

SYNCHRONOUS AND ASYNCHRONOUS ONLINE INTERNATIONAL COLLABORATION

The Trans-Atlantic & Pacific Project

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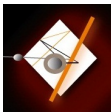
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Since its inception in 1999-2000, the Trans-Atlantic & Pacific Project (TAPP) has involved 19 universities in 12 countries. Participating institutions have collaborated simultaneously on translation, usability testing, and editing projects, affording both American and European students the opportunity to collaborate on a wide variety of topics, via both synchronous and asynchronous communication technologies. Although the TAPP is facilitated with students on university campuses, it focuses on writing, translation, and editing projects that mirror what students often encounter in professional positions after graduation and which prepare students to work collaboratively across great distances in online and virtual workspaces in cross-cultural virtual teams. In this longitudinal teaching case, we provide some background of the TAPP, discuss briefly its adaptation to diverse disciplines and technological spaces, and address the difficulties in managing projects across great distances and the tools developed by 2014 to aid project management.

Keywords. Asynchronous, Collaboration, Intercultural communication, Localization, Project management, Synchronous, Technical writing, Technology, Translation, Usability testing, Virtual teams.



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After providing a brief overview of the Trans-Atlantic & Pacific Project (TAPP), as well as some of the ways in which it has evolved in terms of diverse collaborators, technologies, and disciplines, this article focuses attention on the difficulties in managing projects across great distances and the tools that we developed to aid in this process. In many ways, the TAPP models complex project management situations in which our students may one day find themselves working. These range from participating in translingual, -national, and -cultural teams to the tracking of multiple texts and versions of texts. From such often-complex partnerships, students and instructors alike gain experience managing data, negotiating meaning, and managing relationships. Thus, the purpose of this article is to familiarize readers with a proven learning-by-doing model for training language professionals to work in globally distributed virtual teams. Further, it presents project management tools developed to smooth the students' collaborations. Finally, it assesses the increasing number of evolving communication technologies that students and instructors have employed over the 15 years during which the TAPP collaborations have taken place.

Overview of the Trans-Atlantic & Pacific project

At its start in the 1999-2000 academic year, the Trans-Atlantic Project, as it was known originally, connected a writing class in the U.S. state of Wisconsin with a translation class in the Belgian province of Flanders. Over time, and with an expanded name, the Trans-Atlantic & Pacific Project (TAPP) has involved 19 universities in 12 countries on four continents. Moreover, it has connected dozens of instructors and thousands of their students via emerging communication technologies as they become available. Participating institutions have collaborated internationally on writing-translation projects, often including usability testing, and translation-editing projects (a full list is available at http://www.ndsu.edu/english/transatlantic_and_pacific_translations/). The TAPP affords African, Asian, European, and North American students the opportunity to collaborate on a wide variety of topics. Students engage not only in the collaborative creation of

meaning in texts but also in a mutually dependent exchange of cultural knowledge.

Although the TAPP is facilitated with students on university campuses, it focuses on writing, usability testing, translation, and editing projects that mirror what students may encounter in professional work after graduation. Technology, culture, and language are all central to the curriculum. At its most complex, for example, technical writing students in Spain and the U.S. coauthor sets of instructions on engineering topics, join students in Finland in conducting usability tests of their texts, and assist students in Belgium, France, and Italy in translating and localizing the texts for use in the respective languages and cultures of Flanders, Paris, and northern Italy. They do so using an array of communication technologies, often including email, Facebook, Skype, FaceTime, WhatsApp, documents on Google Drive or OneDrive, and full-class live videoconferences. TAPP partnerships prepare students to work collaboratively across great distances in online and virtual workspaces in what are often called cross-cultural virtual teams (CCVTs).

Growing the Trans-Atlantic project into the Trans-Atlantic & Pacific project: Seeding, grafting, and cultivating

The seeds of the TAPP international network germinated when two former classmates of the University of Oslo discovered that both of them were assigning their students to work with procedural texts or instructions. At the University of Wisconsin-Stout in the US, Bruce Maylath was teaching his students in an introductory technical writing course how to write instructions and to prepare them for translation (Maylath, 1997). At Belgium's Mercator College of Translation & Interpretation (now part of Ghent University), Sonia Vandepitte was planning to teach her students in an introductory translation course how to translate instructions.

At first, Vandepitte thought that she would have her students locate instructions already printed in English and translate them into Flemish Dutch. However, on discovering Vandepitte's plan, Maylath asked her if she would consider substituting the texts that his students would draft. With some slight adjustments in their calendars to accommodate the collaboration—mainly moving the writing assignment earlier in the semester and the subsequent translation assignment later in the semester—students were paired, as much as possible by common interest in a topic chosen by the writer, and the Project was launched.

The benefits to students became apparent as soon as they began introducing themselves to their partners via what at the time was a communication technology still fairly new to most of them: email. Going far beyond what was expected, many partners began sending each other descriptions about their lives and cultures. They were often prompted by seemingly banal exchanges of logistical information, such as "I may not answer my email for a few days while I'm on spring break," leading to questions such as "What do American students do on their holidays?" In one memorable thread, a Wisconsin student described her life as a foster mother while her Flemish partner answered her questions about how he was able to translate her instructions when he was legally blind.

Most beneficial, however, were the discussions of a text's meanings as translation students strove to render the meaning of the source language accurately in the target language. Especially instructive was this question from one of the translation students in Ghent, Belgium: When the technical writing student with whom she was collaborating sent her his instructions for "Cleaning Your VCR," she asked, "What do you mean with a 'wall outlet'?" Although the writer had gone through his text carefully and included a glossary of technical terms, he had not considered "wall outlet" a term that required definition or clarification. Through their subsequent email dialogue, the writer and translator discovered why a simple, everyday phrase in the US turned out to be so confusing initially:

1. If the writer had included the word “electrical,” the meaning of the phrase would have been transparent. With this critical word assumed and thus invisible, the phrase on its surface appeared to refer to a window or door opening in a wall.
2. “Outlet” to mean an electrical receptacle is peculiar to American English. Living just across the North Sea from Britain, the translation students in Belgium had, naturally enough, been taught British English. The British say “socket.” If the writer had written “socket”—a term found in American English as well—the translator would have understood.
3. Including the word “wall,” but not “electrical,” prompted further confusion, instead of clarity. When the translator read “wall outlet,” what first entered her mind was an automatic teller machine (ATM). Because so many ATMs in Europe appear along the sidewalks in the outer walls of banks, Flemish speakers of Dutch are fond of uttering their idiom “go to the wall,” when they wish to withdraw money from an ATM. Wondering why cleaning a videocassette recorder suddenly required cash, the translator decided that she had better ask the writer what he really meant by “wall outlet.”

Such serendipitous episodes are the hallmark of TAPP collaborations. They can never be planned ahead of time or learned just from a textbook. Rather, they are the inevitable result of languages in contact. When the writing process includes the translation process, the meanings of a text and its ambiguities must be examined closely. More than any other readers, translators have to know exactly what their source-text writers mean to say; otherwise, they will introduce errors in the target text. The TAPP instructors of writing courses commonly point out that what their writing students learn best from their translation partners is that the texts that they write are not nearly as clear and unambiguous as they think that they are.

This benefit and others, along with the basic operations and workflow of TAPP collaborations, are detailed in a series of the earliest publications about the Trans-Atlantic Project (Humbley, Maylath, Mousten, Vandepitte, & Veisblat,

2005; Maylath, Vandepitte, & Mousten, 2008; Mousten, Vandepitte, & Maylath, 2008). As more instructors in more countries joined the TAPP network, they began cultivating other arrangements and assignments, in particular translation-editing projects reversing the direction of “text travel,” a phrase introduced by our Danish colleague Birthe Mousten. To this point, projects began with the writers, who wrote their own texts in English as the source language, then sent the text traveling to translators, who translated the texts into their native languages as the target languages. In reversing the direction of text travel, the process works like this: instead of texts originating with writing students who transmitted their texts to translation students, the translation students start the project by choosing a text (often a news article) published in their language and translating it into English. Students in the US then review and edit the text to make sure that it is idiomatic (deliberately re-rendering the translators’ British English into American English). All the while, the editors hold a dialogue with the translators about the meaning found in the source language. This approach, along with analyses of other improvements and benefits of TAPP collaborations, is detailed in a subsequent series of publications (Mousten, Maylath, Humbley, Scarpa, Livesey, & Vandepitte, 2010a; Mousten, Maylath, Vandepitte, & Humbley, 2010b; Mousten, Humbley, Maylath, & Vandepitte, 2012; Verzella & Tommaso, 2014).

Because TAPP collaborations are open to whatever permutations that two instructors agree upon, the network has grown easily to include those who teach other sorts of writing courses. Examples at North Dakota State University (NDSU), which now serves as the TAPP’s hub, include

- ENGL-120: College Composition II
- ENGL-320: Business & Professional Writing
- ENGL-321: Writing in the Technical Professions
- ENGL-322: Creative Writing I
- ENGL-324: Writing in the Sciences
- ENGL-325: Writing in the Health Professions
- ENGL-326: Writing in the Design Professions
- ENGL-358: Writing in the Humanities & Social Sciences
- ENGL-467: English Studies Capstone Experience

In addition, starting in 2010 and continuing every other autumn, several TAPP instructors band together to join their classes in multilateral projects. Grafting together the usual bilateral writing-translation and translation-editing projects, students in NDSU's ENGL-455/655: International Technical Writing course learn project management skills as they collaborate in extensive CCVTs with partners in as many as six other countries at one time.

For their writing-translation project, these students coauthor instructions with engineering students taking technical writing in English at Universitat Politècnica de Catalunya (also known as Barcelona Tech) in Spain. Both groups then conduct usability tests in engineering laboratories in their respective universities while also communicating with students testing the same English-language texts for usability at Vaasa University in Finland. As tests are underway, translation partners at the Ghent University in Belgium, the University of Paris—Diderot in France, and the University of Padua in Italy begin translating the texts into Dutch, French, and Italian, respectively.

As the writing-translation projects reach their final stages, the translation-editing projects begin, with the same classes in Belgium and France, plus a translation class at Aarhus University in Denmark or Aristotle University in Greece. The translation students translate news articles from their respective languages into English, which the students at NDSU then review and edit. Readers can learn the details of multilateral projects in the most recent series of publications (Maylath, Vandepitte, Minacori, Isohella, Mousten, & Humbley, 2013; Maylath, King, & Arnò Maciá, 2013; Hammer & Maylath, 2014; Vandepitte, Mousten, Maylath, Isohella, Musacchio, & Palumbo, 2015).

Positioning Trans-Atlantic & Pacific project collaborations in diverse disciplinary and technological spaces

As mentioned earlier, the growth of the TAPP has inevitably led to both challenges and innovation. When Hammer began to participate in the TAPP as

an instructor of writing courses at NDSU in 2011, for instance, the TAPP had not previously ventured far beyond the realm of technical writing courses. The courses Hammer taught, and first integrated into the TAPP, were

- ENGL-326: Writing in the Design Professions (a course designed primarily for students studying architecture)
- ENGL-358: Writing in the Humanities & Social Sciences (a course notorious for students' wide variety of majors, from music to exercise science to sociology)

Both of these courses focused on the production of texts that students will likely encounter as they enter their chosen professions.

Therefore, instead of focusing solely on the tasks of editing and preparing texts for translation, students in these discipline-specific courses were asked to integrate their own fields of study and independent research projects with their newly acquired knowledge of linguistics and translation. For example, students in Writing in the Humanities & Social Sciences not only undertook primary research, wrote discipline-appropriate texts, and prepared them for translation; they also approached their research from an international perspective. One student studying criminal justice was particularly interested in recidivism rates (individuals who are repeatedly incarcerated) in the US. Prior to this collaboration with students in Paris, she had read little or no research regarding these rates outside of the US. Yet, with some help from her partner who gathered and translated some articles and book excerpts, she was able to access French recidivism research and write a much more detailed and nuanced report that approached recidivism as a cross-cultural issue.

As another illustration, students in the Writing in the Design Professions course at NDSU were asked to propose a solution to a design problem specific to Paris. Because most of these students had little or no knowledge of Parisian culture and infrastructure, they too relied on information from their Parisian partners. Additionally, several U.S.-based students had already formulated their projects prior to meeting their CCVT partners, and were forced to change their

focus or designs as a result of advice from a “local.” One NDSU student had initially proposed to design a rather large urban park. However, after consulting with her partner in France, she decided to design a “pocket park” in a Parisian shopping district, a much more appropriate design in terms of both size and function.

Students in discipline-based writing courses at NDSU are often proficient researchers, writers, and designers in their local contexts. However, they learn very quickly that they need to build and negotiate collaboratively with people rooted in very different locations, cultures, and linguistic systems. As a result, their work exhibits more carefully nuanced considerations, as they are able to draw knowledge directly from members of other cultures, rather than relying solely on secondary web-based research.

Of course, these collaborations require a great deal of interpersonal communication and dialogue, often more than email typically facilitates. Even though email is a virtually synchronous communication technology, students typically find that emails tend to travel once or twice per day. (This situation is due primarily to the time zone difference between the US and their partners overseas.) Instead, truly synchronous communication technologies like real-time textual and video chat provide a space wherein multiple exchanges may take place in the space of a short period of time. Students are also encouraged to connect with their partners using social media platforms like Facebook. While this activity seems at first glance to be less task-oriented and more social, Hammer and Maylath (2014) note—echoing Blattner and Fiori (2009), Omar, Embi, and Yunus (2012), and others—that the seemingly peripheral communication facilitated by social networking technologies actually contributes to more satisfying and successful partnerships, as well as meaningful personal and professional relationships.

As the TAPP continues to grow into new disciplinary and technological spaces, instructors and students alike continue to encounter challenges and innovate solutions to deal with these complex partnerships. As we alluded to before, these challenges are often the most valuable moments of the semester. In fact, from the outset of each TAPP collaboration, instructors remind students

that, while the TAPP is a long-standing project, it is also new every semester in terms of challenges and opportunities to navigate a highly complex and rewarding project.

Challenges in communicating over distance

As international collaboration becomes more prevalent in academic programs—and especially as classrooms take on multiple, simultaneous projects with multiple partners, nationalities, languages, and cultures—tracking project status and direction of text travel becomes critical. While complex assignments require students to develop strategic processes and project management techniques, partnerships involving multiple participants require the insight of experience to foresee the potential pitfalls of each project. To facilitate student learning and improve collaboration, we developed several project management spreadsheets for students and instructors to use as aids to organization.

While the TAPP collaborations are, on the surface, academically focused, the project management tools developed and used can be of benefit in a business environment as well. As Austin, Browne, Haas, Kenyatta, and Zulueta (2013) observe, there is currently a “lack of project management within higher education” (p. 76) and there is a “scarcity of academic research” (p. 77) on project management. It is difficult to claim with certainty that all project management skills honed in the TAPP collaborations will relate directly to business. However, the complexity of multilateral projects in particular does mimic what students may find in their workplaces after graduation. For example, “Given the growing use of virtual teams in international business activities, business schools must provide students with experiential learning opportunities that prepare them to work in virtual environments” (Gavidia, Mogollón, & Baena, 2004, p. 52).

Students whose first opportunities for multinational collaboration occur in school are likely to be more ready to transition into international working relationships in the business world than students who have had no such exposure. The ability to work flexibly across borders is becoming more and more important. As Kerzner (2001) observes, “The world is becoming a global village where the

accessibility to and the reliance upon other nations in business is becoming the norm, one of the ways for our business base to grow” (p. 988). Projects like ours are becoming foundational to producing nimble students who are ready to work across distances and cultures.

Project management in particular is a difficult subject matter—one that often is honed only through experience. Project managers normally estimate time (allotted to each step within a project) based on previous experience (Harris, Shaffer, Stokes, & Goldstein, 1987, p. 3.4). Because students don’t have this experience, teachers need to provide planning aids to smooth the process. Developing materials that will help these employees transition more efficiently into these complex projects saves businesses time and prevents employee dissatisfaction or frustration.

The spreadsheets that were designed to aid students and teachers not only provided them with tools to track their projects and communication with international partners but also illustrated for them the complexity involved in professional international project management. As the term ended, students reported that the spreadsheets assisted them greatly in learning processes of technical writing, translation preparation, and editing. They also reported gaining a better appreciation for project management in general because their success relied heavily on keeping track of texts’ points of origin, direction of text travel, stages of development, and other related details.

The challenges faced in TAPP classrooms would not be unusual in a collaborative international business environment. Students had multiple projects on which they were working simultaneously; they had multiple partners with multiple nationalities, languages, and cultures. According to Taras et al. (2013), “Global competencies are increasingly becoming a workplace requirement, regardless of the industry or geographic location” (p. 415). Taras et al.’s large study, which “involved more than 6000 students from nearly 80 universities located in 43 countries” (p. 416) found that “the most obvious benefit of GVT-based [global virtual teams] projects lies in the opportunity to experience the challenges of working in multicultural virtual teams and practice how to deal with them” (p. 416). The experiences enriched their education in ways that students

“typically gain only outside of the classroom” (p. 418). The hands-on experience working with this complex system of communication and with managing it with project management tools gives students the closest thing to “real life” experience (outside of internships and service learning) that academia can offer.

The tools

The project management tools developed for this project are spreadsheet-based. As new and more interactive technologies are developed, it is logical to foresee these tools becoming cloud-based. Our current tools are aimed at getting students to a common “starting line,” where the work ahead is clear and can be easily documented. Gavidia et al. (2004) note Weick and Roberts’ concept of “collective mind” (p. 53) and its importance in team members’ understanding their part in the social structure of the group—as well as “their tasks and their contributions toward common goals” (p. 53).

In summarizing Wegner’s “Transactive Memory System,” they also note, “In order to rely on other people’s memories, people need to build a database of who knows what in the team” (p. 53). In short, Gavidia et al. (2004) explain that students from a diverse variety of backgrounds can have difficulty developing a sense of who can do what and so struggle to find strengths and weaknesses on their team—a problem that results, at first, in students being much more willing to follow than to lead. Because of students’ natural tendency to shy away from leadership at the beginning, supplying them with ready-made project management tools may help them avoid losing precious time. Project management tools can also provide a guide for keeping track of the accumulated experience; they are the physical database that can easily be referenced by members of the team.

One of the obstacles that had hampered TAPP multilateral collaborations in the past was the difficulty in trying to keep track of the direction of text travel (e.g., who had the document and what stage of composition or translation the document was in). In addition, it was hard for participants to know which student (in which country and at which university) was currently working on the text and

the date on which the text was last transferred from one partner to another. Instructors found that project management tools are needed to aid both teachers and their students. They have to be updatable, easy-to-use and -reference documents that assist in keeping records. Furthermore, they ought to be as simple as possible, because a cumbersome method of documentation would likely be ignored and therefore be obsolete from the beginning. In the end, three spreadsheets were created for instructor use, and one was created for student use.

The first project management tool (see Appendix A) contains just the names and contact information of the U.S. students in addition to columns to register receipt of their prelearning brief and translation brief, the topic of paper, the title of paper, the word count, and notes. U.S. student names are divided by course number (e.g., “ENGL-455/655”), as some students can be enrolled at the 600 graduate level and others in the 400 undergraduate level, when enrolled in International Technical Writing, with its multilateral projects. Although the teams may not be set up to discriminate between graduate and undergraduate students (that is, European students are matched with their U.S. partners based more on interest in topic than on level in school), it was determined that U.S. instructors would find the sheet easier to use if the course numbers and students belonging to each one were kept separate. Directly opposite the names and contact information for the writers are blanks for the names and contact information of their translation partners overseas.

The second project management tool (see Appendix B) contains the names and contact information of all students and their partners. In addition, the European partner contact information is to be listed. The third and final project management tool (see Appendix C), intended for instructor use, clarifies the partnerships and uses spacing to make it easier to scan and know, at a glance, which sets of students were partnered with whom. Because some partnerships are duos and others are trios or more, this spacing becomes critical in clarifying which members belong to which groups.

Halfway into the semester, the student-focused project management tool was developed. This tool was expanded to include not just transoceanic translation, but also additional sets of students in yet another country, who would

test and edit the instructions. This new dimension increases the complications and the difficulty inherent in project management—in other words, it closely replicates what these students might realistically experience on the job as technical writers and translators. This spreadsheet, therefore, differentiates the direction of text travel for participants. For the writing-translation project, the text traveled from Catalonia to North Dakota to Finland, then Flanders, France, and Italy. For the translation-editing project, the text traveled from Denmark, Flanders, and Italy to North Dakota. This management tool also contains columns to register receipt of their prelearning brief and translation brief, the topic of paper, the title of paper, the word count, and notes—much like the original spreadsheets.

How the tools enriched the process

According to Kerzner (2001), when tasks are unfamiliar to students, they need more instruction and guidance in order to produce quality results. (p. 550). In addition, Kerzner lists what he calls “consequences of poor planning,” but the list is really presented as stages in a poorly planned process: “project initiation, wild enthusiasm, disillusionment, chaos, search for the guilty, punishment of the innocent, promotion of the nonparticipants, definition of the requirements” (2001, p. 550). Of course, as Kerzner points out, the final stage should have been the first if the project were to be successful. The tools used in TAPP collaborations help students see and understand the expectations of their projects before they have their first meeting.

The authors of this article also found that it was beneficial for the students to experience the complications involved in a project that needs to be truly managed and not just completed. While students have extensive experience juggling their own workloads and obligations, trying to juggle what is necessary for themselves while keeping in mind the needs of project partners (who are not in the same location) can show them the importance of attention to detail, punctuality, and clarity in business. In working on such projects, students have to stretch beyond their own needs, their own schedules, their own instructors’ expectations and consider what timeframe their partners may be working with,

what expectations their partners may have, and what their partners' instructors may expect. Lessons like these expand thinking and awareness—things that can be nearly impossible to teach without these types of projects. Without the project management tools provided to the students, they may have given up in frustration.

Providing ready-made project management tools relieves students of the necessity to design similar mechanisms on their own and addresses factors such as the following:

- Designing spreadsheets is new to some of them.
- They may not realize how important such a tool can be until the project is already underway (and badly unorganized).
- Designing a spreadsheet would take time away from their learning language skills, at the heart of both writing and translation courses alike.

The lessons that students learn about project management are likely just as impactful with these basic project management documents provided as they would be without. After using these tools and having seen what good project management tools look like, students should be able to create similar aids for themselves in future projects as both students and professionals.

Electronic Tools and Resources

What follows are a few tools that have been used or could be used to facilitate collaboration across distances:

Dropbox: A file-sharing site that can be accessed from anywhere with an internet connection. Users get a minimum of two free gigs of space, but additional space can be purchased at minimal cost. (www.dropbox.com)

Email: Though the oldest of the technologies listed here, it remains the mainstay of TAPP collaborations. Interestingly, although many partners quickly migrate from email to other communication technologies, especially Facebook, after several weeks a surprising number migrate back

to email. Rooted as it is in the development of memoranda by the British East India Company for record-keeping (Locker, 1982; Yates, 1989), email often provides the best record for lengthy dialogue over time.

Facebook: Partners can set up a group and make posts and have discussions, much like on personal Facebook pages. The group can provide documentation of discussion as well as file-sharing and storage. (www.facebook.com)

FaceTime: Apple's version of video (or audio-only) chatting software that can be used for free on one of their devices via Wi-Fi or data network. (www.apple.com/mac/facetime/)

Google Drive: Partners can work on documents either synchronously or asynchronously. Formatting options are limited. Documents are best created in the site, rather than uploaded to it. (www.google.com/drive/)

Google Hangout: Users in Google Hangout can, using a variety of hardware, have multiuser video, audio, and text chats. The service is free to use, requiring only a Google+ account. Additionally, Google's suite of applications is available during the hangout, including Google Drive. (www.google.com/+/learnmore/hangouts/)

Live Stream: Without cost, users can broadcast and view live and ad-free streaming video. With an upgrade, users can archive broadcasts and embed broadcasts into a range of social media sites. (<http://new.livestream.com/>)

Microsoft OneDrive: See Google drive. (see previous entry in this list)

PiratePad: Also known as Etherpad, Piratepad is a very basic real-time collaborative text composition and editing tool, and also features a chat window. It does not require an account or login, so users concerned with privacy or ethics of larger web-based companies may find this tool a desirable alternative. (www.piratepad.ca/ or www.piratepad.nl/)

Skype: Users can communicate via three types of computer-to-computer chat, including typewritten, video chat, and voice only. The basic service is free, but for minimal expense, users can call phone numbers from their computer. (www.skype.com/en/)

Soundcloud: A web-based service that allows users to upload sound files to their profiles, share with groups and/or the larger community of Soundcloud users, comment on others' sounds, and collaborate. It is available as a free version, or a paid version with expanded space and features. (<https://soundcloud.com/>)

Trello: A free, web-based application for collaborative project management. Groups can create “cards” that represent tasks in a project, move them to different stages of completion, and pass them to other users. They can also create to-do lists, deadlines, and engage with one another in comments, messages, and notifications. Trello synchronizes with multiple devices and applications. (<https://trello.com/>)

WhatsApp: In the autumn of 2014, one NDSU undergraduate in the International Technical Writing course communicated in real time via WhatsApp with one of his coauthoring partners, an engineering student at Barcelona Tech. He reported that WhatsApp was particularly useful as they went step by step through the instructions that they had written to see if they had left out any essential steps or information. In communicating this way, they discovered that they had. (www.whatsapp.com)

Conclusion

This project resulted in a number of highly successful collaborations. Students practiced real-world techniques of project management while at the same time working with international partners. They were able to choose from a variety of communication media that best suited the style of their individual teams.

Through working together across content generation as well as translation of text, students learned about ambiguities in their own writing. Although true replication of professional circumstances is never possible in an academic environment, students participating in the Trans-Atlantic and Pacific Project were able to acquire and practice skills that produce effective writing, collaboration, and translation. ■

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Appendices

Appendix A: Document and Transferral Record

Course Name/Number:
 Partner Name:
 Instructor Name:

NCSJ, USA
 Student Name:

Instituting/Procedures (Estward)														
Partner Name	Contact Information	Country	Pre-Learn	Trans. Befd	Doc. An/Exp	Test report	Doc. Trans.	PostLearn	Rec'd Date	Sen Date	Topic	Title	Meat Count	Notes

Editing/Reviewing (Westward)													
Partner Name	Contact Information	Country	Pre-Learn	Trans. Befd	Doc. Trans.	Doc. An/Exp	PostLearn	Rec'd Date	Sen Date	Topic	Title	Meat Count	Notes

Appendix C: Student Partnerships

Course Number:
Semester/Year:
Instructor Name:

Amur University, Demak											
Instructor Name:											
Student Name	Contact Information	Pre-Learn	Trans. Unit	Rec'd Date	Send Date	Topic	Title	Notes	Pre-Learn	Trans. Unit	Rec'd Date
Student A											
Student B											
Student C											
Student D											
Student E											
Student F											
Student G											
Student H											
Student I											
Student J											
Student K											
Student L											
Student M											
Student N											
Student O											
Student P											
Student Q											
Student R											
Student S											
Student T											
Student U											
Student V											
Student W											
Student X											
Student Y											
Student Z											

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