Computer Assisted Language Instruction Consortium

CALICO JOURNAL (ONLINE) ISSN 2056–9017

Article

Synthesizing the Practice of SCMC-based Telecollaboration: A Scoping Review

Yuka Akiyama[1] and D. Joseph Cunningham[2]

Abstract

Telecollaboration is a type of online learning arrangement between geographically distant participants for the development of language and intercultural competence. After two decades of research, it is an apt time to engage in a systematic review of previous studies in the form of a scoping review in order to illuminate the pedagogical practices commonly used in telecollaboration. The study synthesized 55 distinct telecollaboration projects that took place in university foreign-language classes and utilized synchronous computer-mediated communication (SCMC) tools to answer (1) What are the typical arrangements of SCMC-based telecollaboration (e.g., participants, project set-ups, and interaction set-ups)? and (2) How have SCMC-based telecollaboration projects changed over the last two decades? We identified six commonly adopted arrangements of SCMC-based telecollaboration. We also found that, while certain pedagogical practices in telecollaboration have matured, the field is undergoing reconceptualization and expansion with the advancement of technology and diversification of participants. We conclude the article with suggestions regarding reporting practices in telecollaboration research, thereby enabling more rigorous synthesis in the future.

KEYWORDS: TELECOLLABORATION, RESEARCH SYNTHESIS, SCOPING REVIEW, SYNCHRONOUS COMPUTER-MEDIATED COMMUNICATION

Affiliations

Georgetown University / Oxford Brookes University.
email: ya125@georgetown.edu

Georgetown University, Washington, DC.
email: joe.cunningham@georgetown.edu

CALICO JOURNAL VOL 35.1 2018 49–76

https://doi.org/10.1558/cj.33156

equinox

equinoxonline

Introduction

Connecting geographically distant learners of a foreign language (FL) with native speakers (NSs)/expert users of the language was somewhat impractical until the introduction of computer-mediated communication (CMC) tools into the language classroom. *Telecollaboration* (TC) is an approach that can facilitate such intercultural exchange online. Belz (2003) defines TC as "institutionalized, electronically mediated intercultural communication under the guidance of a linguacultural expert (i.e., a teacher) for the purposes of foreign language learning and the development of intercultural competence" (p. 2). This type of learning arrangement has become so widely accepted that many language practitioners nowadays implement online intercultural communication using diverse project and interactional set-ups.

TC has utilized asynchronous CMC (ACMC) tools (e.g., email, bulletin board/online forums, blogs) and synchronous CMC (SCMC) tools (e.g., videoconferencing tools like Skype, text chat tools like MSN Messenger). While the majority of studies on intercultural exchange projects in the 1990s investigated ACMC, recent technological developments, such as faster and more stable internet connections, enable TC participants to talk to each other in real time. Consequently, an increasing body of TC projects utilize SCMC tools solely or in conjunction with ACMC tools to maximize technological affordances. Reflecting this current change of technology use in TC projects, this study sets out to synthesize previous TC studies that utilized SCMC tools.

Synthesizing Telecollaboration Projects

Synthesis is a systematic research method that attempts to review the broadest possible coverage of research in a given area. There have been recent attempts to conduct meta-analysis and synthesis studies of CMC research, including Sauro (2011), Lin (2015), and Ziegler (2016); however, as regards the specific activities of TC, such studies are less well represented. Carney (2006) conducted a review of TC projects that involved Japanese participants, featuring "country" as a variable that mediates intercultural learning. Lewis and O'Dowd (2016) conducted a review of TC research focusing on "learning outcomes" using a methodology called Systematic Description Map (pp. 22–23). While these studies are useful in describing the current state of TC in general, a focus on technology mediation seems to be missing. Reflecting the recent move to study how medium and context interact with language use (Kern, 2014), it seems crucial to highlight the distinct nature of SCMC (as opposed to ACMC). The current study thus delimits its scope to synthesizing SCMC-based TC by reviewing 55 telecollaborative projects that met our inclusion/exclusion criteria (see *Method*).

We used a synthesis method called *scoping review*, which examines the "extent, range, and nature of research activity in a topic area; summarizes and disseminates research findings; and identifies research gaps in the existing literature" (Pham et al., 2014, p. 371). In other words, a scoping review is used to prepare for a more rigorous synthesis of the domain and to improve current research practices. Accordingly, the ultimate goal of this scoping review is to reveal the underlying patterns of SCMC-based TC projects that took place in university foreign language classes over the last 20 years, so as to reveal (and improve) the current state of research and teaching practice. The following research questions guided our study.

1. What are the commonly adopted arrangements of SCMC-based TC projects that take place in university foreign language classes?
2. How have SCMC-based TC projects changed over the last two decades?

Our synthesis focuses on TC projects that took place in university language classrooms for the benefit of all participating institutions (e.g., for language learning, development of intercultural competence, teacher training). Accordingly, we used Belz's (2003) definition of TC (see *Introduction*) that emphasizes the *institutional* and *reciprocal* nature of TC. While this definition inevitably excludes some TC studies, in no way do our inclusion/exclusion criteria represent a judgment regarding the value of this research. Instead, our aim is to delimit the scope of our review in a systematic way so as to reveal the underlying patterns of TC projects that took place in a relatively similar educational context.

Method

Our scoping review consisted of the following steps: (1) literature retrieval, (2) application of inclusion/exclusion criteria, (3) creation of a coding book, and (4) coding of study reports.

Literature Retrieval

We retrieved a body of relevant study reports through a "principled, replicable, and exhaustive search of literature" (Norris & Ortega, 2000, p. 430). Although it is important to lessen the impact of publication bias and to take a comprehensive approach to research synthesis, we decided to exclude "fugitive" literature (e.g., unpublished papers and dissertations) and focus on studies that were published as either peer-reviewed journal articles or book chapters. This is because the primary goal of this synthesis was to investigate the TC projects of the body of accessible, and therefore most influential, research that defines the field today.

To access the initial body of literature, we first brainstormed potential key words of TC, by referring to relevant conference presentations and by reading the tables of contents of four published books on TC that had often been cited by TC researchers as of January, 2015.[1] Key- and subject-word searches were then conducted within Linguistics and Language Behavior Abstracts, MLA International Bibliography, Communication Mass Media Complete, and Google Scholar. We also browsed for relevant study reports in back issues of 14 academic journals[2] that have often published TC research. Finally, reference sections of all the retrieved studies were browsed for relevant studies.

After excluding duplicate study reports, we read the titles and abstracts of retrieved reports and categorized them into (1) reports most likely relevant to TC and (2) reports that are clearly irrelevant (e.g., studies on first language acquisition, biology). Next, we reviewed the method section of the main text to categorize relevant studies into (1) TC projects that utilized SCMC and (2) TC projects that exclusively utilized ACMC. Studies that solely used ACMC were excluded from the final body of study reports. Subsequently, review papers and position papers were excluded, so that only empirical study reports would remain. In sum, 698 potential studies were retrieved and evaluated. Of the 698 studies, 222 studies met the initial screening criteria.

Application of Inclusion and Exclusion Criteria

Criteria for inclusion and exclusion were developed through an iterative process of specifying relevant study features that define a coherent domain. Below are the nine inclusion and four exclusion criteria that delimited our synthesis.

1. Date of publication: The publication date was set between January 1996 and March 2016. This cut-off year was chosen because 1996 represents the first attempt to systematically engage with and establish the domain of TC (i.e., Warschauer, 1996) and because it is around this time that major SCMC tools such as Yahoo Messenger were developed.
2. Publication type: We included peer-reviewed journal articles or book chapters.
3. Language of publication: Only studies in English were included.
4. Reporting: We included studies which reported both project details and substantial research findings on SCMC. Thus, we excluded studies that (1) reported on aggregated data collected from multiple instantiations of the same/similar telecollaborative context/framework (e.g., Kern, 2014) and (2) reported findings on ACMC data only, even if SCMC tools were used (e.g., Belz, 2003; Ware, 2005).
5. Interaction arrangement: We included studies if their interaction took place between at least two geographically distant institutional groups.

We excluded projects that took place between participants located within the same institution (e.g., Lee, 2007, 2008).

6. Purposes of TC: Studies were included if the purpose of the exchange was language learning for at least one of the participating groups. We excluded study reports whose focus was not on language learning but exclusively on teacher education (e.g., Develotte, Guichon, & Vincent, 2010; Müller-Hartmann, 2006).
7. Participants: The current review targeted university learners of an additional language. Thus, we focused on studies that included at least one group of college students learning a FL. In addition, we only included TC projects that would potentially benefit all of the exchange partners. Thus, we excluded studies if FL students' partners were not gaining any linguistic/cultural benefits from participating in TC (e.g., Jin & Erben, 2007; Tudini, 2007).
8. Session frequency: Considering the conventionally longitudinal nature of TC, we included projects that involved at least two distinct SCMC sessions (as opposed to a study reporting on a one-shot interaction activity as in Sauro & Smith, 2010).
9. Medium of communication: Studies were included if they used SCMC tool(s) as one of the main tools of communication. For instance, a project whose main tool of communication was asynchronous but included two distinct contact SCMC sessions was included.

Based on these inclusion/exclusion criteria, 65 study reports were included in the review. In cases where multiple studies reported on the same project (k = 10), we coded only one instance of each project. Thus, this scoping review is based on 55 distinct TC projects that were reported in 65 publications (see Appendix A for the list of included studies).

Creation of a Coding Book and Coding

The first author read ten sample reports and created a coding book draft. We then read five study reports to revise the coding book. After reaching initial consensus on what phenomena should be coded for, we separately read another set of five reports and evaluated the coding book. Finally, we revised and validated the coding book by individually coding ten more studies. The inter-rater reliability for the high-inference substantive and methodological features (indicated with * in the coding book in Table 1) was around 70%, while we achieved 90% and above for low-inference variables. Thus, while each of us separately coded low-inference items, we both coded high-inference variables of all of the 55 study reports and negotiated any discrepancies.

Table 1
Coding Book

Focal analysis	Categories	Coding items, examples, & notes
PARTICIPANTS	A. Participants' countries/ regions of residence	e.g., USA (Group A), Germany (Group B)
	B. Participant types*	(1) FL learners, (2) Native-speaking (NS) teachers in training, (3) Non-native speaking (NNS) teachers in training, (4) NS cultural explorers, (5) Information Communications Technology (ICT) and FL learners, (6) other
	C. Participants' first language (L1)	e.g., English (Group A), German (Group B)
	D. Participants' target language (TL)	e.g., German (Group A), English (Group B)
	E. Proficiency level in TL	e.g., Intermediate high on ACTFL (American Council on the Teaching of Foreign Languages) Oral Proficiency Interview (OPI) (Group A), Advanced (Group B)
PROJECT SET-UPS	A. Language configuration	(1) monolingual, (2) bilingual, (3) multilingual, (4) lingua franca
	B. Project duration	e.g., 6 weeks
	C. Frequency of SCMC interaction	e.g., weekly one-hour chat
	D. SCMC interaction types	(1) text, (2) audio chat, (3) video, (4) virtual world, (5) massively multiplayer online role-playing game, (6) audio graphic, (7) other
	E. SCMC tools used	e.g., MSN Messenger
	F. Concurrent use of ACMC tools	(1) email, (2) voice mail, (3) online discussion forum, (4) blogs, (5) Wikis/websites, (6) social networking sites, (7) other (specify)
	G. Balance between SCMC and ACMC*	(1) SCMC only, (2) SCMC > ACMC (e.g., weekly videoconferencing with email follow-up), (3) ACMC > SCMC (e.g., weekly email exchanges with pre-post semester video chats), (4) Both used, relationship unclear (e.g., students choosing which tool to use)

INTERACTION SET-UPS	A. Interaction formation in SCMC interaction	e.g., 1 vs. 2 (i.e., one learner from Group A and two from Group B interacting)
	B. Types of tasks used in SCMC interaction*	(1) information exchange tasks, (2) comparison and analysis tasks, (3) co-construction tasks, (4) language-focused tasks (5) other
	C. Description of tasks used in SCMC interaction*	e.g., participants talked about political issues; the tasks were sequenced from language-focused to information exchange tasks
	D. Language(s) of interaction*	(1) one language used at a time, (2) two+ languages used simultaneously (i.e., participants' choice), (3) only one language used in the project

Coding of Study Reports

Using the coding book in Table 1, we analyzed (1) participant profiles, (2) project set-ups, and (3) interaction set-ups. For (1), we analyzed participants regarding (a) types (e.g., FL learners, teacher trainees), (b) configurations, namely the combination of participant types (e.g., FL learner and FL learner, as opposed to FL learner and teacher trainees), (c) countries of residence, (d) L1 and TL, and (e) proficiency in TL. Secondly, project set-ups were examined vis-à-vis (a) language configurations, (b) project duration, (c) frequency of interaction, (d) SCMC types (e.g., audio chat, text chat), (e) concurrent use of ACMC tools (e.g., emails, blogs), and (f) balance between SCMC and ACMC. Finally, we explored interaction set-ups in terms of (a) interaction formation (e.g., one on one, small groups), (b) task types, and (c) language(s) of interaction. Below we will explain three of the high-inference variables that require further elaboration.

Participant types

Participant types were coded as (a) FL learners, (b) NS teachers in training, (c) NNS teachers in training, (d) NS cultural explorers, and (e) ICT and FL learners. NS teachers in training are those who are trained to teach their L1 (e.g., English L1 speakers being trained to teach English), while NNS teachers in training are those who are trained to teach their TL and thus are also FL learners themselves. NS cultural explorers are NSs who are participating in TC because they are interested in cultural exchange and not necessarily in their partner's language. Finally, ICT and FL learners are those who are learning both information and communication technologies and FL.

Tasks

O'Dowd and Ware (2009) found that there are twelve general types of TC tasks, which can be categorized into three groups: information exchange tasks, comparison and analysis tasks, and collaborative tasks. Although their categorization is generally useful, our initial coding of several studies revealed some difficulty using the categorization, mainly because their categorization includes both SCMC- and ACMC-based tasks. Therefore, based on O'Dowd and Ware's (2009) classification, we devised four types of tasks that were used in SCMC-based interaction: (1) information exchange tasks, (2) comparison and analysis tasks, (3) co-construction tasks, and (4) language-focused tasks.

Information exchange tasks are the least structured task type of the four and usually take the form of a discussion regarding cultural differences/similarities. *Comparison and analysis tasks* are usually classroom-embedded, with a language teacher engaging a group of learners in the exploration of cultural and linguistic differences/similarities. The major model of this task type is *Cultura* (Furstenberg, Levet, English, & Maillet, 2001). *Co-construction tasks* are unique in that both groups produce a product together. In SCMC-based TC, this type of task often results in a set-up where both sides of learners create a blog or website together (ACMC) while discussing their progress and clarifying issues in SCMC. Finally, *language-focused tasks* are used to practice the target language in a more structured way (e.g., jigsaw tasks). This type of task does not focus on exchanging cultural information unlike *information exchange tasks*.

Results

Below we present the findings of our synthesis. Note that we follow the reporting convention of synthesis studies and represent the number of *study reports* using *K*/*k*, while *N*/*n* is used to indicate the number of other variables such as the number of participants and countries. Note also that NR represents "not reported" while NA indicates "not applicable."

Participant Characteristics

Participant Configurations

We identified six participant configurations as listed in Table 2. The most frequently reported configurations involved two groups of FL learners (k = 26, 47% of the studies reviewed).

Countries of Residence

We identified 113 cultural groups from 25 unique countries. As Figure 1 shows, the USA participated most often, followed by Germany and Spain.

Table 2
Participant Configuration Types

Configurations	***k***
FL learners – FL learners	26
FL learners – FL learners/NNS teachers in training	11
FL learners – NS teachers in training	7
FL learners – NS cultural explorers	6
FL learners/NNS teachers – NS teachers in training	2
FL/ICT students – FL/ICT students	2
Other	1

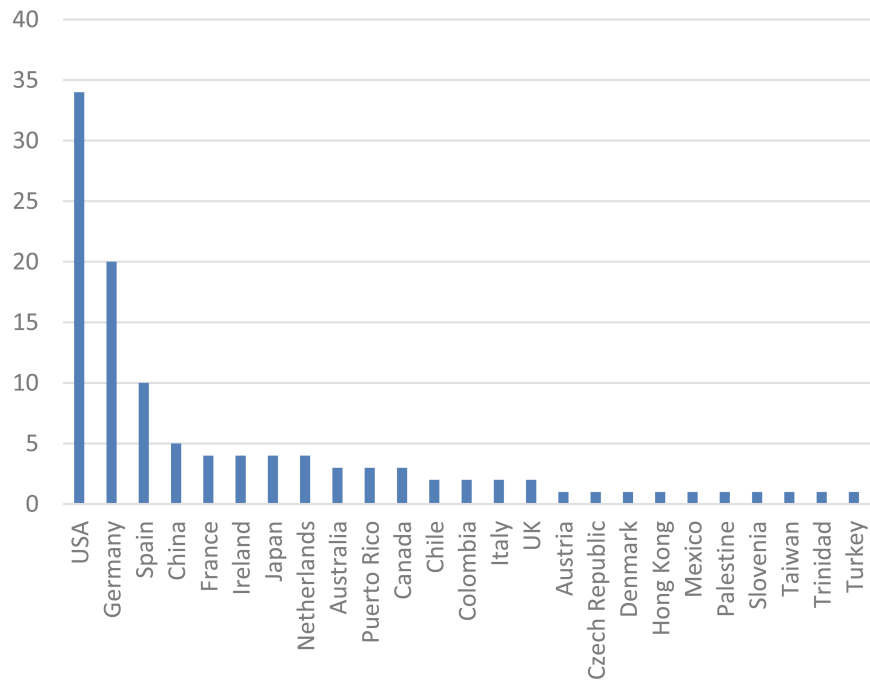

Figure 1. Participants' countries.

In examining participating countries with regards to publication years, we found that, starting in 2010, countries that had rarely participated in TC started to gain presence. These include countries from Asia (e.g., China, Hong Kong, Taiwan), Oceania (Australia), Eastern Europe (Czech Republic, Slovenia), the Middle East (Turkey, Palestine), and South America (Colombia, Trinidad).

L1

Figure 2 shows participants' first language. About one third of the cultural groups spoke English as their L1. Speakers of region-specific languages such as Polish, Danish, and Czech were underrepresented. Although there were ten projects whose participants spoke various languages (i.e., "mixed" in Figure 2), the majority of the participants were monolingual speakers of similar linguistic backgrounds. Regarding the publication year, projects featuring participants who speak languages other than major European languages started to appear after 2010.

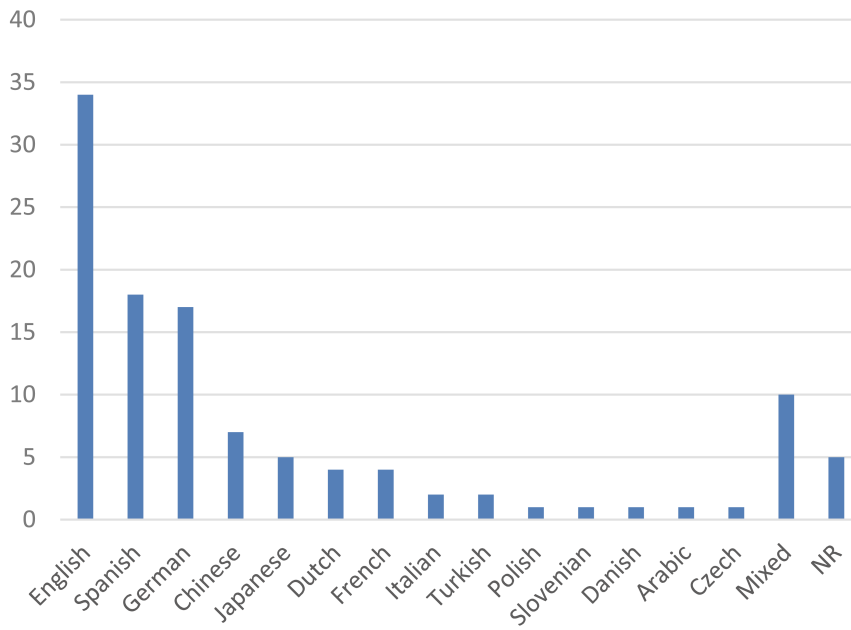

Figure 2. Participants' L1.

TL

As Figure 3 shows, only one less commonly taught language (LCTL) (i.e., languages other than English, Spanish, German, and French) was featured in the top five.

FL proficiency

Before presenting our findings on participants' proficiency level in their TLs, we would like to raise awareness regarding how previous studies reported TL proficiency. Of the 55 study reports, 30 reported participants' *FL proficiency level* using proficiency bands based on established frameworks such as Common European Framework of Reference (CEFR; k = 8), ACTFL OPI (k

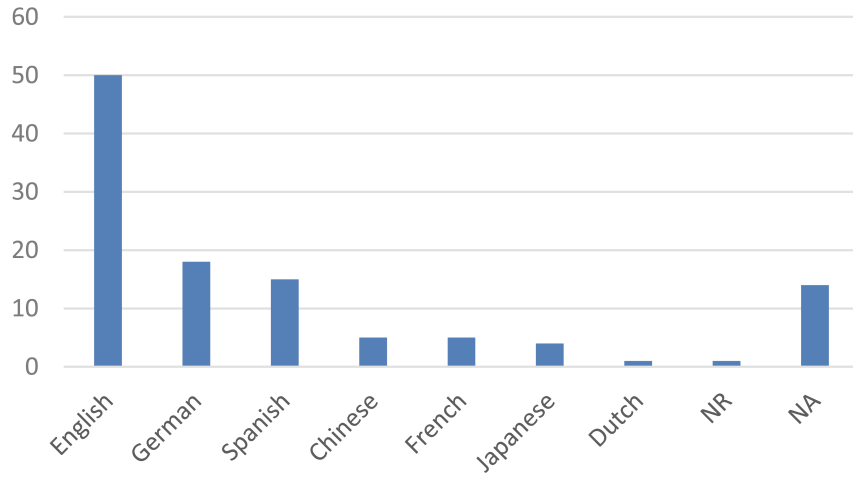

Figure 3. Participants' TL.

= 4), and a score on a local test (k = 2), and/or general descriptions of proficiency levels (e.g., beginner, intermediate; k = 27). Seven studies reported the *course levels* in which participants were enrolled (e.g., second semester German). Eleven studies reported both proficiency and course levels. There were also two studies that described participants' language skills without reference to proficiency or course level (e.g., "the participants could communicate with NSs without much problem").

In order to understand TC participants' proficiency levels, we first needed to make the various proficiency measures roughly comparable. For that, we categorized them into three broad TL levels: beginner, intermediate, and advanced. First, CEFR and OPI test measures were made comparable by the criteria listed in Appendix B. Second, we used author(s)' general descriptors like "advanced learners" for studies that did not report either CEFR or OPI. The results revealed that, of 57 cultural groups whose proficiency level was reported, the majority of the participants were intermediate (n = 29) or above intermediate (n = 23), with only five groups of beginning-level participants. Similarly, the analysis of 18 studies that reported participants' course levels revealed that the majority of the participants were second- or third-year students, namely those who are usually considered intermediate in language courses.

Project Set-ups

Language Configurations

We coded language configurations following Helm's (2015) classification. Figure 4 shows that the majority of the projects were either monolingual or bilingual in contrast to the paucity of multilingual and lingua franca projects.

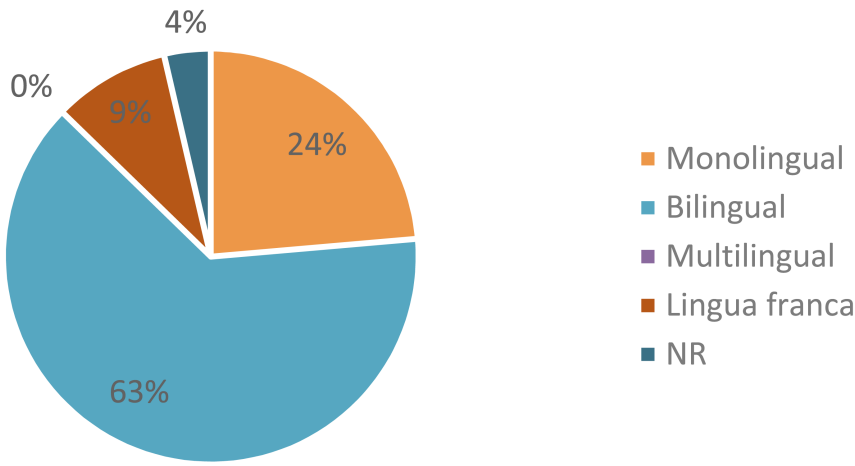

Figure 4. Language configuration types.

Project Duration

The duration of projects was calculated based on 51 studies that reported the data. To equalize the values reported, descriptors were converted into weeks (e.g., a month = four weeks). It was found that the average duration of a project was about 10.54 weeks with an *SD* of 4.19 weeks. The longest project lasted for 26 weeks, and the project with the shortest duration lasted for four weeks.

SCMC Types

As Figure 5 shows, many projects were text-based (k = 23) or combined text chat with video interaction (k = 12). There were also projects that did not use any written modality: video chat only (k = 12), audio chat (k = 2), audio graphic (k = 2), and both audio and video chat (k = 1).

Concurrent Use of ACMC Tools

As Figure 6 shows, about 60% of the projects included ACMC interaction in addition to SCMC, while the rest only used SCMC. 62% of ACMC was via email, 16% was via blogs, 14% was via Wikis or websites, and 11% was via discussion forums. Only one study used the social networking site Facebook alongside SCMC. Email was used mainly (1) to set up a time for SCMC (e.g., Akiyama, 2014, 2015; SCMC > ACMC), (2) to reinforce corrective feedback practices by combining both synchronous and asynchronous feedback (e.g., Bower & Kawaguchi, 2011; SCMC = ACMC), and (3) as the main tool of interaction while SCMC was used complementarily (e.g., Kinginger, 1998; SCMC < ACMC).

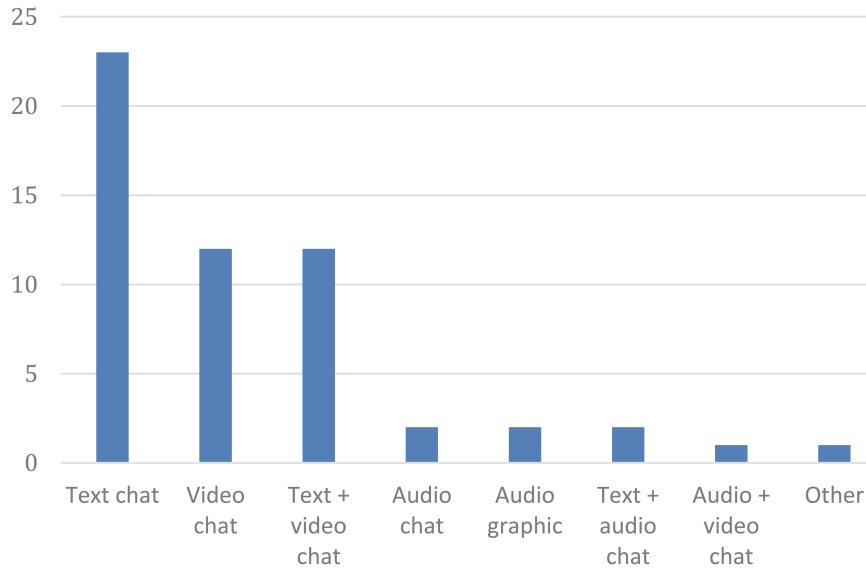

Figure 5. SCMC types.

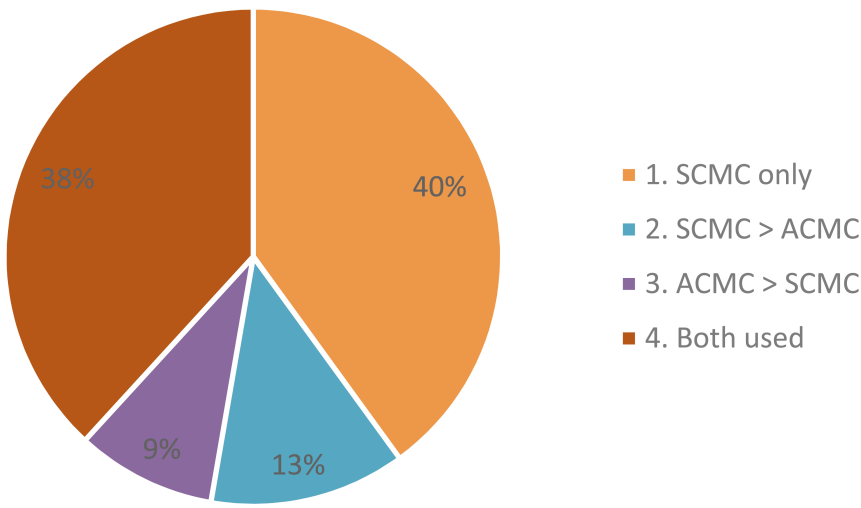

Figure 6. SCMC vs. ACMC balance.

Interaction Set-ups

Interaction Formation

We identified five types of interaction formation when participants engage in SCMC: (1) 1 vs. 1 (i.e., dyads), (2) 1–2 vs. 1, (3) small group, (4) mid-size group, and (5) class vs. class. In analyzing video-based projects chronologically,

we found that, while many of the projects before 2007 took place between two intact classes via videoconferencing (i.e., a class of participants interacting with a class of participants overseas looking at a projector in front of the classroom), we started to see an increase in the use of individualized video chats. Indeed, the development of SCMC tools was so rapid that the majority of studies in this synthesis employed the 1 vs. 1, 1–2 vs. 1, and small group formation as Figure 7 shows.

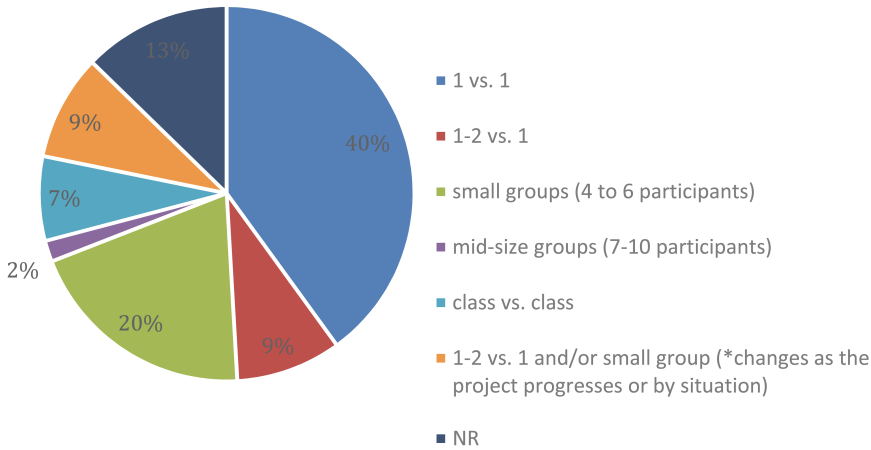

Figure 7. Interaction group formations.

Task Types

The majority of the projects used information exchange tasks, and language-focused tasks were the least common. Twelve projects used co-construction tasks, two projects sequenced tasks from information exchange to co-construction, and two projects sequenced from information exchange to comparison and analysis and then to co-construction. Task sequencing, as suggested by O'Dowd and Ware (2009) and exemplifed by Guth and Helm (2011), was not commonly adopted in SCMC-based TC. Table 3 shows the distribution of task types.

Table 3
Task Types

Task types	***k***
Information exchange	29
Co-construction	12
Comparison and analysis	4

Language-focused	3
Information exchange → co-construction	2
Information exchange → language-focused	2
Information exchange → comparison and analysis → co-construction	2
Information exchange → comparison and analysis	1

Language(s) of Interaction

While many projects (k = 23) designated when to use which language for how long (e.g., tandem model), ten studies adopted the bilingual mode, allowing participants to use a language of their choice. In contrast, 18 studies only used one language in their project because they used a single language as the lingua franca or for teacher training purposes (e.g., interaction in English between EFL students and English teachers).

Discussion

Bringing together the above findings regarding project and interaction set-ups, and with specific reference to our first research question, we identified six typical arrangements of SCMC-based TC projects (Table 4). In the discussion that follows, we briefly review the features of each arrangement, referencing illustrative projects that fit within each of the typical arrangements we have identified.

FL Learning is a type of TC exchange conducted between groups of FL learners and it can be divided into three typical arrangements based on language use and CMC types. The first FL learning arrangement is *Tandem*, where two languages are used independently from each other by dividing a SCMC session into two parts (e.g., English for 30 minutes and German for 30 minutes). Tandem is an arrangement that is relatively open-ended in that many such projects use information exchange tasks. On the other hand, Tandem can be tailored for language learning via the use of language-focused tasks. This arrangement is characterized by frequent contact (i.e., at least once a week) and limited use of ACMC. Projects that exemplify this arrangement include Darhower (2007, 2008), in which Spanish learners in the USA and English learners in Puerto Rico communicated weekly over a period of ten weeks via synchronous text chatting, and Tian and Wang (2010), where learners of Chinese in the USA and learners of English in China communicated via Skype on nine occasions.

Socialization is the next typical arrangement for FL learning, and it is similar to Tandem in that use of the two languages is kept distinct. However, unlike Tandem, the separation takes place between SCMC sessions (e.g., one session

Table 4
TC Practice types

Types	Participant configuration	Language use	Tasks	CMC types	Interaction frequency	Sample studies
FL Learning: Tandem	FL learners – FL learners*	Bilingual in FL learners' TLs; 50:50 language use *within a session*	Information exchange; Language-focused	SCMC > ACMC	Fixed	Akiyama (2014, 2015); Darhower (2007, 2008); Tian & Wang (2010)
FL Learning: Co-construction	FL learners – FL learners*	Bilingual in FL learners' TLs; Code-switching commonly used	Comparison & analysis and/or co-construction	SCMC ≈ ACMC	Variable by groups	Belz & Vyatkina (2005, 2008); Hauck (2007); Hauck & Youngs (2008)
FL Learning: Socialization	FL learners – FL learners*	Bilingual in FL learners' TLs; 50:50 language use *between sessions*	Comparison & analysis and/or co-construction	ACMC > SCMC	A few SCMC sessions at the beginning & end of a project; # of ACMC variable	Carney (2008); Kinginger (1998)
Apprenticeship	FL learners – NS teachers in training	Monolingual in FL learners' TL	Information exchange**	It depends	It depends	Chaudhuri (2011); Jauregi & Bañados (2008); Lee (2004, 2006)
Cultural Exploration	FL learners – NS cultural explorers	Monolingual in FL learners' TL	Information exchange	It depends	It depends	Morollón Martí & Fernández (2016); O'Dowd (2006); van der Zwaard & Bannink (2014)
Lingua Franca	FL learners – FL learners	Monolingual using a lingua franca	Information exchange (including critical dialogue)	It depends	It depends	Helm, Guth, & Farrah (2012); Lindner (2011)

**Including teachers in training or ICT students who are learning a language*
***Often tasks are created by NS teachers in training*

in German, the following session in English). This arrangement typically uses SCMC as a supplementary activity to ACMC for the purpose of "socializing" or bringing together participants at the beginning and end of a project. Illustrative of this arrangement is Carney (2008): in addition to working with blogs, Wikis, and producing their own DVDs, Japanese learners of English and American learners of Japanese engaged in two Skype sessions, once in English and once in Japanese.

The final arrangement associated with FL learning is *Co-construction*. It is similar to Socialization in that both arrangements engage participants in co-construction of a cultural artifact (e.g., blogs, presentations), yet they are different in that Co-construction usually does not have a strict language separation rule or does not designate how often participants need to interact as long as they complete the final task, namely the creation of a cultural product. This arrangement is typified by the *Telekorp* project (e.g., Belz & Vyatkina, 2005, 2008), in which German learners in the USA and English learners in Germany worked together synchronously and asynchronously, using both languages, to create products such as dual-language websites and essays.

As regards projects in which one side of the exchange was learning an FL and the other side received a different kind of educational benefit, we identified three typical arrangements. First, *Apprenticeship* is an arrangement wherein the exchange takes place between FL learners and teacher trainees. This arrangement is unique in that one group of participants are learning how to teach their partners' TL and thus the interaction is usually monolingual in the learners' TL. Jauregi and Bañados (2008) reports on such an arrangement: Dutch learners of Spanish interacted in Spanish with pre-service teachers of Spanish in Chile via synchronous Web conferencing sessions and asynchronous blog posts that were meant to promote reflection on the synchronous communication.

Cultural Exploration is another typical arrangement where interaction takes place monolingually in FL learners' TL. It differs from Apprenticeship in that the partner group's main objective for participating in TC is to increase familiarity with the target culture rather than language learning or teaching. Of particular interest here is Morollón Martí and Fernández (2016), in which learners of Spanish in Denmark communicated with Spanish-speaking linguistics students in Spain. While the former increased knowledge of sociopragmatics, the latter appreciated the "experience of intercultural communication" (p. 6).

The final arrangement, *Lingua Franca*, is also a monolingual arrangement, but the language of interaction is none of the participants' first language. This arrangement often focuses on content learning over language learning and involves critical dialogue about topics such as political issues (Helm, Guth & Farrah, 2012) and acquisition of sociological knowledge (Lindner, 2011).

Although our categorization may provide a useful framework for practitioners and researchers, it must be noted that many projects do not fit exactly into these six typical arrangements. For instance, Guth and Helm (2011) documented an exchange between learners of English in Italy and NNS teacher trainees of English in Germany who completed various types of tasks by changing project and interaction set-ups. In that regard, this project drew on elements typical of multiple arrangements and shows that experienced TC practitioners can customize their TC projects according to their objectives and participants' needs.

In terms of our second research question, we found that, while Tandem has historically been and continues to be the most popular arrangement, more recent studies tend to belong to Apprenticeship, Cultural Exploration, or Lingua Franca. This indicates that there is now a wider range of partners who participate in TC for various purposes other than language learning. We also found that Socialization is waning in comparison to earlier years. We attribute this change to the recent development of better and faster SCMC tools that allow for frequent interaction in real time.

The findings on participants' characteristics revealed that, while participants' countries of residence and represented L1s and TLs have diversified since 2010, there is still a lack of TC projects whose participants speak or study LCTLs. It was also found that there seems to be a consensus among practitioners that SCMC-based TC is appropriate only after achieving a certain proficiency level. Since achieving intermediate-level proficiency in an LCTL is difficult, the paucity of research on those languages is exacerbated as result, meaning major world languages continue to be overrepresented.

Conclusion

This scoping review identified typical arrangements of SCMC-based TC projects over the last two decades. While it is clear that the field has engaged in various types of TC projects, as reflected in the diversification of participant types, project set-ups, and interaction set-ups, it is important to highlight the gap in TC research thus far. First, there is a lack of TC projects that go beyond one semester and that feature participants whose proficiency is higher than intermediate. Secondly, we need more research on TC projects that involve LCTLs. As shown by the predominant number of exchanges in English, German, and Spanish, the current research body may not necessarily exemplify intercultural exchanges involving languages and cultures that are extremely different from each other. Third, there is a paucity of multilingual and lingua franca projects in the synchronous mode of communication (cf., Helm's (2015) survey-based synthesis of TC projects).

Next, we cannot emphasize enough how important it is for TC researchers to report as many details as possible about their TC projects. Acknowledging the difficulty in describing a TC project due to its complex learning arrangement and the limited space offered by most publication venues, we would like to call for more consistent and rigorous reporting practices in the publication of future studies. For instance, many studies did not describe sufficiently what kind of tasks participants engaged in, how proficient they were in their TL, and how ACMC tools were used in conjunction with SCMC tools. As past research has revealed (e.g., O'Dowd & Ritter, 2006), tasks and proficiency levels are crucial factors that impact TC outcomes. Moreover, as Kern (2014) argues in proposing *relational pedagogy*, we need to provide a context-specific account of TC projects that highlights the role of technology mediation. Thus, we would like to suggest that future researchers utilize the coding book in Table 1 as a reference when they describe characteristics of a TC project.

Last but not least, it is important to remember that this synthesis does not represent the entirety of SCMC-based TC, because the 55 projects included in the synthesis are the ones that were filtered through our inclusion/exclusion criteria. In fact, due to our focus on studies of FL learning at the college level that were published in English, we had to exclude many interesting projects that are reported in other languages and may demonstrate the most recent development of TC. We suggest that future synthesis projects be conducted via the collaboration of TC researchers who speak different languages to expand the scope and to reduce the language bias. Having acknowledged the limitation of our study, we would like to conclude by saying that TC is going through maturation on the one hand and conceptual expansion on the other, such that the definition of "telecollaboration" may need concomitant modification. We look forward to future syntheses that target studies beyond the scope of the current synthesis and that relate their findings to the results we have presented here.

Notes

1. These are Guth and Helm (2010), O'Dowd (2007), Dooly and O'Dowd (2012), and Sadler (2012).

2. These are *Canadian Modern Language Review*, *Computer Assisted Language Learning*, *CALICO Journal*, *Foreign Language Annals*, *The French Review*, *Innovations in Language Learning and Teaching*, *Language and Intercultural Communication*, *Language Awareness*, *Language Learning*, *The Language Learning Journal*, *Language Learning & Technology*, *Modern Language Journal*, *ReCALL*, and *System*.

Acknowledgements

We wish to thank John Norris for sharing his expertise on research synthesis. We are also grateful to Lourdes Ortega and Heidi Byrnes for their helpful input and feedback on the content of this manuscript.

About the Authors

Yuka Akiyama (Ph.D., Georgetown University) is Lecturer of Japanese Language and Linguistics at Oxford Brookes University, UK. She engages in interdisciplinary research on telecollaboration/ eTandem, informed by theories of second language acquisition and discourse analysis (particularly interactional sociolinguistics). Her previous research on telecollaboration was published in journals such as *The Modern Language Journal*, *Language Learning*, *System, Language and Intercultural Communication*, and *TESOL Quarterly*.

Joe Cunningham (Ph.D., University of Kansas) is Assistant Professor of German at Georgetown University. His research is situated at the intersection of computer assisted language learning and second language pragmatic development. In addition to studying the benefits of telecollaboration for second language learning, he is also interested in the role of Internet-based exchange at the curricular level.

References

Belz, J. A. (2003). Linguistic perspective on the development of intercultural communicative competence in telecollaboration. *Language Learning & Technology, 7*(2), 68–117.

Carney, N. (2006). Telecollaboration for intercultural learning: An overview of projects involving Japan. *The JALT CALL Journal, 2*(1), 37–52.

Develotte, C., Guichon, N., & Vincent, C. (2010). The use of the webcam for teaching a foreign language in a desktop videoconferencing environment. *ReCALL, 22*(3), 293–312. https://doi.org/10.1017/S0958344010000170

Dooly, M., & O'Dowd, R. (2012). *Researching online foreign language interaction and exchange: Theories, methods and challenges.* Pieterlen, Switzerland: Peter Lang AG. https://doi.org/10.3726/978-3-0351-0414-1

Furstenberg, G., Levet, S., English, K., & Maillet, K. (2001). Giving a virtual voice to the silent language of culture: The CULTURA project. *Language Learning & Technology, 5*(1), 55–102.

Guth, S., & Helm, F. (Eds.). (2010). *Telecollaboration 2.0: Language, literacies and intercultural learning in the 21st century.* Bern, Switzerland: Peter Lang AG. https://doi.org/10.3726/978-3-0351-0013-6

Guth, S., & Helm, F. (2011). Developing multiliteracies in ELT through telecollaboration. *ELT Journal, 66*(1), 42–51. https://doi.org/10.1093/elt/ccr027

Helm, F. (2015). The practices and challenges of telecollaboration in higher education in Europe. *Language Learning & Technology, 19*(2), 197–217.

Jin, L., & Erben, T. (2007). Intercultural learning via instant messenger interaction. *CALICO Journal, 24*(2), 291–310.

Kern, R. (2014). Technology as *pharmakon*: The promise and perils of the Internet for foreign language education. *Modern Language Journal, 98*, 340–357. https://doi.org/10.1111/j.1540-4781.2014.12065.x

Lee, L. (2007). Fostering second language oral communication through constructivist interaction in desktop videoconferencing. *Foreign Language Annals, 40*(4), 635–649. https://doi.org/10.1111/j.1944-9720.2007.tb02885.x

Lee, L. (2008). Focus on form through collaborative scaffolding in expert-to-novice online interaction. *Language Learning & Technology, 12*(3), 53–72.

Lewis, T., & O'Dowd, R. (Eds.). (2016). *Online intercultural exchange: Policy, pedagogy, practice*. London: Routledge.

Lin, H. (2015). A meta-synthesis of empirical research on the effectiveness of computer-mediated communication (CMC) in SLA. *Language Learning & Technology, 19*(2), 85–117.

Müller-Hartmann, A. (2006). Learning how to teach intercultural communicative competence via telecollaboration: A model for language teacher education. In J. Belz & S. Thorne (Eds.), *Internet-mediated intercultural foreign language education* (pp. 63–84). Boston, MA: Thomson Heinle & Heinle.

Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning, 50*(3), 417–528. https://doi.org/10.1111/0023-8333.00136

O'Dowd, R. (Ed.). (2007). *Online intercultural exchange: An introduction for foreign language teachers*. Clevedon, UK: Multilingual Matters.

O'Dowd, R., & Ritter, M. (2006). Understanding and working with "failed communication" in telecollaborative exchanges. *CALICO Journal, 23*(3), 623–642.

O'Dowd, R., & Ware, P. (2009). Critical issues in telecollaborative task design. *Computer Assisted Language Learning, 22*(2), 173–188. https://doi.org/10.1080/09588220902778369

Pham, M. T., Rajić, A., Greig, J. D., Sargeant, J. M., Papadopoulos, A., & McEwen, S. A. (2014). A scoping review of scoping reviews: Advancing the approach and enhancing the consistency. *Research Synthesis Methods, 5,* 371–385. https://doi.org/10.1002/jrsm.1123

Sadler, R. (2012). *Virtual worlds for language learning: From theory to practice*. Bern, Switzerland: Peter Lang AG. https://doi.org/10.3726/978-3-0351-0406-6

Sauro, S. (2011). SCMC for SLA: A research synthesis. *CALICO Journal, 28*(2), 369–391. https://doi.org/10.11139/cj.28.2.369-391

Sauro, S., & Smith, B. (2010). Investigating L2 performance in text chat. *Applied Linguistics, 31*(4), 554–577. https://doi.org/10.1093/applin/amq007

Tudini, V. (2007). Negotiation and intercultural learning in Italian native speaker chat rooms. *Modern Language Journal, 91*(4), 577–601. https://doi.org/10.1111/j.1540-4781.2007.00624.x

Ware, P. (2005). Missed communication in online communication: Tensions in a German–American telecollaboration. *Language Learning & Technology, 9*(2), 64–89.

Warschauer, M. (1996). *Telecollaboration in foreign language learning*. Honolulu, HI: University of Hawai'i Second Language Teaching and Curriculum Center.

Ziegler, N. (2016). Synchronous computer-mediated communication and interaction: A meta-analysis. *Studies in Second Language Acquisition, 38*(3), 553–586. https://doi.org/10.1017/S027226311500025X

Appendix A: List of Included Studies

Note: the pairs #1 & 2, #4 & 5, #9 & 64, #8 & 36, #12 & 14, #29 & 30, #37 & 38, #39 & 40, #58 & 59, and #43 & 44 each cover a single project.

1. Akiyama, Y. (2014). Using *Skype* to focus on form in Japanese telecollaboration: Lexical categories as a new task variable. In P. Swanson & S. Li (Eds.), *Engaging language learners through technology integration: Theory, applications, and outcomes* (pp. 181–209). Hershey, PA: IGI Global. https://doi.org/10.4018/978-1-4666-6174-5.ch009
2. Akiyama, Y. (2015). Task-based investigation of learner perceptions: Affordances of video-based eTandem learning. In E. Dixon & M. Thomas (Eds.), *Researching language learner interaction online: From social media to MOOCs.* CALICO Monograph Series Volume 13 (pp. 149–170). San Marcos, TX: CALICO.
3. Barron, A., & Black, E. (2015). Constructing small talk in learner–native speaker voice-based telecollaboration: A focus on topic management and backchanneling. *System, 48*, 112–128. https://doi.org/10.1016/j.system.2014.09.009
4. Belz, J. A. (2001). Institutional and individual dimensions of transatlantic group work in network-based language teaching. *ReCALL, 13*(2), 213–231. https://doi.org/10.1017/S0958344001000726a
5. Belz, J. A. (2002). Social dimensions of telecollaborative foreign language study. *Language Learning & Technology, 6*(1), 60–81.
6. Belz, J. A., & Kinginger, C. (2002). The cross-linguistic development of address form use in telecollaborative language learning: Two case studies. *The Canadian Modern Language Review/La Revue Canadienne Des Langues Vivantes, 59*(2), 189–214. https://doi.org/10.3138/cmlr.59.2.189
7. Belz, J. A., & Kinginger, C. (2003). Discourse options and the development of pragmatic competence by classroom learners of German: The case of address forms. *Language Learning, 53*(4), 591–647. https://doi.org/10.1046/j.1467-9922.2003.00238.x
8. Belz, J. A., & Reinhardt, J. (2004). Aspects of advanced foreign language proficiency: Internet-mediated German language play. *International Journal of Applied Linguistics, 14*(3), 324–362. https://doi.org/10.1111/j.1473-4192.2004.00069.x
9. Belz, J. A., & Vyatkina, N. (2005). Learner corpus analysis and the development of L2 pragmatic competence in networked intercultural language study: The case of German modal particles. *The Canadian Modern Language Review/La Revue Canadienne Des Langues Vivantes, 62*(1), 17–48. https://doi.org/10.3138/cmlr.62.1.17
10. Belz, J. A., & Vyatkina, N. (2008). The pedagogical mediation of a developmental learner corpus for classroom-based language instruction. *Language Learning & Technology, 12*(3), 33–52.
11. Bower, J., & Kawaguchi, S. (2011). Negotiation of meaning and corrective feedback in Japanese/English eTandem. *Language Learning & Technology, 15*(1), 41–71.
12. Bueno-Alastuey, M. C. (2010). Synchronous-voice computer-mediated communication: Effects on pronunciation. *CALICO Journal, 28*(1), 1–20. https://doi.org/10.11139/cj.28.1.1-20
13. Bueno-Alastuey, M. C. (2011). Perceived benefits and drawbacks of synchronous voice-based computer-mediated communication in the foreign language classroom. *Computer Assisted Language Learning, 24*(5), 419–432. https://doi.org/10.1080/09588221.2011.574639

14. Bueno-Alastuey, M. C. (2013). Interactional feedback in synchronous voice-based computer mediated communication: Effect of dyad. *System, 41*(3), 543–559. https://doi.org/10.1016/j.system.2013.05.005
15. Bueno-Alastuey, M. C., & Kleban, M. (2016). Matching linguistic and pedagogical objectives in a telecollaboration project: A case study. *Computer Assisted Language Learning, 29*(1), 148–166. https://doi.org/10.1080/09588221.2014.904360
16. Canto, S., Jauregi, K., & van den Bergh, H. (2013). Integrating cross-cultural interaction through video-communication and virtual worlds in foreign language teaching programs: Is there an added value? *ReCALL, 25*(1), 105–121. https://doi.org/10.1017/S0958344012000274
17. Cappellini, M. (2016). Roles and scaffolding in teletandem interactions: A study of the relations between the sociocultural and the language learning dimensions in a French–Chinese teletandem. *Innovation in Language Learning and Teaching, 10*(1), 1–15. https://doi.org/10.1080/17501229.2016.1134859
18. Carney, N. (2008). Achieving communication though multi-modal language exchange. *CALL-EJ Online, 10*(1). Retrieved from http://callej.org/journal/10-1/carney.html
19. Chaudhuri, T. (2011). Designing Web 2.0-telecollaborations for university students. The eExchange Giessen–Hong Kong. *German as a Foreign Language, 12*(2), 126–141.
20. Chen, W., & Eslami, Z. (2013). Focus on form in live chats. *Educational Technology and Society, 16*(1), 147–158.
21. Darhower, M. (2006). Where's the community? Bilingual internet chat and the "fifth C" of the national standards. *Hispania, 89*(1), 84–98. https://doi.org/10.2307/20063254
22. Darhower, M. (2007). A tale of two communities: Group dynamics and community building in a Spanish–English telecollaboration. *CALICO Journal, 24*(3), 561–589.
23. Darhower, M. (2008). The role of linguistic affordances in telecollaborative chat. *CALICO Journal, 26*(1), 48–69.
24. Donaldson, R. P., & Kötter, M. (1999). Language learning in cyberspace: Teleporting the classroom into the target culture. *CALICO Journal, 16*(4), 531–557.
25. Dussias, P. E. (2006). Morphological development in Spanish–American telecollaboration. In J. Belz & S. Thorne (Eds.), *Internet-mediated intercultural foreign language education* (pp. 121–146). Boston: Heinle & Heinle.
26. El-Hariri, Y. (2016). Learner perspectives on task design for oral-visual eTandem Language Learning. *Innovation in Language Learning and Teaching, 10*(1), 49–72. https://doi.org/10.1080/17501229.2016.1138578
27. Guerrero, M. (2012). The use of Skype as a synchronous communication tool between foreign language college students and native speakers. *HOW Journal, 19*(1), 33–47.
28. Guth, S., & Helm, F. (2011). Developing multiliteracies in ELT through telecollaboration. *ELT Journal, 66*(1), 42–51. https://doi.org/10.1093/elt/ccr027
29. Hauck, M. (2007). Critical success factors in a TRIDEM exchange. *ReCALL, 19*(2), 202–223. https://doi.org/10.1017/S0958344007000729
30. Hauck, M., & Youngs, B. L. (2008). Telecollaboration in multimodal environments: The impact on task design and learner interaction. *Computer Assisted Language Learning, 21*(2), 87–124. https://doi.org/10.1080/09588220801943510
31. Helm, F., Guth, S., & Farrah, M. (2012). Promoting dialogue or hegemonic practice: Power issues in telecollaboration. *Language Learning & Technology, 16*(2), 103–127.

32. Jauregi, K., & Bañados, E. (2008). Virtual interaction through video-web communication: A step towards enriching and internationalizing language learning programs. *ReCALL, 20*(2), 183–207. https://doi.org/10.1017/S0958344008000529
33. Jauregi, K., de Graaff, R., van den Bergh, H., & Kriz, M. (2012). Native/non-native speaker interactions through video-web communication: A clue for enhancing motivation? *Computer Assisted Language Learning, 25*(1), 1–19. https://doi.org/10.1080/09588221.2011.582587
34. Jin, L. (2013). Language development and scaffolding in a Sino-American telecollaborative project. *Language Learning & Technology, 17*(2), 193–219.
35. Kinginger, C. (1998). Videoconferencing as access to spoken French. *Modern Language Journal, 82*(4), 502–513. https://doi.org/10.1111/j.1540-4781.1998.tb05537.x
36. Kinginger, C., & Belz, J. A. (2005). Socio-cultural perspectives on pragmatic development in foreign language learning: Microgenetic case studies from telecollaboration and residence abroad. *Intercultural Pragmatics, 2*(4), 369–421. https://doi.org/10.1515/iprg.2005.2.4.369
37. Kötter, M. (2001). MOOrituri te salutant? Language learning through MOO-based synchronous exchanges between learner tandems. *Computer Assisted Language Learning, 14*(3–4), 289–304. https://doi.org/10.1076/call.14.3.289.5795
38. Kötter, M. (2003). Negotiation of meaning and codeswitching in online tandems. *Language Learning & Technology, 7*(2), 145–172.
39. Lee, L. (2004). Learners' perspectives on networked collaborative interaction with native speakers of Spanish in the US. *Language Learning & Technology, 8*(1), 83–100.
40. Lee, L. (2006). A study of native and nonnative speakers' feedback and responses in Spanish–American networked collaborative interaction. In J. Belz & S. Thorne (Eds.), *Internet-mediated intercultural foreign language education* (pp. 147–176). Boston: Heinle & Heinle.
41. Lindner, R. (2011). ESAP students' perceptions of skills learning in computer-mediated intercultural collaboration. In B. Zou (Ed.), *Exploration of language teaching and learning with computational assistance* (pp. 193–211). Hershey, PA: IGI Global. https://doi.org/10.4018/ijcallt.2011040103
42. Lomicka, L. L. (2009). An intercultural approach to teaching and learning French. *The French Review, 82*(6), 1227–1243.
43. Menard-Warwick, J. (2009). Comparing protest movements in Chile and California: Interculturality in an Internet chat exchange. *Language and Intercultural Communication, 9*(2), 105–119. https://doi.org/10.1080/14708470802450487
44. Menard-Warwick, J., Heredia-Herrera, A., & Palmer, D. S. (2013). Local and global identities in an EFL internet chat exchange. *Modern Language Journal, 97*(4), 965–980. https://doi.org/10.1111/j.1540-4781.2013.12048.x
45. Moreno-López, I., & Miranda-Aldaco, C. (2013). Quantitative study comparing network-based language teaching (NBTL) to traditional Spanish classes. *Revista de Educación*, 363–383. DOI: 10.4438/1988-592X-RE-2013-EXT-242
46. Morollón Martí, N., & Fernández, S. S. (2016). Telecollaboration and sociopragmatic awareness in the foreign language classroom. *Innovation in Language Learning and Teaching, 10*(1), 34–48. https://doi.org/10.1080/17501229.2016.1138577
47. Negueruela-Azarola, E. (2011). Changing reasons as reasoning changes: A narrative interview on second language classroom motivation, telecollaboration, and the learning of foreign languages. *Language Awareness, 20*(3), 183–201. https://doi.org/10.1080/09658416.2011.570348

48. Neva, C., Landa-Buil, M., Carter, B., & Ibrahim-Ali, A. (2010). Telecollaboration in Spanish as a foreign language in Trinidad. *Ikala,15*(24), 75–102.
49. O'Dowd, R. (2000). Intercultural learning via videoconferencing: A pilot exchange project. *ReCALL, 12*(1), 49–61. https://doi.org/10.1017/S0958344000000616
50. O'Dowd, R. (2006). The use of videoconferencing and e-mail as mediators of intercultural student ethnography. In J. Belz & S. Thorne (Eds.), *Internet-mediated intercultural foreign language education* (pp. 86–119). Boston: Heinle & Heinle.
51. O'Rourke, B. (2005). Form-focused interaction in on-line tandem learning. *CALICO Journal, 22*(3), 433–466.
52. Reinhardt, J. (2008). Negotiating meaningfulness: An enhanced perspective on interaction in computer-mediated foreign language learning environments. In S. S. Magnan (Ed.), *Mediating discourse online* (pp 219–244). Amsterdam: John Benjamins. https://doi.org/10.1075/aals.3.13rei
53. Ritchie, M. (2011). Developing sociolinguistic competence through intercultural online exchange. In S. Thouësny & L. Bradley (Eds.), *Second language teaching and learning with technology: Views of emergent researchers* (pp. 123–141). Dublin: Research-publishing.net. https://doi.org/10.14705/rpnet.2011.9781908416001
54. Ryder, L., & Yamagata-Lynch, L. (2014). Understanding tensions: Activity systems analysis of cross-continental collaboration. *CALICO Journal, 31*(2), 201–220. https://doi.org/10.11139/cj.31.2.201-220
55. Schenker, T. (2013). The effects of a virtual exchange on students' interest in learning about culture. *Foreign Language Annals, 46*(3), 491–507. https://doi.org/10.1111/flan.12041
56. Schenker, T. (2015). Telecollaboration for novice language learners—Negotiation of meaning in text chats between nonnative and native speakers. In E. Dixon & M. Thomas (Eds.), *Researching language learner interaction online: From social media to MOOCs*. CALICO Monograph Series Volume 13 (pp. 237–257). San Marcos, TX: CALICO.
57. Schneider, J., & von der Emde, S. (2006). Conflicts in cyberspace: From communication breakdown to intercultural dialogue in online collaborations. In J. Belz & S. Thorne (Eds.), *Internet-mediated intercultural foreign language education* (pp. 178–206). Boston: Heinle & Heinle.
58. Schwienhorst, K. (2002). Evaluating tandem language learning in the MOO: Discourse repair strategies in a bilingual Internet project. *Computer Assisted Language Learning, 15*(2), 135–145. https://doi.org/10.1076/call.15.2.135.8194
59. Schwienhorst, K. (2004). Native-speaker/non-native-speaker discourse in the MOO: Topic negotiation and initiation in a synchronous text-based environment. *Computer Assisted Language Learning, 17*(1), 35–50. https://doi.org/10.1076/call.17.1.35.29706
60. Schwienhorst, K., & Borgia, A. (2006). Monitoring bilingualism: Pedagogical implications of the Bilingual Tandem Analyser. *CALICO Journal, 23*(2), 349–362.
61. Tian, J., & Wang, Y. (2010). Taking language learning outside the classroom: Learners' perspectives of eTandem learning via *Skype*. *Innovation in Language Learning and Teaching, 4*(3), 181–197. https://doi.org/10.1080/17501229.2010.513443
62. van der Zwaard, R., & Bannink, A. (2014). Video call or chat? Negotiation of meaning and issues of face in telecollaboration. *System, 44*, 137–148. https://doi.org/10.1016/j.system.2014.03.007

63. Vick, R. M., Crosby, M. E., & Ashworth, D. E. (2000). Japanese and American students meet on the web: Collaborative language learning through everyday dialogue with peers. *Computer Assisted Language Learning, 13*(3), 199–219. https://doi.org/10.1076/0958-8221(200007)13:3;1-3;FT199
64. Vyatkina, N., & Belz, J. A. (2006). A learner corpus-driven intervention for the development of L2 pragmatic competence. In K. Bardovi-Harlig, J. C. Félix-Brasdefer, & A. Omar (Eds.), *Pragmatics and language learning* (Vol. 11) (pp. 315–357). Honolulu: National Foreign Language Resource Center.
65. Zhang, D. (2014). More than "Hello" and "Bye-bye": Opening and closing the online chats in Mandarin Chinese. *Computer Assisted Language Learning, 27*(6), 528–544. https://doi.org/10.1080/09588221.2013.776966

Appendix B:
ACTFL and CEFR Conversion Based on the ACTFL's Guidelines*

Proficiency Level	OPI	CEFR
Beginner	Novice low, mid, high	A1
Intermediate	Intermediate low, mid, high	A2, B1
Advanced	Advanced low, mid, high	B2, C1
Beyond advanced	Superior	C2

*Downloaded from https://www.actfl.org/sites/default/files/reports/Assigning_CEFR_Ratings_To_ACTFL_Assessments.pdf