

Language and culture learning in higher education via telecollaboration

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This article focuses on the ways of researching the process of designing, developing, and using telecollaboration (also known as online intercultural exchange) to facilitate the learning of both linguistic and intercultural communicative competence (ICC) in higher education courses in different educational contexts in the United States, Europe, and Asia. Although telecollaboration would intuitively seem to be an ideal medium for learning another language and about another culture, extensive research has shown that this learning process takes years and faces many challenges. This paper situates the research on language and culture learning within the broader scope of language and intercultural education (see *Pedagogies*, 8(2), for a report of an interview with Michael Byram, one of the originators of the concept of ICC). A multinational example of the integration of telecollaborative networks in European university language classes collaborating online, the INTENT project, is described. In addition, a telling case, the Cultura model, implemented in the United States, Europe, and Asia, demonstrates a successful approach (with accompanying research) to telecollaboration for language and culture learning. However, there are also invisible factors and unanticipated challenges that teachers and learners need to understand in order to benefit from these telecollaborative environments; these are examined at the end of the article.

Keywords: telecollaboration; intercultural exchange; language learning; culture learning

1. Introduction

In the most general sense, *telecollaboration* is the process of communicating and working with other people, individually or in groups, in different geographical locations through online or virtual means. Telecollaboration can be implemented in a variety of settings, e.g., in the case of higher education, in the classroom, in a computer lab, and at home, through the use of Web-based tools and resources, such as email, forums, blogs, wikis, text-chat, voice-chat, videoconferencing, and social networking sites. In the field of second language (SL) and foreign language (FL) learning in higher education, telecollaboration has been theorized most frequently from sociocultural perspectives and holds the potential to enrich the learning experience by providing SL/FL learners with opportunities for interaction and communication with others who know the same language.

For SL/FL educational activities, telecollaboration is often used synonymously with the term *online intercultural exchange* (OIE) (see O'Dowd, 2007). O'Dowd (2011) states that "traditionally, online intercultural exchange projects in foreign language education have involved the use of (text-based) online communication tools to bring together classes of language learners in different countries to learn the others' language and culture" (p. 369).

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OIEs have generally taken one of two forms, firstly, the e-tandem model, and secondly, the blended intercultural model. In the e-tandem model, two native speakers of different languages communicate with the aim of learning the other's language. In these exchanges, which can be via synchronous modes (e.g., text-chat or video-chat) or asynchronous modes (e.g., email or wiki), learners provide feedback to their partners on content and language performance. The second model goes to great lengths to integrate the online interaction into the learners' language programs and often involves "international class-to-class partnerships in which projects and tasks are developed by the partner teachers in the collaborating institutions" (p. 370). Learning through OIE is gaining in popularity and is particularly widespread in higher education, as it is theorized to improve second/foreign language learners' linguistic and cultural knowledge of the SL/FL and increase their global awareness.

The goal of this paper is to provide an overview of the ways of researching the design, development and use of telecollaboration to facilitate the learning of both linguistic and intercultural communicative competence in higher education courses in different educational contexts globally. Although telecollaboration can be used for a wide range of purposes for the teaching and learning of many different subjects (a larger "global" perspective), this paper discusses "local" applications to SL/FL learning and teaching. After reviewing the theories, research methodologies and selected current studies that report on language and culture learning outcomes, ways of researching the design and development of telecollaborative projects, are summarized. Finally, some of the invisible or less discussed factors that teachers and learners need to understand in order to benefit from these telecollaborative environments are examined. These issues are based primarily on OIEs that have been conducted in the United States, Europe, and Asia and reported in Chun (2014a).

The sub-field of telecollaboration for SL/FL learning is nearly two decades old, enabled by the World Wide Web. Warschauer (1996a) collected contributions to a symposium on Local and Global Electronic Networking in Foreign Language Learning and Research, which was held at the University of Hawai'i and which brought together educators concerned with these issues from universities and K-12 institutions throughout the world. At the time, most of the telecollaborative projects relied on email, threaded forum discussions, and other Web 1.0 capabilities. Since then, other edited volumes on Internet-mediated intercultural FL education have appeared (Belz & Thorne, 2006; Dooly & O'Dowd, 2012; Lamy & Hampel, 2007; O'Dowd, 2007). Guth and Helm's (2010) and Dooly and O'Dowd's (2012) volumes discussed the educational shift to Web 2.0 tools, such as synchronous chat, wikis, blogs, social networking, and 3D virtual worlds. Pertinent details from these volumes are discussed in the following sections.

2. Theories and methods used in research on FL/SL telecollaboration

The important publication edited by Dooly and O'Dowd (2012) synthesized many methods and theoretical approaches that have been and are being used to investigate different configurations of FL/SL telecollaboration. They attribute the attention being paid by both educators and researchers to online interaction and exchange in FL education to three factors: (1) the growing emphasis in the FL/SL education community of the integral role of culture in FL/SL learning, and in particular, the recognition that online intercultural interaction can support the development of learners' cultural awareness and skills of *intercultural communicative competence* (ICC) proposed by Byram (1997) and defined below; (2) the rise of *sociocultural* theory as applied to FL/SL learning, viewing language

acquisition as facilitated by carefully constructed, purposeful, communicative events; and (3) the way in which FL/SL competence and e-literacies have merged and become inextricably linked to learning, working, and living in the twenty-first century in general.

It may surprise some to note that the field of FL/SL education did not always emphasize the importance of teaching culture along with language. Agar (1994), a linguistic anthropologist, justifiably criticized the field of linguistics in the first half of the twentieth century for its narrow focus on the sound systems and grammars of languages that did not include the study of culture. The field of applied linguistics, which was established in part as a response to generative linguistics (late 1950s, 1960s), emerged as an interdisciplinary research field in the 1970s. Agar's (1994) concept of "languaculture" found resonance with Whorf's (1956) ideas; Agar agreed with Whorf that "studying language and studying culture were the same thing (italics in original)" (p. 71). Risager (2005) argues that languaculture (LC) is a key concept in language and culture teaching, and proposes that language and culture pedagogy focus on the "study of meaning as it is produced in the interface of languaculture and discourse" (p. 195).

Taking the close integration of language and culture a step further, Byram's (1997) use of the term "intercultural communicative competence" deliberately maintained the link with the term "communicative competence" which gained importance in FL teaching in the late 1970s. "Communicative competence" includes not only the traditional "grammatical competence" but also "sociolinguistic/pragmatic competence," "discourse competence," and "strategic competence" (Canale, 1983; Hymes, 1972) emphasizing the fact that in order to communicate, language learners not only need grammatical skills and knowledge but also social knowledge about how and when to use utterances appropriately. Byram extended the competence requirements even further, theorizing about the complexity of ICC. An interculturally competent speaker is able to effectively exchange information with members of the target culture and does so by displaying attitudes of curiosity and openness, demonstrating the knowledge of how language and culture are related in the target culture, possessing skills of interpreting and relating, and being able to use, in real-time conversations, an appropriate combination of knowledge, skills, and attitudes to interact with speakers from a different country or culture.

In the American and European context, many applied linguists have argued that language and culture must be treated as inseparable constructs (Kramsch, 1993). Recent work focuses on the pedagogies that seek to develop intercultural competence; for example, Byrnes (2009) examines three documents produced by the Council of Europe and two US national organizations, ACTFL (American Association of Teachers of Foreign Languages) and MLA (Modern Language Association): (1) the Common European Framework of Reference (CEFR; Council of Europe, 2001), (2) the Standards for Foreign Language Learning (ACTFL, 2006), and (3) the report by the Modern Language Association Ad Hoc Committee on Foreign Languages (2007) entitled "Foreign Languages and Higher Education: New Structures for a Changed World." All of these national (US) and multinational (European) guidelines indicate a shifting emphasis toward the important role of culture in the FL/SL profession. Each of the documents "assumes that language use must be seen as embedded in diverse social activities in the lives of people and peoples around the globe" (p. 316) and advocates that the goal of FL/ SL education is to develop speakers who have deep translingual and transcultural competence. With the focus on the learning of language and culture together, the great majority of studies discussed in the following sections have addressed both and not only language (see Reinhardt, 2012). However, we begin with theories of second language acquisition

(SLA) and broaden the scope to include theorizations of the acquisition of cultural knowledge and ICC.

2.1 Underlying theories and appropriate methodologies

The theoretical bases for studies of telecollaboration for language and culture learning are interdisciplinary, culled from theories of SLA and theories of intercultural education. In fact, in the digital age, it has become the norm to advocate and theorize about multiple e-literacies (multi-literacies) in many, if not all, areas of learning. In SL/FL learning in particular, as multilingualism and globalization are increasing, ICC is directly linked to working and functioning in the world (Dooly & O'Dowd, 2012). Dooly and Hauck (2012) propose the need for research on multimodal communicative competence (MCC), as daily interactions in formal and informal language learning have increasingly switched to online modes, e.g., audio- and videoconferencing.

One of the historical dichotomies in SLA research is the cognitive–social divide, i.e., the long-standing debate on whether to focus on the *psychological* aspects of language acquisition as opposed to the *social* aspects of learning, which in turn influences both what is considered the appropriate object and method of investigation. In general, studies based on a *cognitive* framework tend to select experimental, psychometric methods, while those based on *sociocultural* frameworks tend to prefer the use of qualitative and ethnographic methods. In practice, though, many studies adapt and combine frameworks and methods, e.g., *socio-cognitive* approaches, blurring the traditional dichotomy. This section presents representative studies employing the various frameworks and methods. Table 1 provides an overview of the main theories or models and the relative importance of language vs. culture in FL/SL education.

Table 1.	Theories	and	models	of	SLA	and	develo	nment	of	ICC.

Theory/model	Perspective	Conceptual principle	Relative importance of language vs. culture
Psycholinguistic/cognitive	Linguistic competence	Grammatical aspects of language can be learned cognitively, by instruction	Language more important
Sociocultural/ social	Communicative competence	Social interaction is key to language acquisition	Focus on social, contextual, and cultural factors in L2 learning and use
ICC/rich points in LC1 and LC2	Critical cultural awareness; dynamic, heterogeneous view of culture	Dimensions of knowledge, skills, attitudes, and beliefs (of both language and culture)	Language and culture equally important; concept of LC "languaculture"
Ecological	Broad perspective of studying organisms in their relations with their environment	Affordances (tools in the learner's environment) and scaffolding	Focus on naturalistic contexts, with language and culture equally important

2.1.1 Cognitive and psycholinguistic theories of SLA

One of the main theoretical frameworks on the cognitive side is the input-interactionist paradigm (Long, 1996), and the early research on online interaction in FL/SL contexts focused on the development of linguistic competence in in-class interaction, e.g., comparing online synchronous interaction with face-to-face student interaction. Many of these studies used a quantitative methodology, involving control groups of students engaged in face-to-face interaction that were compared to experimental groups of learners participating in online interaction or intra-class studies in which the same students took part in both face-to-face and online interaction (Warschauer, 1996b). What was often counted and categorized were linguistic features and language functions (e.g., Chun, 1994; Kern, 1995), and researchers showed how negotiation for meaning occurs in intra-class online chat (e.g., Blake, 2000). Similarly, studies of online interaction based on psycholinguistic theories of SLA (e.g., Ellis' (2006) Associative Cognitive CREED and Schmidt's (1990) Noticing Hypothesis) have found that text-based chat promotes noticing of grammatical and lexical features or errors (e.g., Lai & Zhao, 2006; Lee, 2008). Other studies of interclass interactions between learners and native speakers (Tudini, 2003) or tandem learning partnerships (Kötter, 2003; O'Rourke, 2005) have investigated form-focused interaction, negotiation of meaning and code switching, primarily linguistic aspects of SL/FL learning.

2.1.2 Sociocultural theories of SLA

In contrast to interactionist research, Block (2003) proposed the "social turn" taken by the field of SLA, and variations of socially based theories and approaches have flourished. For example, *socio-cognitive* paradigms (Kern & Warschauer, 2000), which view language as social and place emphasis on the role of cultural context and discourse, are often used in the research on telecollaboration. Many studies have been influenced by *socio-cultural* theory (Belz, 2002; Thorne, 2003; Ware, 2005). In the Vygotskian perspective, language is viewed as a mediating tool for learning, and the entire language learning process must by necessity be a dialogic process (see, e.g., Basharina, 2007; Blin, 2012, who rely on Activity Theory and Cultural Historical Activity Theory, respectively, for their analyses of telecollaboration).

Other studies make visible the development of linguistic, pragmatic, and intercultural competence in both intra-class telecollaboration (e.g., Abrams, 2008) and inter-class interactions (e.g., Belz & Thorne, 2006; Jin & Erben, 2007). Chun (2011) reports on advanced German learners in the United States engaging online with advanced English learners in Germany, as they used different types of speech acts to indicate their pragmatic ability and to show their developing ICC. Specifically, some learners realized that they could exhibit curiosity and interest (a component of ICC) by engaging in multi-turn statements and did not need to use questions to convey their intent.

2.1.3 Intercultural communicative competence

The research at the nexus of sociocultural learning and online exchange has often focused on the development of *intercultural communicative competence* or ICC (Byram, 1997; Chun, 2011; O'Dowd, 2003) and on the instances of intercultural misunderstanding and occasional conflict in online interaction (O'Dowd & Ritter, 2006; Ware & Kramsch, 2005). These misunderstandings and conflicts are examples of Agar's (2006) "rich

points," defined as "those surprises, those departures from an outsider's expectations that signal differences between LC1 [languaculture 1] and LC2 [languaculture 2] and give direction to subsequent learning" (p. 2). For these socioculturally oriented studies, the methodology used is generally qualitative in nature. For example, Ware (2005) explored the online interactions between advanced-level learners of English in Germany and advanced-level students of German in the United States using qualitative methods to analyse online transcripts, interviews, and questionnaires, and focusing on the factors that led to "missed communication."

2.1.4 Ecological approaches

In both SLA and CALL (computer-assisted language learning) research, a new perspective may be found in *ecological* approaches, e.g., van Lier (2004), who takes an ecological world view and applies it to language education. Ecology broadly studies organisms in their relations with their environment. Van Lier's approach thus incorporates many different perspectives with regard to language learning, e.g., sociocultural theory, semiotics, ecological psychology, and the concepts of self and identity. Key constructs in this approach to language learning are *affordances* and *scaffolding*, with an affordance defined as the relationship between an organism and something in the environment that can potentially be useful for that organism. Technology is viewed as a source of affordances and learning opportunities for language learners. Appropriate scaffolding, i.e., help from peers, teachers, or technology itself, might also be necessary, and this is a core feature of telecollaboration.

2.2 Methodologies for researching telecollaboration

Research on telecollaboration and OIE appears to be moving from studying the end products of exchanges, e.g., more quantitative analyses of email, forum discussion, chat, to examining the processes of exchanges, and how cultural meanings are expressed, e.g., more qualitative, contextualized, discourse-based analyses of what participants produce over time. Processes and meanings are not readily measurable in typical quantitative studies, e.g., with rigorous, experimental study designs, which measure quantity or frequency; rather, qualitative studies are better suited to interpretative approaches of longitudinal data. In addition, since telecollaboration can take place both inside and outside of traditional classrooms, it is not feasible to control for all of the variables that might influence an exchange, thus making the use of qualitative research methodologies more appropriate (Levy & Stockwell, 2006; Müller-Hartmann, 2000).

A reasonable alternative is to use multiple methods, as all research methods have inherent strengths and limitations, and triangulation of different methods can compensate for the weaknesses to a certain extent. For language acquisition research, Dörnyei (2007) suggests that quantitative and qualitative methods are not mutually exclusive, and that combining them offers multiple epistemologies within each type. Certainly for virtual, intercultural, and multimodal FL/SL research contexts, multi-method approaches can be advantageous because each partner in an exchange represents a unique situation and the types of interaction can be varied, resulting in multiple forms of multimodal data. In addition, particularly with the development of ICC, two factors must be considered: first, developing ICC is a continuous, multi-step endeavour that ideally requires months, if not years; and second, online activities that contribute to the development of ICC cannot be separated from classroom-based activities, as follow-up in face-to-face classroom

discussion of telecollaborative interactions has been shown to be crucial (see Chun, 2014a; Chun & Wade, 2004; Furstenberg & Levet, 2014).

Ware and Rivas (2012) provide an overview of mixed method research designs for online exchanges, discussing examples to date, and acknowledging that these exchanges can be seen through multiple lenses, allowing for different types and levels of analysis (Liaw, 2006; Liaw & Bunn-LeMaster, 2010).

In a study of an intercultural learning project between ELF (English as Lingua Franca) students in France and Taiwan, Liaw and English (2014) employed mixed methods to analyse their data. The goal of the project was to foster participants' awareness of cultural identities and the knowledge of *self* and *otherness*. Qualitatively, the Lacanian concept of *extimacy* and Bakhtin's concept of *exotopia* formed the basis to analyse the writing produced by their students.

Quantitative analyses were performed with a text analysis software program, Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Francis, & Booth, 2001). Specifically, the number of social process words written by the two groups of students was tracked, and the statistical analyses revealed that the Taiwanese students' use of social process words (referring to family, friends, and other people) was significantly higher than that of the French participants, suggesting that the students in Taiwan had "a higher degree of interpersonal connectedness and personal-emotional identification with the messages they wrote" (p. 81).

Finally, in addition to the traditional quantitative and qualitative methods, Dooly and Hauck (2012) suggest that *action research* can also be considered by self-reflective teachers in order to improve their own practices and to gain more insight into the learning process. Müller-Hartmann (2012) provides detailed discussions of how to implement a case study approach using action research and how activity theory can help the researcher deal with the rich contextualized data in telecollaboration.

In summary, past research on language and culture learning in higher education of FL/SL learning has been based on a variety of underlying theories of SLA, employing both quantitative and qualitative methodologies. However, the current trend of having ICC as one of the primary goals of telecollaboration has motivated many researchers to take sociocultural approaches and utilize multiple methodologies, including action research. The following section discusses research on the design and development of telecollaborative exchanges.

3. A telling case: researching the development of telecollaboration in different global educational contexts

Michael Byram, "one of the main international referents in intercultural education" (Porto, 2013, p. 143), was a plenary speaker at the recent international conference in 2014 on "Telecollaboration in University Foreign Language Education" at the University of León, Spain, which aimed to bring together educators, researchers, mobility coordinators, and university management interested in exploring the integration of OIE projects at universities around the globe (http://unicollaboration.unileon.es/). The conference was part of a larger project, the INTENT project (Integrating Telecollaborative Networks into Foreign Language Higher Education), which has been funded by the European Commission since 2011 (Guth, Helm, & O'Dowd, 2012).

The broad array of presentations at the conference demonstrated the wide variety of ways in which online exchanges can be implemented and can contribute not only to second/foreign language learning and intercultural awareness, but also to general educational goals,

internationalization of education, and electronic/digital literacies in higher education (see http://unicollaboration.unileon.es/downloads/detailed_conference_programme.pdf). Of the 75 presentations at the conference, including three plenaries, one-third of them dealt with telecollaboration that was focused on goals and issues larger than language and culture learning, while two-thirds were concerned specifically with the teaching and learning of foreign/second language and culture.

Among the presentations at the 2014 INTENT conference that focused specifically on or targeted language and culture learning, the *Cultura* model stood out as one of a select few that has enjoyed impressive longevity and reach in terms of successful models of telecollaboration. In this section of the paper, the focus is thus on a "telling case," how research on *Cultura*-based projects in different global settings has been conducted, summarizing (1) the *Cultura* model, (2) a meta-synthesis of *Cultura*-inspired projects, and (3) the development of three *Cultura*-based projects in different global education contexts.

3.1 The Cultura model

The *Cultura* model was developed by Furstenberg, Levet, English, and Maillet (2001) and is based on the premise that language and culture are inextricably connected and on a view of culture as a dynamic, ever-evolving process of expressing both individual and collective identities, world views, ethics, morals, and values. As such, culture cannot be "taught" in the traditional sense of teachers imparting knowledge to students, but must be experienced by the learners, as they co-construct cultural knowledge with others. Although their model was developed at the same time that Byram (1997) proposed the concept of ICC and was not based per se on ICC, their ideas certainly resonate with those of Byram. According to Byram (1997), ICC involves five elements: attitudes (of curiosity and openness), knowledge (of social groups and their products and practices), skills of interpreting and relating, skills of discovery and interaction, and critical cultural awareness.

Furstenberg and Levet (2014) reflect on possible reasons for the longevity of the model, and why it has been such a compelling and enduring prototype for online intercultural exchanges. The original exchange in 1997 involved a class of students at MIT who were learning French and students at the Ecole Supérieure d'Aéronautique in Toulouse, France, who were studying English. Asynchronous online forum discussions were the primary mode of interaction. Since then, numerous such exchanges have been conducted, and a wealth of captivating examples illustrate the discovery process that students go through in expanding and deepening their understanding of their own and the other culture. New technologies that have become available since 1997, e.g., videoconferencing, blogs, and wikis, have been used with the model, but it is not the tools that cause meaningful communication to happen; rather, it is important to choose the technologies that can best serve the goals of intercultural learning.

3.2 A meta-synthesis of Cultura-based projects

Due to the fact that the *Cultura* model has been adapted by dozens of other teachers and researchers, Chun (2014b) performed a meta-synthesis of such projects, extensively surveying 18 instructors who responded to a detailed questionnaire. This meta-synthesis is an example of how the design and development of telecollaborative projects can be

researched. This type of research does not investigate specific language or ICC learning outcomes but can inform the development of future such telecollaborative projects.

With regard to the first research question of the meta-synthesis, "What were the goals that led to the adoption of the *Cultura* model and what were the outcomes that the *Cultura* model might achieve?", the respondents believed that the *Cultura* model would increase their students' language skills and their confidence and motivation for communicating in the SL/FL. Furthermore, they hoped for an improvement in their students' awareness and openness to another culture as well as cultural knowledge and the skills of analysis, abstraction, reflection, exploration, and sharing. The majority of the survey respondents taught in 4-year universities around the world (American Samoa, Canada, France, Germany, Italy, Japan, Spain, Taiwan, the United States), almost half of them taught English, and most students were intermediate or advanced SL/FL learners.

Results of the meta-synthesis with respect to the second research question, "What were the processes in the implementation of the project that built toward the goals?", revealed that there was great variability in implementation. Interestingly, most of the projects were only a relatively small part of the language curriculum, and in some cases, they were extracurricular or optional activities. This is in fact the opposite of what is done in the Furstenberg et al. (2001) model, in which the online *Cultura* exchange forms the basis for the entire curriculum, and face-to-face discussions in the classroom are predominantly about the content posted online. Among the 18 survey respondents, approximately 90% of them used word associations and sentence completions in their exchanges (see Appendix A for examples), and text-based chat, text-based forums, and video chats were the most widely used modes of interaction. In addition, and very importantly, the great majority of projects used a combination of online activities with partners and face-to-face discussions in the classroom. Teachers' participation in the online activities was minimal for the most part, and the length of the exchanges ranged from 3 to 24 weeks, again reflecting a wide range of how the exchanges were realized.

The responses to the third research question, "What kind of data was gathered in order to determine whether the goals were achieved, and how do the data reflect the types of learning outcomes that were addressed and assessed in the *Cultura* project?", revealed that a wide variety of data were gathered, both online and offline. In addition to the online data produced during the exchanges (postings in questionnaires, forums, text chats, wikis, blogs, and videoconferences), offline data included class presentations and discussions, learner diaries, worksheets, essays, reflective reports, self-assessments, and post-project surveys and interviews. Although a greater number of survey responders had privileged cultural gains over linguistic gains at the start of their projects, they cited almost as many gains in linguistic skills, knowledge, and attitudes as gains in cultural skills, knowledge, and attitudes as outcomes at the end of the projects. This meta-synthesis provided a number of recommendations for future projects, and they are presented in the Conclusions section of this paper.

3.3 Selected Cultura-inspired exchanges in different global contexts

The first sample project is Liaw and English's (2014) intercultural learning project between ELF students in France and Taiwan. Liaw and English designed a task-based telecollaboration in which students engaged in various types of multimodal, computer-mediated exchanges. Their goal was to develop communication skills via asynchronous text, graphic, and audio-video exchanges, and the study provides an excellent example of research on the design, development, and use of telecollaboration. Based on their

experiences in designing and implementing their exchange, they recommend careful planning of tasks in order to direct students' attention to meaningful and purposeful interaction. In their experience, making culture the focus of discussions allowed students to have a voice in the exchange as "experts" in their own very different cultures and to speak their own minds.

A second example to illustrate design, development, and implementation of a *Cultura* exchange is the China-USA Business Café (CUBC) project reported by Jiang, Wang, and Tschudi (2014) between students at the University of Hawai'i and Tianjin Foreign Trade Vocational College with a goal of fostering the cultural component of students' communicative competence in Chinese. The teaching model adopted in CUBC is based on *Cultura* and emphasizes cross-cultural learning through exploration and discovery, consisting of the following five steps: (1) accessing authentic cultural material, (2) posting personal responses to the material, (3) observing and analysing others' responses to the material, (4) engaging in exchange and discussion based on one's analysis, and (5) self-reflection.

The word association task and subsequent follow up online discussion demonstrated that through comparative analysis and discussion of concrete examples, students came to recognize that the "same" word in different cultures may represent a completely different concept: words that appear to be translations or glosses of one another may have quite different semantic fields in different cultures.

A third project based on the *Cultura* model used a design and implementation similar to the CUBC described above but differed in that it involved primarily heritage learners of Filipino. Domingo (2014) reports on the Filipino Heritage Language Café, whose goals were (1) to improve and enhance intermediate Filipino language learners' language proficiency and cultural competence; (2) to create a learning environment in cyberspace that would expand student awareness of a community of learners and provide a forum to examine Filipino identity and culture, and (3) to enable students to compare and experience Filipino culture vicariously from another perspective and geographic location.

Two implementations of the online Café involved learners studying Filipino at universities in the United States, and one iteration was an exchange between two US universities and the University of the Philippines. In the exchanges, students first introduced themselves to each other online, then filled out word associations and sentence completions, typical of *Cultura*-based projects, and subsequently discussed the results of the word associations and sentence completions in online forums.

Analyses of the forum postings that were made revealed concrete evidence that students were able to synthesize that they had read in the others' postings and to hypothesize about why their fellow students wrote what they did, which was one of the key expectations of the instructors. Students appreciated the fact that in the word association and sentence completion activities, they were the experts in their own culture, and the multiplicity of voices and knowledge expressed in the forums surpassed what they might have learned from only their teacher's perspective.

To summarize, this section has presented a widely used model of telecollaboration for language and culture learning (the *Cultura* model). Selected studies on the design, development, and implementation of the model in different global contexts have shown the model's strengths and affordances. But there are also some limitations and invisible constraints in telecollaborative projects which are discussed in the following section.

4. Invisible factors in telecollaboration implementation and research

As attested by the previous sections, telecollaboration and OIEs have been very successful, both for language and culture learning in different higher education contexts. Successes include personal and cultural benefits, linguistic and sociolinguistic improvements, development of intercultural communication skills, and critical cultural awareness raising. However, there are less visible dimensions that warrant discussion, and they are the focus of this section.

In a review of studies on telecollaborative exchanges, O'Dowd and Ritter (2006) discovered many examples of "failed communication," when online intercultural exchanges did not result in successful communication or negotiation of meaning between the learners. They developed an inventory of factors that could lead to cases of so-called failed communication, divided into four levels: individual, classroom, socioinstitutional, and interaction. For example, teachers who do not have institutional support or have different curricular goals or requirements than their partners often find it difficult to devote time to such exchanges. Interaction factors included "the misunderstandings and tension which arise from cultural differences in communicative style and behavior" (p. 634). Similarly, Lamy and Goodfellow (2010) ascribe difficulties, tensions, and failure of telecollaborative projects to a wide variety of factors, e.g., negative transfer, differences in negotiation or interactional "styles," professional misalignments, practical constraints, teacher workload, and conflicting world views.

Based on the different kinds of research discussed in this paper, three main types of constraints are proposed, constituting some so-called invisible factors that teachers and researchers should be aware of when developing, implementing, and researching online intercultural exchanges.

4.1 Constraints of technology

Thorne (2003) presented three telling case studies of OIEs and found that computer users from different cultures had different views on which technologies were appropriate for the exchange. For example, he reported on a generational shift in communication tool preference, discovering that a ubiquitous tool, email, was unsuitable for mediating peer relationships among undergraduate university students (in the United States and France) who were engaged in an intercultural exchange. Email was found to be constraining, whereas instant messaging was found to be a more appropriate tool for interpersonal peer relationship building. Thorne therefore suggested that the medium, i.e., the technological tools, is not a neutral factor in OIEs.

Chun (2011) also found in her study with advanced learners of German in the United States that the US students were not satisfied with only using text-chats but would have preferred video-chats with their telecollaborative partners in Germany. At the time of the exchange, videoconferencing was not available on campus for students, exemplifying a technological constraint.

On a related issue regarding methodological constraints, Smith's (2008) study of a computer-mediated communication (CMC) environment for language learning found that looking only at the final product of text-chat logs misses important processes of self-repairs in the language learning process. By examining the screen capture videos of the entire chat interaction, which had become feasible technologically, he was therefore able to show fundamentally different features of the interactional data. This

makes visible that at any given point in time, technologies have certain affordances but also inherent constraints.

4.2 Constraints of the configuration

As many of the studies discussed in this paper and Chun's (2014a) collection of studies on OIEs have found, there are numerous organizational, institutional, and curricular issues that contribute to difficulties or less successful telecollaborative projects, specifically challenges with scheduling, differences in time zones and lengths of the exchange, and differences in project goals due to curricular and institutional constraints.

O'Dowd (2011), for example, noted that short-term exchanges can actually have more negative than positive consequences on learners' intercultural awareness. Jiang et al. (2014) found in their CUBC project that not all aspects of their exchange were coordinated and monitored continuously by both partner teachers, including time coordination, teaching and student training, operating procedures, and performance objectives and expectations. In terms of curricular issues, Domingo (2014) suggested that some of the challenges of the Filipino Heritage Café were due to the fact that the online exchange was not an integral part of the curriculum.

4.3 Constraints of the learners and the learning context

Challenges in telecollaborative projects that can be attributed to the learners themselves and the learning contexts and assumptions surrounding them include differences in linguistic proficiencies among the partner classes, willingness of learners to write honestly and openly, cultural differences and conflicts, and the possibility of reinforcing preconceptions and stereotypes of the learners. It is important to note, though, as Lamy and Goodfellow (2010) did, that the field of telecollaboration has moved "from the notion of 'conflict as accidental finding of research' to 'conflict as object of research'" (p. 109). This resonates with Agar's (2006) concept of rich points, and he suggests "Those moments of incomprehension and unmet expectations are the fuel that drives ethnographic research" (p. 5).

For example, Chun and Wade's (2004) students stated to their instructors (during class time) that they did not always express their honest thoughts and feelings in the online exchange and that they felt that their partners were not "interested" in them or their opinions because they did not ask many questions. Their online postings were friendly and positive, without a hint of any discontent. In the CUBC project, Jiang et al. (2014) found that the two classes were not well matched in terms of linguistic proficiency, and therefore the American students were not always able to understand the colloquial written language produced by their partners.

4.4 Constraints of the teachers' role

Although Furstenberg and Levet (2014) advise that teachers not intervene in the online parts of the exchanges, they certainly believe that the teachers' role is important for planning and follow-up purposes. Belz (2003) and O'Dowd and Ritter (2006) have emphasized that the points of tensions in intercultural exchanges should not categorically be avoided, but rather that such differences should be used as rich points to explain and discuss cultural contexts and practices that learners could analyse and make conscious efforts to understand. Similarly, Schneider and von der Emde (2006) view conflict as a

learning opportunity. It is therefore critical for the teacher to follow up on these points in the classroom (see O'Dowd, 2013).

Ware and Kramsch (2005) described an extended episode of misunderstanding between two students (one who was learning German in the United States and the other who was learning English in Germany) during an asynchronous telecollaborative project. Communication breakdowns online can make visible the pragmatic assumptions that are generally taken for granted (speech acts, conversational maxims, facework). Learners are often unaware of these assumptions, particularly when conversing in a second language, and it is therefore essential for teachers to help students go beyond comprehending the surface meaning of words and sentences in order to understand what their intercultural partners are writing.

5. Conclusions and recommendations

With regard to selecting a theoretical basis and research methodology for studying telecollaborative projects, broader theories that take social communication into account (as opposed to the primarily linguistic or psycholinguistic theories) are preferable since ICC necessarily involves and is dependent upon human interaction. As such, sociocognitive, sociocultural, and ecological approaches (including ethnographic and action research) lend themselves better to understanding and explaining authentic interactions. Accordingly, solely quantitative methodologies are not able to capture the complex nuances of intercultural discourse and thus qualitative methods or, alternatively, multiple methods are more appropriate for this type of research, analysing not only online interactions but also ethnographic data, interview, and questionnaire data, as well as teacher/researcher observations.

Telecollaboration can be instrumental in language and culture learning, awareness raising, highlighting rich points, and development of ICC by providing learners with a variety of opportunities for both linguistic and cultural experiences. However, simply connecting learners with each other online does not ensure a successful intercultural exchange. Based on the research presented in this paper and on Chun's (2014b) metasynthesis, unanticipated challenges, divided by O'Dowd and Ritter (2006) into four levels (individual, classroom, socioinstitutional, and interactional), arise not infrequently. The various constraints due to technology, curricular timeframes and issues, the learners and the learning context, and the role of the teacher suggest that future research approaches must consider these constraints and integrate them into the design of their methodologies.

With regard to design and development of telecollaborative projects or online intercultural exchanges, teachers need to (1) be realistic about the goals and what is achievable with their specific learners and the learners' level of proficiency; (2) carefully plan every aspect of the exchange, from discussing the goals with both partner teachers and students, to agreeing on similar assignments and curricular integration, to training the learners to use the technology appropriately; (3) adapt whichever model of exchange they choose to follow to their (and their students') particular needs and goals; (4) resolutely follow up on the students' online exchanges in the classroom so that misunderstandings can be resolved and reinforcing of stereotypes can be avoided. This attention to the invisible or unanticipated challenges, along with selecting an appropriate research methodology, might allow us to progress in our understanding of intercultural programs in higher education.

Notes on contributor

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Search

Appendix A. Sample word associations and sentence completions in *Cultura* (http://cultura.mit.edu/1997-fall-mit-supaero-toulouse/)

The Cultura Exchanges Site



1997 Fall - MIT/SUPAERO

Questionnaire type: Word Associations

- · neighbors / voisins Discussion
- · responsibility / responsabilité Discussion
- · hierarchy / hiérarchie Discussion
- government / gouvernement Discussion
- store owner / commercant Discussion
- · authority / autorité Discussion
- youth / jeunesse Discussion
- · tradition / tradition Discussion
- · freedom / liberté Discussion
- money / argent Discussion
- · vacation / vacances Discussion
- · civil servant / fonctionnaire Discussion
- work / travail Discussion
- · France / France Discussion
- United States / Etats-Unis Discussion
- · family / famille Discussion
- · grand-parents / grands-parents Discussion
- elite / élite Discussion
- · politics / politique Discussion
- suburbs / banlieue Discussion

Questionnaire type: Sentence Completions

- . A "good" neighbor is ... / Un "bon" voisin est ... Discussion
- · A "well-behaved" child is a ... / Un enfant "bien ... Discussion
- A "good" doctor is a ... / Un "bon" médecin est ... Discussion
- A "good" job is a ... / Un "bon" job est un ... Discussion
- A "good" parent is ... / Un "bon" parent est un ... Discussion
- A "good" teacher is a ... / Un "bon" prof est un ... Discussion
- . A "good" boss is a ... / Un "bon" patron est ... Discussion
- · A "good" friend is ... / Un "bon" ami est ... Discussion
- A "successful" evening with friends ... / Une soirée "réussie" ... Discussion
- A "polite" person is ... / Une personne "polie" est une ... Discussion

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