CCCC 2023 Draft Text and Supporting Information

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Developing Intercultural Competence in Technical Writing Classes—

A Prospectus of Globally Networked Learning Environments Project

# Introduction

With a globalized economy and internationalized technical exchanges, intercultural competence has been an essential part in technical communication/writing curriculum given that technical communicators need to work with and write for people across the world from diverse cultural background. Responding to this need, research on intercultural competence have flourished in the field and many developments have taken place, including theoretical framework for teaching intercultural communication (Agboka, 2012, 2013; Deardorff & Jones, 2012), the measurement of intercultural sensitivity (Hammer, Bennett, & Wiseman, 2003) and assessment methods (Yu, 2012), and pedagogies for developing students’ intercultural awareness ( DeVoss, Jasken, & Hayden, 2002; St Amant, 2005, 2007; Wang, 2019).

However, students’ potentials for gaining intercultural competence are limited in the classroom context due to lacking opportunities to interact with members from other cultures. While studying abroad programs and internationalized classrooms remain the privilege of a small group of students and instructors, globally networked learning environments (GNLEs) can overcome the geo-spacial obstacles and provide an international experience. This prospectus of a GNLEs project explores the potentials of using GNLES for developing intercultural competence in both US and Chinese universities through the lens of activity theory (AT). Based on that, research design and methods are proposed.

# Background

## GNLEs

## Starke-Meyerring (2010) refers to those partnered learning environments across traditional boundaries designed by innovating faculty as globally networked learning environments (GNLEs), which usually “takes the form of an internet-based classroom partnership and shared learning environment in which instructors who are geographically distant jointly develop a learning activity, a course or a program and teach it simultaneously both to their regular (physical) classroom as well as to their partner's classroom” (Starke-Meyerring et al., 2008, cited in Bégin-Caouette, Khoo, & Afridi, 2015). Depending on robust partnerships to engage faculty, programs, and institutions in a networked learning environment, GNLEs extend beyond the confines of traditional local classrooms and integrate experiential learning opportunities for cross-boundary knowledge making (Starke-Myerring, 2010, p. 261).

GNLEs are widely applied in classrooms across various disciplines and subjects, including medical care (House, Nielsen, & Dowell, 2022), second language acquisition (Anderson, Bergman, Bradley, Gustafsson, & Matzke, 2010; Ab Rahim, Abdullah, & Zain), and technical communication (Roy & Ziegler, 2019). The benefits of GNLEs have been reported by a myriad of studies. For instance, based on a qualitative analysis of seven cases, Bégin-Caouette (2013) suggests that GNLEs develop students’ intercultural sensitivity and enhance their learning experience. Studies also suggest that GNLEs have the potential to promote new professional learning opportunities for instructors and facilitate professional growth (Bégin-Caouette, 2015).

## Activity Theory

Grounded in the work of social psychologists Vygotsky, Leontiev, and Engestrom, Activity Theory (AT) The third version of AT consists of six components in an activity: the acting “subject”, “object” being created in activity, “objective” toward which activity is conducted, “rules and norms” governing an activity, the “community” where the subjects are engaged in an activity, and a “division of labor” within an activity (Pihlaja, 2018). AT is a sociocultural approach that has been widely used in technical communication and has influenced research methodologies in this field (McNely, Spinuzzi, & Teston, 2015).

GNLEs’ feature of engaging students, faculty, and institutions in a networked cross-boundary knowledge making environment has connections with AT. AT provides a sound analytical tool to understand the interactions between participants and the situated context, that is, the internet-based classroom partnership and shared learning environment. Pihlaja (2018) proposes that AT might be applied to the intercultural encounter and also serve as tools for teaching students compose in intercultural contexts (p. 199).

## Technical communication and Intercultural competence in China

With globalization and China’s advancement in foreign trade, the need for technical communication is rapidly increasing. The demand is mainly from two groups: international companies that need to tailor their documentations and products for the Chinese market, and Chinese local enterprises that are expanding their global business, for example, local giants like Huawei, Alibaba, and Baidu, have launched their own independent teams for better technical documentation (Yu &Zhang, 2019). With this trend, Yu &Zhang (2019) report that technical communication in China is booming with an increasing number of active technical writers and growing salaries, and an increasing number of colleges and universities in China have realized the need to educate professional technical communicators. From a survey, they find that at least 22 universities in China have established their own technical communication courses, and another 11 are planning to do so.

Ding (2019) made a comprehensive examination of technical communication as an academic field in China by investigating the pedagogy, program building, market needs, professionalization, etc. She notes that visionary faculty who have overseas experience has contributed most to developing technical communication courses and programs. She points out that “[w]ith international institutional or personal ties forged during their overseas experiences, these faculty actively seek international partnerships to help build technical communication programs in their home institutions” (p. 228). Ding further identifies three existing pedagogical sites for technical communication in China: Masters of Translation and Interpretation (MTI) program for English-major graduate students, ESP for non-English majors, and translation or practical writing classes with technical writing components for English majors. Among the three pedagogical sites, ESP courses are most widely offered besides general English courses which are required for all undergraduates. and have been an important academic field in terms of pedagogy and research.

Intercultural competence has been identified as an essential component in English as Foreign Language (EFL) circumstances. While empirical study about intercultural competence in technical writing context in China has been scarce, a large volume of studies have been conducted investigating intercultural competence among English majors and in EFL classes. For instance, Mu & Yu’s (2021) study finds that development of intercultural competence among college students is constrained by the current language teaching methods, course contents, and test-oriented learning situation.

# Research Aims

In this project, I lay out how implementing GNLEs can be located at a productive intersection with the teaching of technical writing. For both groups, this is a wonderful opportunity to interact members from other cultures, which boosts students’ potentials for gaining intercultural competence and increase the capability to adapt to cultural differences. For Chinese students, this is also a great scenario to improve English language proficiency in authentic context.

This project prospectus, part of a PHD study in progress, aims to gain an in-depth understanding of students’ development of intercultural competence during GNLEs project between two US and Chinese universities. The study also elicits the learners’ reflections on the experience of collaborative learning. It is the writer’s hope to provide an intercultural collaboration example to explain how instructors can incorporate GNLEs in the technical writing/communication curriculum across traditional boundaries.

# Research Questions

The following research questions guide this study:

* To what extent, if any, will students' Intercultural Competence (IC) develop during a GNLEs project in both US and Chinese universities?
* What teaching methods and curriculum elements are effective in helping students develop IC?
* What are students, instructors, and academic leadership perceptions of the GNLEs project?
* What challenges will arise in implementing collaborative writing?

# Research Design and Methods

This study will utilize a mixed-methods design. The data will be collected through questionnaires for participants, one-to-one interviews with students and instructors, as well as classroom observations and focus group interviews. The data also includes student writing samples, instructor responses to writing, and researcher field notes/memos. The study will seek approval by the Institutional Review Board (IRB), and all participants’ signed informed consent forms to participate in the study, and it will observe the following three phases.

**Establishing a collaboration:** In the planning process, through electronic meetings and communication via e-mail, objectives for the collaboration will be established. The objectives include: (a) develop collaborative relationships with students from another country, (b) describe the cultural differences in technical communication artifacts in the U.S. and China, and (C) describe the goals of collaboration projects.

**Implementing the collaboration:** The opportunity to participate in the international collaboration is introduced to students early in the semester. Students are provided the prompt for the projects, objectives for the collaboration, and assigned discussion points. Instructors create evenly distributed groups based on the number of volunteer student participants.

Based on the current curriculum, two projects will be used for the GNLES: instruction design and usability test. In composing the instruction design, participants will take the group members from another culture as the audience; In usability test, students will also have group members in another country as testers.

**Evaluation of the collaboration:** Students in both countries are sent an electronic anonymous survey to evaluate the collaboration experience. The survey includes open-ended questions about the experience and close-ended questions. Based on the survey results, students will also volunteer to participate in semi-structured interviews with the instructors.

# Institutional Description

The university where my research takes place is Texas Tech University (TTU) which is a research university located in Lubbock, Texas. I am a second-year PhD student in Technical Communication and Rhetoric program in Department of English. As a PhD student, I teach undergraduate courses as a graduate part-time instructor, ENGL 2311 Technical Writing is the course that I will teach in Summer and Fall 2023. Originally from China and with experience of teaching EFL at college level in China for years, I am very interested in the development of intercultural competence among EFL learners and American undergraduates as well.

While finding collaborating partners in China is challenging, one of the best potentials I have in mind is Southeast University (SEU) which is an elite national university located in Nanjing, the capital city of Jiangsu Province in the prosperous southeast China. I am interested in this university because it is closely connected to Department of English at TTU. SEU has been sending their faculty as visiting scholars in TTU’s Technical Communication Program and inviting some faculty as visiting professors at SEU (Ding, 2019), and two professors from TTU have visited SEU and provided faculty training workshops on the design of tech com curriculum. Since 2015, English Department at SEU has established a concentration in tech comm for its undergraduate English majors and offered optional tech comm courses for its MTI (Master of Translation and Interpretation) students as well.

# Key Theorists and Theoretical Groundings

As reported in the “Background” section of the draft text, the project design and materials development have been underpinned by theories and practices of Globally Networked Learning Environments (GNLEs) ( Starke-Myerring, 2010; Bégin-Caouette, 2013, 2015), activity theory (AT) (Vygotsky, 1978; Leontiev, 2009; Engestrom, 2009; cited in Pihlaja, 2018), and intercultural competence concept and measurement (Hammer, Bennett, & Wiseman, 2003).

# Glossary

**Activity Theory (AT):** more of a descriptive meta-theory or framework than a predictive theory. The third version of AT consists of six components: subject, object, objective, rules and norms, the community, division of labor.

**English for Specific Purpose (ESP):** a subset of English as a second or foreign language. It refers to teaching English to university students or people in employment with reference to the particular vocabulary and skills they need.

**Globally Networked Learning Environments (GNLEs):** partnered learning environments across traditional boundaries, which usually take the form of an internet-based classroom partnership and shared learning environment in which instructors who are geographically distant jointly develop a learning activity, a course or a program and teach it simultaneously both to their regular (physical) classroom as well as to their partner's classroom.

**Intercultural Competence (IC):**  the ability to function effectively across cultures, to think and act appropriately, and to communicate and work with people from different cultural backgrounds – at home or abroad.

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