreit-Leftwich (2010) point out that these reflections ought to focus on "how" and not just "what" technology is to be used. A number of specific types of reflective activities are proposed by Pawan (2003) and include discussion roles, longitudinal reflection papers, self-storying reflections, tapped-in reflections, tandem learning reflections and critical incident reflections. Guichon (2009) identifies three main competencies for synchronous language teachers—competency of socio-affective regulation, competency of pedagogical regulation and competency of multimedia regulation. These are particularly relevant for pre-service teachers. Similarly, Lund, Furger, Bakken, and Engelien (2014) emphasize the importance of professional digital competence in teacher education.

The importance and benefits of shared reflections and sharing experience with others, closely relating to collaboration, have also been emphasised by many others (e.g., Ernest *et al*., 2013; Hu & McGrath, 2011; Beaven *et al*., 2010; Hong 2010; Wang *et al*., 2010; Blake, 2009; Aydin, 2008; Gray *et al*., 2007; Stickler & Hampel, 2007; Hauck & Stickler, 2006; Hampel & Stickler, 2005; Franklin & Sessoms, 2005). Hauck and Stickler (2006, p. 469), for instance, point out the value of "community warmth," referring to regular opportunities for teachers to reflect on and share their experiences, suggestions and support. This highlights the importance of communication and exchange with other colleagues as a valuable aspect of an online training programme. Stickler and Hampel (2007, p. 83) also note that since becoming an online language tutor is an ongoing process, this peer support ought to be continuous.

Moreover, Hu and McGrath (2011, p. 50) suggest that the CPD opportunities should provide an

environment in which teachers could cooperate and collaborate not only with their colleagues but also with IT coordinators so as to be able to solve problems together. Another suggestion is made by Franklin and Sessoms (2005, p. 327), who propose a situated perspective on a collaborative model for the integration of technology into teaching which they believe could improve the odds that "collaborative professional development activities will actually lead to lasting relationships among participants." They also note that online teachers learn the necessary skills through authentic activities (Franklin & Sessoms, 2005, p. 322), that is, through experiential learning.

Professional development with a focus on hands-on activities is also given importance by many (e.g., Ernest *et al*., 2013; Beaven *et al*., 2010; Stickler & Hampel, 2007; Hauck & Stickler, 2006; Ramachandran, 2004). Stickler and Hampel (2007), for instance, specify that these hands-on activities ought to extend to material preparation, while Beaven *et al*. (2010, p. 16) point out that such activities should be aimed at various levels of expertise and combine technical training with pedagogical considerations relating to the implementation of technology within the classroom. The hands-on component of teachers' ongoing training in various literacy-based technologies is also highlighted by Ramachandran (2004, p. 87–88), who lists the following skills as a necessary component of teacher training: exposure to literacy software programs, multimedia composing, computer-assisted instructions, word processing, e-mail, electronic bulletin boards, and classroom conferencing. Ramachandran points out that "of the utmost importance is learning how to integrate these technologies effectively into literacy instruction." (2004, pp. 87–88).

Observations are a further aspect of teacher development in terms of ICT integration that should not be neglected. For this reason, Elmendorf and Song (2015) have developed a classroom observation model that simultaneously facilitates evaluating pedagogy and technology integration. They argue that "since pedagogy and technology integration are both critical in student learning, it is imperative that both be considered in creating a teacher observation tool" (Elmendorf & Song, 2015, p. 4). Observation is also an important component in Meskill and Sadykova's (2011) online professional development activity—the Moodle fishbowl—which is aimed at an understanding of the contextual affordances of effective teaching processes supported via observation and discussions of model teaching. They claim that this activity enabled the teaching staff to observe "online instructional conversation strategies in action, strategies used in response to the many teachable moments learner-centered online conversations can manifest" (Meskill & Sadykova, 2011, p. 213). Observations can also be used as part of self-directed professional development, where feedback is provided by a "critical friend" (Hauck & Stickler, 2006, p. 470).

In sum, it can be said that there are a number of aspects of teacher development which are seen to be crucial in ICT integration into a language classroom. These include systematic and ongoing teacher development opportunities focusing on developing both technological as well as pedagogical skills, which can be achieved through inclusion of relevant hands-on activities, reflection, collaboration, and observations.

However, for effective teacher training to take place, Gray *et al*. (2007, p. 412) suggest that a number of other conditions need to be met. These include the individual's perceived personal need to learn and to foresee a positive outcome. In addition, teachers need to be in an environment that is supportive for learning and have appropriate time and space to learn, as well as access to a variety of useful resources which would challenge their thinking. At the same time, they need to be "personally and professionally stable enough to tolerate ambiguity and uncertainty without undermining their feelings of self-efficacy" (Gray *et al*., 2007, p. 412). Moreover, the individual teacher needs to be able to determine for themselves the direction and pace of learning, and their individual priorities in terms of training ought to be respected (Gray *et al*., 2007, p. 424). This has also been noted by Hu and McGrath (2011, pp. 48-

49) who point out teachers' expectations of "needs-based training" with a flexible training structure reflecting each teacher's needs. Finally, it is also important that such training opportunities address teachers' fears relating to integrating technology in the classroom (Kazemi & Narafshan, 2014).

ICT training policies and practice

In the early days of ICT, training tended to be offered either face-to-face within institutions, using for example computer rooms for whole groups, or via training modules that teachers accessed individually. Jung's "categories for ICT in teacher training" (Jung, 2005, p. 95, adapted from Collis & Jung, 2003, p. 176) are useful for considering alternative forms that training can take. "Teachers can be trained to learn HOW to use ICT or teachers can be trained VIA ICT. ICT can be used as a core or a complementary means to the teacher training process (Collis & Jung, 2003)" (p. 95). Jung also points out that ICT can provide more flexible and effective ways for lifelong professional development, thus meeting the training challenges teachers face today. Long before the advent of TPACK and similar categorisations (see below), trailblazers in ICT often worked on their own to create training for early adopters.

Training websites and training curricula in the 1990s

One early set of training modules in the context of language learning and teaching where ICT is the main content focus is the *ICT4LT* website, a collection of training modules in Information and Communications Technology for Language Teachers. It was initiated with funding provided in 1999-2000 by the European Commission, was curated by the project leader and editor-in-chief, Graham Davies, and linked to EuroCALL, the European Association for Computer Assisted Language Learning.

The website targeted mainly language teachers already in service but was also useful for trainee teachers and for teachers following short intensive courses. It offers modules at three levels (see www.ict4lt.org/en/index.htm):

1. Basic level: this features introductions to new technologies and their contribution to language learning and teaching, to hardware and software, to Computer Assisted Language Learning (CALL) and to the internet as well as a section on the use of word-processing and presentation software
2. Intermediate level: this revolves around integrating ICT into language teaching, an introduction to multimedia CALL and an introduction to CALL authoring programmes, exploiting web resources on- and offline, and using concordance programmes
3. Advanced level: this focuses on managing a multimedia language centre, CALL software design and implementation, creating a website, corpus linguistics and human language technologies.

There is also an additional module on computer aided assessment and language learning. A large reference section, a glossary of ICT terms and guidelines on copyright complements the modules.

What is particularly interesting in the context of this article are the ICT "can do" lists and the questionnaire that the website provides—"two resources that are designed to help teachers assess the development of their own ICT skills, experience and understanding and to analyse their own situation and their ICT training needs" (Davies, 2012, n.p.). The "can do" lists are for trainers as well as teachers; however, they very much focus on using the functions and settings of software (from Windows to Virtual worlds) rather than how to use the tools for particular pedagogical purposes.

The ICT4LT website initiative coincided with a flurry of governments introducing ICT curricula into initial teacher training. Thus, trainee teachers in the UK had had to follow a compulsory ICT curriculum from September 1998 in order to reach qualified teacher status. Enochsson and Rizza (2009) carried out a review of articles presenting empirical research on how teacher-training institutions prepare future teachers for the integration of information and communication technologies (ICT) in their future classrooms. The review covered research published between 2002 and 2009, focusing on 11 OECD countries (mainly from the US, the UK and Canada but also from Australia, Belgium, Finland, the Netherlands, Norway, Portugal, Sweden and Switzerland). They found the following:

> *[R]esearch is unanimous, even if it is not comprehensive, and it shows that ICT is not used regularly or systematically in the countries reviewed. There are good examples, carried out by enthusiastic teacher trainers, but only a minority of the student teachers benefit from this. Very few articles report innovative use of recent technology. Most of the research reports on the use of computers and traditional computer software. Overall, student teachers do not integrate technology into their teaching.* (Enochsson & Rizza, 2009, p. 4)

This does not seem to have changed in recent years as the OECD study cited above confirms (OECD, 2018).

Technological Pedagogical Content Knowledge (TPACK)

In 2006, Punya Mishra and Matthew J. Koehler presented a framework for the professional development of teachers which focuses on technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK) (Mishra & Koehler, 2006). Trying to theoretically ground their work, they used the concept of "content knowledge" developed by Shulman (1986) and comprising "(a) subject matter content knowledge, (b) pedagogical content knowledge, and (c) curricular content knowledge" (Shulman, 1986, p. 9) and adapted it to the technological context. By calling the framework TPACK (Technological Pedagogical Content Knowledge) Mishra and Koehler highlight the interplay of the three elements that characterize learning environments today.

As Baran, Thompson and Chuan (2011, p. 370) point out, "TPACK explains that teachers are able to make sensible and creative choices in their use of technology in the classrooms." However, this does not happen automatically but teachers need to be given opportunity and space(s) where they can experiment how to best use a particular technological tool and a particular pedagogical approach to facilitate content, and also to receive feedback on this—for example within the safe environment of a workshop as will be detailed in the next section.

Experiential training for distance teachers

When the Open University introduced language courses for beginners in 2003, approximately 200 students signed up for the online only option necessitating additional training for 11 tutors. These tutors were trained in an experiential fashion, combining a face-to-face briefing session prior to course start with in-service training facilitated by experienced online teachers and course designers, and starting to teach as they were learning. Throughout the course, tutors were frequently asked if they needed additional support or training sessions, and ad-hoc questions were dealt with by the team of academic staff who had responsibility for the course.

As ICT was becoming increasingly important for teachers, not just at distance institutions but also more generally, researchers at the Open University, UK, and at the Universitat Oberta de Catalunya, Spain (including two of the authors of this article) set up an innovative training programme with 20 tutors in 2008 to respond to the urgent need for ICT training. The evaluation showed that the following

factors are crucial when designing training programmes:

- An experiential activity should be embedded in the programme.
- Activities need to be clearly structured, appropriate to the tool(s), and follow a clear sequence from the ice breaker to the final closure.
- Ground rules for participation and clear timings should be established.
- Moderating should be provided by trainers/teacher developers (in a team, where possible) and according to agreed principles.
- Training in unfamiliar tools prior to the start of any project is highly recommended.

(Ernest *et al*., 2013, pp. 18–19)

The training programme was delivered via ICT, with teachers working together in groups to plan online activities for students. While some groups did so very successfully, others found the task more difficult: "their efforts were hampered by a number of factors: multiple forum threads creating confusion; a disproportionate amount of time needed to organise synchronous meetings; decisions taken but not subsequently followed through; and misunderstandings, lack of sufficient consultation among members, and less group cohesion." (Ernest *et al*., 2013, p. 18). While the programme showed that experiential learning was important, it also highlighted that teachers needed support, either through "one or two "high-fliers" willing to move decisions forward that can be crucial to success" (p. 18) or through trainers who could counteract "possible negative attitudes of some learners towards collaborative work, low levels of engagement" (p. 18).

DOTS: Creating a developmental training framework for language teachers

The ECML-funded Developing Online Teaching Skills (DOTS) project provided an opportunity to upscale the work described in the previous sub-section to a multi-national level and to implement our research insights. The DOTS team of experts brought together teachers-cum-researchers from across Europe (UK, Germany, Spain, Croatia) and beyond (Canada). From its start, the DOTS project focused on a workshop concept where training was central and built on the skills pyramid (see Figure 1). This allowed us to include the various key elements that we had identified in the context of successful language teacher development, that is, hands-on activities, reflection, collaboration, and observations. Through a needs analysis, workshop participants positioned themselves in terms of their skills; this helped us to determine participants' position on the skills pyramid and to tailor the workshops. It also helped to advance the teachers' own reflection on ICT competence and confidence and supported them to develop an awareness that at all levels of the pyramid there is scope for further advancement and continued updating of skills.

The DOTS project started with analysing the needs of the 32 participants in our initial workshop in 2008, who were representative of language teachers, teacher trainers and policy makers in 27 European countries. The needs analysis, which was conducted via a questionnaire and short interviews during the workshop, concerned the integration of ICTs into classroom teaching. Most commonly requested tools were identified, and with the help of feedback from participants, self-training units for these tools were designed by the team leading the project. These bite-size training units form part of a Moodle-based workspace (http://moodle.dots.ecml.at/) and are—as Open Educational Resources (OERs)—freely accessible to all educators (Stanojevic, 2015). The final DOTS workshop, which took place in 2011, included 39 participants from 31 European countries and comprised again a mix of policy makers, teacher trainers, and teachers.

Both the needs analysis and the Moodle workspace continue to be important elements of the developmental framework for training online teaching skills, which has evolved during the follow-up projects MoreDOTS (2012-2013) and ICT-REV (since 2013). Although the workshops primarily target

language teachers and language teacher educators, the participants occasionally also include other groups, such as policy makers and language mediators involved in non-formal and informal language learning (MoreDOTS). MoreDOTS was designed specifically to adapt the training to non-specialist language mediators working in professions like social work or for charities, where communicating with non-native speakers and mediating L2 competence is an essential skill but not ordinarily included in professional development. Existing materials were modified, including adding basic tenets of language pedagogy and ideas to facilitate native speaker-non-native speaker (NS-NNS) communication. Workshop participants cascaded the developed skills in their professional environments.

The developmental framework (see Figure 2) consists of three phases, which are interrelated. Prior to the workshop, participants are invited to complete an online survey which highlights their training needs and their expectations for the workshop. Furthermore, participants are asked to take part in an online activity, which aims to raise awareness of the possibilities as well as challenges of integrating digital technology in language teaching. The results of the survey and the outcome of the online activity feed into the workshop agenda, which is jointly determined by the project team and a local co-ordinator. Although the workshops vary depending on participants' training needs and the priorities of the local co-ordinator, each workshop seeks to enable participants to identify pedagogical principles for the integration of technology into language teaching, which are later applied to design learning activities that the participants can use in their teaching immediately after the workshop. To this end, participants are given time to explore the ECML's openly accessible and searchable Inventory of ICT tools and open educational resources, which contains tools that have been evaluated by the ICT-REV team according to specific criteria (i.e., added value, usability, interactivity, technical requirements). Language educators and workshop participants can suggest new tools to be included in the inventory, provide feedback on outdated tools or examples of their own teaching, which ensures that the list of tools continues to grow and also reflects the changing practice of language educators. Through a mix of reflective and practical activities and through sharing their professional ICT and teaching practice in a supportive atmosphere among peers, workshop participants are encouraged to establish or reinforce synergies to foster future collaboration and help build communities of practice. All materials created and used for the workshops, as well as materials designed in previous projects, such as the Creative Commons licensed self-training materials (DOTS), are made available to participants online, so that they and others can use them in their teaching or share them with colleagues.

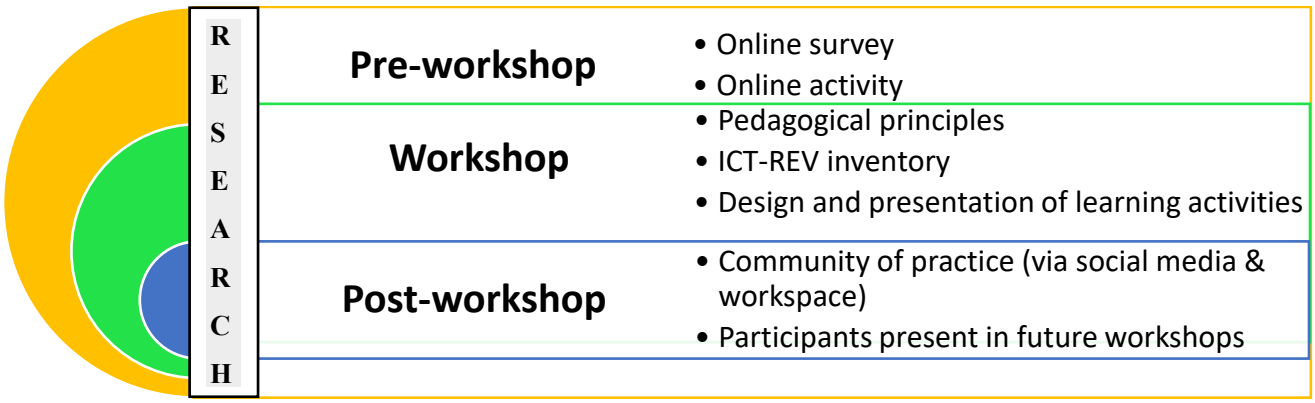

Figure 2 *Developmental framework for workshops*

Since 2008, the teams leading the DOTS, MoreDOTS and ICT-REV projects have facilitated over 60 workshops in more than 29 European countries, reaching over 1000 language educators. Individual team members have also facilitated workshops in other parts of the world, such as Jamaica and China, thereby increasing the reach of the developmental training framework and the number of participants

to a total of around 1,200 (January 2020). The Inventory of ICT tools and open educational resources (https://www.ecml.at/ECML-Programme/Programme2012-2015/ICT-REVandmoreDOTS/ICT/tabid/1906/language/en-GB/Default.aspx) was accessed over 150,000 times between beginning of January 2019 and beginning of February 2020, showing language educators' continuing demand for assistance with technology integration in language teaching. Ongoing research with workshop participants has deepened the understanding of teachers' needs and their self-evaluation of ICT skills and added a series of vignettes describing typical attitudes of language teachers towards ICT use (Stickler & Emke, 2015).

Figure 3 *Workshop adaptation and customization*

The developmental framework for training online language teaching skills that has been presented here is unique in two ways: firstly, the workshops are based on research that involves experienced language teachers and former participants, and have thus been developing continually; and secondly, every workshop is tailored and adapted to the context of the workshop location and the circumstances of the participants (see Figure 3). The team builds on a core of activities and tools providing an initial outline before then customizing the workshops in collaboration with a local organiser who is aware of the needs of the country where the workshop takes place. In a second phase of customization, the participants themselves influence the workshop agenda through a survey that elicits their strengths, needs and expectations. During the two- or three-day workshop, the format is further adjusted according to the skills and needs of participants, and—often—on their request, thus meeting the current, explicit and developing needs of teachers who have chosen to take part.

Conclusions and future developments

This article has brought together insights from existing research in the field and more than a decade of the authors' experience in online teacher training (which in turn has sparked further research) to set out a developmental framework for developing online language teachings skills. It proposes the use of research-based workshops that are customized to take account of the participants' context in terms of local and national circumstances as well as individual needs. These dynamic and adjustable workshops are never the same and not replicable. In turn, they meet the needs of participating teachers.

In our training workshops we have often encountered requests for providing information and/or activities on action research; many teachers have a keen interest in evaluating and continually improving their own practice. This seeming contradiction to some research evidencing that many teachers are not engaged in reading research papers (Borg, 2009) has led us to look closer into how teachers participating in training workshops can use our experiential model to become more engaged and take ownership of their own continuing professional development.

Following interest from fellow researchers as well as practitioners in our work, we also decided to extend the reach of our research and founded the Research Network *Trajectories and Perspectives of Language Teachers in the 21st Century*, supported by AILA (Association Internationale de Linguistique Appliquée). This network brings together 35 experienced researchers from 15 countries. As a next step in our on-going research, we have surveyed teachers across the world to find out their needs in terms of continuing professional development using ICT for language teaching as well as the training that they are currently being offered. 285 teachers from 30 countries responded, indicating overall satisfaction regarding training received but wanting post-training follow-up to help them develop skills around learning task design using course management platforms such as Moodle (see Karamifar *et al*., 2019).

In the context of the Research Network we are also focusing on how teaching professionals see the "ideal teacher." The questionnaire results have shown that most participants do not link their definition of the "ideal" language teacher to the use of technology—even though they do link technology with excellence in language teaching. More work is thus needed to allow us to get a deeper insight into whether ICT plays a role in the ideal image of a language teacher and if so, how these ideals align with requirements around ICT and national training schemes for language teachers. We are thus also conducting interviews with teachers about the ideals that drive their teaching; 31 teachers in eight countries have been interviewed so far.

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