16 Technology for Task-based Language Teaching

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Introduction

The interest in technologies and innovations for language learning is certainly not an isolated phenomenon in today's education arena. Students in affluent parts of the world have grown up surrounded by computers and laptops and by an array of increasingly sophisticated communication devices that support personal, portable, wirelessly networked communication. Many students now consider tablets, e-books, and smartphones essential to their daily existence. They are known as the Generation Z/iGeneration/Net Generation and were born in the early 2000s or later, not knowing anything other than life with the full extent of the Internet and the gadgets and technologies that support its use. This generation is what Prensky (2001) termed "digital natives." The multimodal and interconnected technological life shaped this generation's literacies, the ways of being in and with the world, and their cognitive and learning processes (Rosen 2010; Thorne 2013). The technologization of our society and youth requires teachers to integrate (more or less willingly) digital technologies into their expertise (Nussbaum-Beach and Hall, 2012). Administrators, in turn, are welcoming technology into their institutions to exhibit their up-to-date programs (Chapelle, 2014). Foreign language education is no exception to this trend (Grgurović, Chapelle, and Shelley 2013; Sauro 2011; Zhao 2003), and among current technologies, Web 2.0[1] technologies are gaining growing attention.

In contrast to earlier forms of innovation, Web 2.0 technologies (chats, blogs, wikis, gaming environments, synthetic immersive environments, virtual worlds, etc.) are interactive and dynamic in nature, allowing users not only to harvest information but to transform it, becoming part of a collective intelligence. The excitement and initial motivation to integrate new technologies in the classroom are not sufficient to make them effective tools for language learning, however. It is essential that they be guided by curricular principles based on research on education and language development in their design, use, and evaluation. Among all the existing methodologies for language teaching, I will argue here that the approach to curriculum design known as task-based language teaching (TBLT) is ideal for informing and fully realizing the potential of technological innovations for language learning. The chapter will first outline main principles of TBLT. It will then present the concept of technology-mediated tasks and propose Web 2.0 technologies as a natural match for TBLT. Three strands of previous research on technology and tasks will then be reviewed. The first one presents studies of the effect of computer-mediated communication technologies on L2 interaction through tasks; the second strand presents CMC studies that focused

on the effect of the tasks at producing interactions that were believed to promote language learning; and the third strand reviews studies that incorporate Web 2.0 technologies and tasks. To conclude, challenges for technology-mediated TBLT are discussed and new lines of future research proposed.

Task-based language teaching/learning (TBLT/TBLL)

Although differences exist in the conceptualization of tasks and TBLT among scholars in the field, most agree on a set of essential characteristics for what constitutes a task. First, tasks are meaning-oriented, communicative in nature, and focus on the content of the message and not on the language (although pre-tasks and post-tasks or pedagogic tasks, depending on the model of TBLT, can focus on language per se). Tasks are goal-oriented and should be as authentic as possible, incorporating real contextualized language with application outside of the activity itself. Second, the learner is considered to have succeeded on a task if he or she succeeds in doing the task and achieving something with the language rather than by mastering a particular linguistic piece. This idea of doing something with the language, rather than simply knowing something about the language, is an essential principle of TBLT. Learning by doing or experiential learning (Dewey 1938/1997) is at the core of the TBLT methodology, which proposes that a language can be learned by engaging the learners in its use. Finally, in TBLT, language acquisition and not just communicative effectiveness is the main goal. Proponents of TBLT distinguish between learners' development of communicative skills in language use and their acquisition of the language. TBLT's main concern is how tasks, and more comprehensively a task-based syllabus, can promote language acquisition. The goal of TBLT is to promote language acquisition along the three dimensions of fluency, accuracy, and complexity. These three dimensions serve as targets for evaluating success with respect to language acquisition, which would extend beyond success on any single task.

Technology-mediated tasks

Building on the basic principles of TBLT, technology-mediated tasks are meaning and goal-oriented, communicative, authentic, and oriented to learning by doing. The first technology-mediated tasks that appeared in SLA and computer-assisted language learning (CALL) research were understood more as generic types of tasks, closer to their definition in the weaker version of TBLT,[2] They were tasks such as jigsaw, dictogloss, information-gap activities, decision-making (close-ended) or discussion tasks (open-ended). These were borrowed from researchers investigating learning in face-to-face interaction who had proposed certain types of tasks as optimal activities for language learning (Doughty and Pica 1986; Pica, Kang, and Sauro 2006). However, as González-Lloret and Ortega (2014) suggest, for a full effective integration of technology and TBLT the first condition required is a clear definition of technology-mediated tasks to avoid mistaking the translation of exercises and activities from face-to-face contexts into a computer platform. In 2001, Carol Chapelle had laid out a task framework in which she proposed that tasks in CALL should be authentic, practical, focused on meaning, and appropriate to the students' level and learning goals. CALL tasks, according to Chapelle (2001), should provide opportunities for focus on form (an integral characteristic of TBLT instruction) and have added benefits beyond the learning of language (i.e., developing skills to use technology outside of class, increase their interest in the L2 culture, etc.).

Similar to Chapelle's (2001) framework, González-Lloret and Ortega (2014) propose characteristics for tasks in the context of technology. According to the authors,

technology-mediated tasks should primarily focus on meaning, rather than on grammatical forms. They should be learner-centered, considering students' needs and wants for language, their technological applications, and digital skills. Tasks should also be holistic and authentic, drawing on real-world processes of language use. And finally, tasks should bring reflection to the learning process; they should provide opportunities for higher-order learning as part of principles of experiential learning (Dewey 1938/1997). According to González-Lloret and Ortega (2014) such a task definition is central to the investigation of technology-assisted TBLT. In addition, two other conditions are necessary for the integration of technology and tasks: the first is an awareness of the non-neutrality of technology-mediated tasks, and the second is a clear articulation of the technology-mediated tasks within a full TBLT curriculum.

The incorporation of technology is never neutral. Adding technology in a curriculum brings about a whole new set of real-world tasks which in and of themselves should become target tasks and part of the curriculum. For example, incorporating email in a task such as "requesting a letter of recommendation" will entail learning the pragmatics of such a medium for that task, different from a paper letter. Similarly, using a smartphone to look at an interactive map, may transform the common task-based lesson "asking for directions" by adding to the language tasks pedagogic technology tasks on the use of such a tool, how to identify the location, where to enter the target address, how to view the target address in a street view, drop a pin to mark a location, and so on.

Second, the relationships of technology and tasks to a full curriculum must be articulated clearly. Technology must become part of the full programmatic cycle that shapes a TBLT curriculum, from needs analysis all the way to explicit learning outcomes for assessment and evaluation. For example, in a needs analysis for a technology-mediated TBLT it is not enough to find out what students will need to do with language and what language exactly they will need to use to accomplish it, we need to know what technologies will mediate their actions, what affordances they have, and what digital literacies (Shetzer and Warschauer 2000) the students need and already possess in order to use those technologies and accomplish the task. Although we have still not seen many fully developed technology-mediated TBLT curriculums, recent research has started to define the different components for such a curriculum, from illustration of a needs analysis incorporating technology and tasks (González-Lloret 2014), to pedagogical principles and examples of technology-mediated tasks (Gánem-Gutiérrez 2014; Sauro 2014; Solares 2014), issues of task selection and sequencing (Adams and Nik 2014), task implementation (Cantó, de Graff, and Jauregui 2014; Oskoz and Elola 2014), student assessment (Winke 2014), and course evaluation (Nielson 2014).

As for the technologies that best fit principles of TBLT, Web 2.0 technologies are ideal because they allow users to create digital content and communicate with other users. Using Web 2.0 functionalities students can engage in doing things with language and with other speakers rather than just listening, viewing, and reading about language and culture in textbooks or on Web pages that others have created. Web 2.0 tools can therefore promote active student engagement in learning, following a "learning by doing" (Dewey 1938/1997) philosophy of education. Web 2.0 technologies can be integrated into language learning instruction as a *medium* for interaction among participants. In this role, "technology provides sites for interpersonal communication, multimedia publication, distance learning, community participation, and identity formation" (Kern 2006, 162). Students can interact with other speakers of the language via computer-mediated communication (video, audio, or text), through their avatars in synthetic/virtual environments (Second Life, Quest Atlantis, etc.) or can collectively embark on quests in multiplayer online games, which provide opportunities for realistic, goal-oriented tasks, as well as authentic input and authentic interaction with other speakers of the language that are required for TBLT. They can work collaboratively and/or

share written artifacts through wikis, blogs, collaborative documents, fanfiction sites, and so on, actively contributing to the creation and distribution of knowledge, with a meaning-oriented communicative purpose and for an authentic audience, both of which are essential in TBLT. If task-and-technology integrations are properly motivated by TBLT theory, language-learning tasks which are mediated by these new technologies could potentially help minimize students' fear of failure, embarrassment, or losing face; they could raise students' motivation to take risks and be creative while using language to make meaning, and they could enable students to meet other speakers of the language in remote locations, opening up transformative exposure to authentic language environments and cultural representations, along with immense additional sources of authentic input, all important characteristics of language-learning. Through these tools, language learning opportunities are extended in ways that would be difficult (if not impossible) to orchestrate in traditional classroom settings (Sykes, Oskoz, and Thorne 2008; Thorne and Black 2008).

Research on tasks and technology

Recent volumes on TBLT and technology (Al-Bulushi 2010; González-Lloret and Ortega 2014; Thomas and Reinders 2010), as well as review studies by Lai and Li (2011) and Thomas (2013), illustrate how the interest on technology and tasks is growing rapidly. However, the body of research on technology-mediated TBLT is still young and accumulated results are still limited. Many concepts still need to be operationalized and a research agenda articulated.

Studies of technology and tasks have focused mainly on the interaction produced by students, following SLA research proposing L2 interaction as a locus for learning and mostly within computer-mediated communication (CMC) as the technology of choice. These studies could be grouped in three main trends: (1) studies that examined the effect that the technology had on interaction produced through tasks borrowed from research on face-to-face communication tasks; (2) studies on the effect that the task, mediated by technology, had on the interaction; and (3) research on tasks developed through new Web 2.0 technologies.

L2 interaction in technology-based tasks

First studies on technology and tasks, mainly on CMC, tried to discover whether the interaction mediated by the computer while engaged in completing a task was similar to face-to-face interactions. Some of these studies employed tasks that were borrowed directly from SLA face-to-face studies and that had been proposed as affective for promoting the types of interactions believed to be productive for language learning such as negotiation of meaning and opportunities for intake. The tasks used were closed-ended tasks such as jigsaws, information-gap tasks, and spot the differences (i.e., de la Fuente 2003; Lee 2002; Monteiro 2014; Smith 2004, 2005; Yilmaz 2012) as well as more open-ended tasks which consisted mainly of a discussion of a topic or artifact (i.e., Abrams 2003; Sauro 2009). Some of these tasks fit within the framework of TBLT, including tasks as part of larger projects (project-based) with a clear focused on meaning and oriented towards a concrete goal (i.e., Freiermuth 2002; Freiermuth and Jarrell 2006; Kitade 2000; Levy and Kennedy 2004). Other tasks were used in studies of telecollaborative (teletandem) projects, with a strong cultural component and a variety of tasks, mainly discussion tasks based on literary pieces, survey data, and media (i.e., Belz 2003; Belz and Kinginger 2002; Furstenberg et al. 2001; Müller-Hartman 2000).

Results about the amount and quality of interaction (modifications, feedback, uptake, etc.) vary across studies. While some of these studies found CMC task-based interaction to

be productive and conductive to language learning (e.g., Monteiro 2014; Shekary and Tahririan 2006; Smith 2004; Yilmaz and Yuksel 2011) others found negotiation not as abundant as in face-to-face interaction (e.g., Blake 2000; Jepson, 2005). For a research synthesis of synchronous CMC for SLA see Sauro (2011), and Ortega (2009) for an in depth evaluation of negotiation in CMC research. For a few examples of studies using tasks and technologies other than CMC see Collentine (2013), González-Lloret (2003), Sauro (2014), and Thomas (2013). All these studies have in common their focus on the type of interaction rather than on the task per se. The tasks were borrowed from SLA face-to-face research and transferred into the computer-mediated environment. Clear examples of this transfer are for example, Loewen and Erlam's (2006) replication of a face-to-face study to a CMC environment, and Yanguas' (2010) study comparing the same jigsaw task in video CMC, audio CMC, and face-to-face modalities.

Focus on task design in the study of technology-mediated L2 interaction

In contrast with the research above, the studies presented in this section focus mainly on the task, following the idea from SLA research that the task in itself greatly affects the interaction. Ortega in 1997 pointed out the importance of researching tasks, their conditions, and processes in order to make claims about the effectiveness of CMC for learning, and Blake (2008b) proposed that any technological tool is inherently neutral and its success to be effective for SLA will depend on careful planning, including task design. Lee's (2007) results confirmed that well designed and motivating tasks, with carefully selected linguistic context, are essential for L2 learning to take place. In addition, since CMC is a different form of communication, one that incorporates aspects of both spoken and written language with features of the digital context (Herring 1996), it is essential to study CMC tasks as entities of their own rather than assuming that tasks that are effective at eliciting quality L2 interaction in face-to-face exchanges will also do so in CMC.

Although research is still new, we have a handful of studies which have investigated which types of tasks (in the traditional face-to-face definition), with which characteristics (e.g., level of complexity) and under which conditions (e.g., through which media) could be more effective at producing interactions believed to be conductive to language learning (Blake 2000; Jeong 2011; Keller-Lally 2006; Sauro 2011; Smith 2001, 2003; Yilmaz 2011). The results are quite inconclusive and even contradictory. While Keller-Lally (2006) found no effect on task type (jigsaw, decision-making, or opinion-exchange), Blake (2000), and Jeong (2011) found jigsaw tasks to produce more negotiation than information-gap and decision-making tasks, and Smith (2001, 2003) found decision-making tasks, seeded with unknown lexical items, to elicit more negotiation that jigsaw tasks (which he attributes to lexical items in the jigsaw task viewed as less important than those in the decision-making task). Also Yilmaz (2011) found dictogloss tasks to elicit a higher number of negotiation routines than jigsaw tasks while jigsaw tasks had more unresolved negotiations.

As for task characteristics, one of the most fruitful areas of research in traditional TBLT is task complexity, which examines how manipulation of certain task characteristics renders a task more or less complex and how this affects the fluency, complexity, and accuracy of the learners' production. A few pioneer studies (Adams and Nik 2014; Appel and Gilabert 2002; Baralt, 2014; Collentine, 2010; Nik 2010; Nik, Adams, and Newton 2012) are establishing coding strategies and operationalizing complexity, accuracy and fluency in text chat data. Most of this research has explored the validity of face-to-face task complexity theories, in particular Robinson's (2005) Cognition Hypothesis. Robinson (2005) predicts that any increases in complexity along resource-dispersing dimensions of cognitive complexity (e.g., task structure,

planning time, prior knowledge) should result in decreases of complexity, accuracy, and fluency in both monologic and interactive contexts, and increases in amount of negotiation in interactive contexts, while an increase in complexity in resource-directing dimensions (e.g., number of elements, here and now, perspective) should result in an increase of complexity, fluency, accuracy, and amount of negotiation. Knowing whether a task is more or less difficult than another is of great importance for task development and sequencing, both for traditional face-to-face (or pen and pencil) and technology-mediated tasks.

The results of studies of technology-mediated task complexity to date suggest that the Cognition Hypothesis does not necessarily transfer to technology-mediated environments. Adams and Nik (2014) have suggested that this may be due to the unique characteristics of medium (text-based CMC) where opportunities to process output may be more frequent (compared to face-to-face interaction) and where the separation that exists between production and transmission may affect the cognitive burden imposed by the production, making it different from models of speech production. This explanation seems to be supported by Baralt's (2013) study comparing reasoning demands (as a task complexity variable) in a traditional face-to-face and a CMC environment. Her results show that the prediction was true in the face-to-face environment but not in the CMC environment where more learning happened in less complex conditions. So far, these studies suggest that the distinct nature of CMC affects the complexity variables as we know them for face-to-face research, highlighting the importance of studying tasks developed for and embedded in the technology.

Research on tasks developed through Web 2.0 technologies

Web 2.0 technologies offer ideal interactive spaces for collaborative and intercultural communication in which tasks are an essential component. First, virtual spaces such as gaming environments and social synthetic/virtual environments (VEs) (e.g., Second Life) allow for greater freedom of communication allowing also for real interaction with a variety of speakers (native and non-native). Results of research in virtual environments using tasks suggest that students find tasks in these spaces useful and highly motivating when tasks are well designed and collaborative in nature (Cantó, de Graff, and Jauregi 2014; Gánem-Gutiérrez 2014; Thomas 2013), and include meaningful content and meaningful interactions (Sykes 2012). Tasks in VEs promote negotiation of meaning, including intercultural communication routines (Cantó, de Graff, and Jauregi 2014), and the possibility of a "physical simulation of real-life tasks" (Deutschmann and Panichi 2009, 34). They encourage learner's agency and confidence in L2 use (Thomas 2013; Zheng et al. 2009) and generate opportunities for social discourse and casual conversation (Peña and Hancock 2006; Thorne 2008, 2010) essential components on the repertoire of a language learner.

Furthermore, Web 2.0 tools are useful for helping learners explore intersections between technologies and tasks focused on written communication and exchange of ideas. This research investigates the potential of tasks using blogs (e.g., Solares 2014), wikis (e.g., Oskoz and Elola 2014), and fanfiction sites[3] (e.g., Sauro 2014) to develop writing skills. Both Solares (2014) and Oskoz and Elola (2014) use pedagogic tasks in blogs and wikis to redraw the boundaries of what language instruction can be to teach students process writing, collaborative writing, and genre development, through authentic tasks in an academic setting. Solares (2014) created a storytelling context for which students created narratives using digital posters. Students then uploaded their narratives to a free Web application called *Web Poster Wizard* and voted on the best story by using a class blog. Oskoz and Elola (2014) used chats and wikis to teach the process model of writing with argumentative and expository essays. They developed a series of pedagogic tasks to help the learners through the writing stages of planning, drafting, getting feedback, revising, and publishing. Sauro (2014) proposes fanfiction as a collaborative space in which students can engage in writing tasks with linguistic

and technological continuity into the students' online activities outside of classroom. This idea of bridging in and outside of classroom tasks brings authenticity in the classroom, provides learners with a realistic venue, a real audience for their writing, and connects them with other speakers with the same interest, all important tenets of TBLT.

Considering how incorporating tasks in these new technologies can advance task theory and research is an essential question that was posited by Chapelle in 2003 but has still not been fully addressed. As technology-mediated TBLT grows as a field, it is essential to reflect on the implications that the integration of technology has for TBLT as a language-learning methodology. As acknowledged by Van den Branden, Bygate, and Norris (2009), changes in education are often "responses to new technologies" (495), and it may well be that technology is changing TBLT. It may be changing towards a more comprehensive approach to language; one that views language and learning more holistically than has often been the case in the field of TBLT (following the field of SLA); one that includes different language learning perspectives, as for example Sociocultural Theory (e.g., Collentine 2011; Gánem-Gutiérrez 2014; Müller-Hartmann and Schocker-von Ditfurth 2010; Oskoz and Eloloa 2014); one in which learning language and learning culture are fundamental and inseparable parts of communication (e.g., Cantó, de Graff, and Jauregi 2014; Furstenberg et al. 2001) all within a framework that gives priority to activities with the goal of doing something with a language, communicating meaning with a clear objective, in an environment authentic for the learners and their context, all according to their needs.

Challenges for technology-mediated TBLT

The advancement of technology-mediated TBLT (both theoretically and for its application) is not without challenges. First of all, technology moves incredibly fast, with new technologies becoming obsolete in a blink of an eye. Therefore, researching the potential of some technologies for TBLT may seem an unwise investment. Here, technology-mediated TBLT could learn from CALL research that faces this challenge every day. To avoid investigating tools with expiration dates in recent years, CALL is moving its research focus from individual tools to investigating more general characteristics and affordances of a certain medium, characteristics that most likely will stay constant in spite of improvements and upgrades. More of a challenge is to be able to anticipate the needs of students for technologies that may not even exist yet (Chapelle 2014).

Second, from a programmatic point of view, the incorporation of technology in TBLT poses a challenge for evaluation and assessment. If technology is to be an integral part of the curriculum, it should also be part of the assessment. If we envision student assessment in TBLT as performance-based in nature, then the evaluation of the technology performance should be part of the evaluation of the task (together with language performance). For example, a case in which the use of technology is essential to accomplish language tasks is that of online language courses. In these environments every interaction among students, between student and teacher, and between student and content is mediated by technology. Nielson (2014) presents probably the first effort to describe in detail an example of a technology-mediated TBLT assessment of students' performance in an online language course, highlighting how the technology is not an add-on but rather a strong effect on the entire curriculum that "must therefore be considered at all stages of the design, implementation, and assessment of a program" (316).

Lastly, for a technology-mediated TBLT curriculum to be successful, it is important to incorporate technology as a target of instruction (Chapelle 2014; González-Lloret 2014). This adds value to technology-mediated TBLT since students would be developing their *digital, multimodal, and informational literacies* (Warschauer, 2007) at the same time that they are

developing their language competence; two essential life skills for the citizens of tomorrow. This requires teachers to be knowledgeable in the use of multiple technologies as well as experienced in the development of tasks (Hauck 2010). However, in many contexts, this is not the case and we are finding that the lack of experience in the use of technology presents one of the most serious barriers to its successful integration into the language curriculum (Blake 2008a). So, how can we solve this challenge? According to Winke (2013), teacher training, optimal institutional conditions, and the support needed to include technology in their language classes are essential components for success at incorporating technology in the language classroom or conducting online language teaching. Without a doubt, institutional support in the form of workshops and tutorials, and even teachers enrolling on online courses themselves, would be ways of providing the needed education for teachers. However, this remains a clear challenge for most language practitioners (and their institutions) today.

Research agenda

In a new area of study, such as technology for TBLT, the research agenda is wide open. We need new research on the affordances of emerging new technologies (see for example research on smart spaces with sensory devices that understand participants' movements at Newcastle University, UK (Seedhouse 2017 http://openlab.ncl.ac.uk/ilablearn/?page_id=26), as well as research that revises language-learning theory and methodological choices that integrate the more transparent, everyday tools that now mediate our communication and learning (e.g., Chapelle 2001, 2003, 2014; Doughty and Long 2003; Skehan 2003).

Unresolved issues in task research, as for example the task complexity debate between the Cognition Hypothesis (Robinson 2001) and the Trade-off Hypothesis (Skehan 1998) are also relevant to technology-mediated TBLT, with the technological aspects as added layers of intricacy. Believing that we have one single limited cognitive capacity and that increasing task complexity will lead to competition between accuracy, complexity, and fluency (Trade-off Hypothesis) or that we have different attentional resources and that increasing particular task demands can focus attention and lead to more control of production (Cognition Hypothesis) should influence how we develop and sequence tasks. It may well be that the technology context has a strong effect on the cognitive factors that affect task complexity (which has not been investigated in depth yet), or that other factors such as task condition and task difficulty (Robinson 2007) have more weight in technology-mediated tasks than in face-to-face tasks. Tasks conditions which, according to Robinson (2007) include: (1) task difficulty which refers to learner factors such as ability (i.e., working memory, aptitude, filed independence, etc.) and affective variables (i.e., task motivation, willingness to communicate, self-efficacy, openness to experience, etc.); and (2) interactive factors (i.e., number of participants, amount of contribution and negotiation needed, whether the task requires a convergent or open solution) and characteristics of the participants (i.e., proficiency level, gender, familiarity, shared content and cultural knowledge, status and role). These interactive factors have been explored outside of SLA research in sociology, computer and information science, communication studies and CALL. We have by now ample evidence that factors such as number of participants (i.e., Böhlke 2003), their gender (i.e., Baron 2008; Herring 2000; Savicki, Kelley, and Lingenfelter 1996; Zhan et al. 2015), their attitude towards the technology (i.e., Lou, Abrami and d'Apollonia's 2001 meta-analysis; Reinders and Wattana 2014), and so on, greatly affect the interaction. Therefore more research on task complexity that includes these factors is needed.

Another important area to explore is that of multimodality in technology-enhanced TBLT. With easier access to broadband connectivity, multimedia platforms, and mobile devices, it will be important to investigate the role of multimodality in TBLT, on language development

through tasks, and on the efforts at blending technology and tasks (Hampel 2006; Sauro 2009). In particular, it will be crucial to know how multimodality at the task level (one task involving more than one mode) affects language learning and digital development, how it compares with multimodality at a curricular level (different modes for different tasks across the curriculum), and what is the impact that it has on real-life tasks, which more often than not are also multimodal.

Finally, we know that the teacher's role in the success of technology-mediated tasks is essential. Even with the best developed, most interesting, technology-mediated TBLT curriculum, if teachers are not willing and educated to implement it, the curriculum will most likely fail (González-Lloret and Nielson 2014). Therefore, we need more studies on the role that teachers (and teacher education) play in technology-mediated tasks (e.g., Müller-Hartmann 2007; O'Dowd and Ware 2009), from willingness and disposition to incorporate tasks and technology to the actual use of the technology, planning, intervention, and evaluation.

In summary, research in technology and TBLT is in a growing stage and an array of fields and topics are open to investigation. From theoretical and fundamental issues dealing with the nature of tasks, their sequencing, implementation, evaluation, and so on, when mediated by technologies to the rapidly changing world of innovations and their affordances to incorporate effective language-learning tasks.

NOTES

1   Web 2.0 technologies are defined here as those that allow users to transform information and "harness collective intelligence" (O'Reilly 2005, 2).
2   Skehan (1996) makes the distinction between weak and strong forms of TBLT. The strong form of TBLT emphasizes the importance real-life tasks with a goal outside of the classroom while the weak form understand tasks in a more traditional classroom sense, as facilitative of communication and language work.
3   Fanfiction is the narrative product of fans of a particular text, movie, celebrity, and so on, whose "goal is to expressively rearticulate the source material in such a way as to create something meaningful, minimally for the author/artist, and usually with a broader audience in mind" (Thorne 2010, 145).

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