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## HOW ESP PEDAGOGY IN INTERNATIONAL VIRTUAL COLLABORATION CONTRIBUTES TO THE AUTHENTICITY OF THE LEARNING PROCESS: A CASE STUDY

*Research Article*

Wendy Winn 

Appalachian State University

[winnwl@appstate.edu](mailto:winnwl@appstate.edu)

Katalin Beck 

Clemson University

[kbeck@g.clemson.edu](mailto:kbeck@g.clemson.edu)

Wendy Winn is an Associate Professor in Professional Writing in Appalachian State University's Department of English. Her interests include researching ESP, international collaboration, and instructional technologies through a rhetorical lens.

Katalin Beck is a lecturer in Clemson University's Department of English. She develops and researches global learning projects with special attention to virtual collaboration technologies and rhetoric.

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# HOW ESP PEDAGOGY IN INTERNATIONAL VIRTUAL COLLABORATION CONTRIBUTES TO THE AUTHENTICITY OF THE LEARNING PROCESS: A CASE STUDY

Wendy Winn

[winnwl@appstate.edu](mailto:winnwl@appstate.edu)

Katalin Beck

[kbeck@g.clemson.edu](mailto:kbeck@g.clemson.edu)

## Abstract

Given the rapid advances in information communication technology (ICT) and the ever-increasing likelihood that students will be collaborating on cross-cultural teams in their future careers, creating opportunities to engage in collaborative writing projects across borders and then observing the dynamics of international virtual online collaboration have high pedagogical value, though studies are scarce. This research examines the learning process that occurred when engineering and computer science students from France and Germany were connected with business and technical writing students from the US to work on co-authored documents. The researchers were specifically interested in how students addressed the situational constraints of the collaboration and how those constraints influenced students' choices of communication and collaboration tools. Two separate projects were assigned and each employed reading, writing, "talking," and critical thinking components. Analysis of post-project survey data and the correlation of students' ICT choices revealed students had to continually renegotiate their communication and collaboration. Allowing students to make rhetorical choices resulted in cultural learning through hands-on experience with these constraint variables: English language proficiency, cultural differences, project complexity, time difference, and technology. The results from this study will be useful to ESP pedagogy in projecting how to prepare students for international virtual collaboration.

*Keywords:* ESP pedagogy, international virtual collaboration, information communication technology

## 1. Introduction

Given the rapid advances in information communication technology (ICT) and its growing impact on globalization, there is an ever-increasing likelihood that, worldwide, students will be collaborating on cross-cultural teams in their future careers. Innovation is central to the new economy and with it comes a greater demand for skill sets that include creativity, critical thinking, collaboration, and cultural sensitivity. English is considered the language of science and technology and thus ICT plays a critical role in English for Specific Purposes (ESP) pedagogy. According to Warschauer (2000),

A large and increasing number of people, even if they never set foot in an English-speaking country, will be required to use English in highly sophisticated communication and collaboration with people around the world. They will need to be able to write

persuasively, critically interpret and analyze information, and carry out complex negotiations and collaboration in English. (p. 518)

Over the course of its more than fifty-year history, ESP has evolved to meet the needs of ESL students. Especially noteworthy are studies that have advocated for content-based language instruction, including Shih (1986); Snow and Brinton (1988); Leaver and Stryker (1989); Grabe and Stoller (1997); Dupuy (2000); and Gatehouse (2001). There are also intersections of well-researched areas of collaborative writing pedagogy (Hunzer, 2012 and Storch, 2013), computer-mediated language learning (Blake, 2008 and Zou et al., 2013), developments in ESP (Belcher et al., 2011; Blake 2008; Dudley-Evans & St. John, 1998; and Fortanet-Gomez & Räisänen, 2008), and project-based and problem-based authentic learning (Dkhissi, 2014; Mamakou & Grigoriadou, 2010), among others.

As rhetoricians and technical writing specialists, we seek to contribute to this body of research using our theoretical lens. Motivated by the notion that collaborative writing projects across borders have high pedagogical value, we applied rhetorical theory to international virtual collaboration, using student-driven projects to highlight situational constraints, witness problem-solving options, and document ways to potentially improve ESP collaborative writing pedagogy. In so doing, we sought to answer the following research questions:

- How do students recognize and address the situational constraints of virtual online collaboration?
- How do these constraints influence students' negotiation of communication and collaboration tools, i.e. the technology choices?
- What rhetorical choices do students make based on their hands-on experience with these constraint variables?

## 2. Theoretical Framework

Classical rhetoric dates back over 2000 years, to the time of its fundamental scholars, the Greek philosophers, Socrates, Plato, and Aristotle. In an oral society, it became apparent to them and others that words have the power to influence, which led Aristotle (1991) to define rhetoric as “the ability, in each particular case, to see the available means of persuasion” (pp. 36–37). His theory on persuasion is foundational to how we evaluate effective communication. In some form or other, persuasion is in all types of language usage, and what we say and how we say it, in other words, our rhetorical choices, will change based on the audience, purpose, and situational constraints.

In any rhetorical situation, the speaker or author must analyze the audience and purpose as well as the context in which that communication appears in order to adapt to all the particular constraints that exist. While Aristotle only touched on constraints in terms of the three types of speech (deliberative, forensic, and epideictic), other scholars have expanded on his theory. Rhetorical constraints are, according to Bitzer (1968), “made up of persons, events, objects, and relations which are parts of the situation because they have the power to constrain decision and action needed to modify the exigence. Standard sources of constraint include beliefs, attitudes, documents, facts, traditions, images, interests, motives and the like” (p. 8). Because exigences can be unrhetorical (like death or winter, for example), Bitzer defines a rhetorical exigence as follows: “An exigence is rhetorical when it is capable of positive modification and when positive modification requires discourse or can be assisted by discourse” (p. 7). In this study, we hypothesized that the situational constraints could include varying levels of language proficiency, varying academic schedules and the time difference, performance expectations and motivation, the communication mediums and technology, and cultural factors such as privacy and security regulations and personal/private spheres.

### 3. Methodology

Four student groups participated in this research from four separate universities: engineering and computer science students from France (FR) and Germany (GR) were mixed with business and technical writing students from the United States in North Carolina (NC) and South Carolina (SC). Two separate writing projects were assigned and each one employed reading, writing, “talking,” and critical thinking components. The FR/NC groups conducted a genre analysis of a corporate annual report while the GR/SC groups prepared a proposal-writing project. These two projects were chosen based on the European instructors’ knowledge and level of experience. While the assignments were structured, the students had complete freedom to make rhetorical choices in the process of completing their assignments. The success or failure of these choices came through in their post-survey responses.

The five-week-long project was conducted in the fall semester 2017. Throughout the length of the project, we observed problem-solving actions, tracked the collaborations through periodic status updates, and collected data through anonymous surveys once the projects were complete. The survey instrument contained open-ended and closed-ended questions, producing both qualitative and quantitative data for analysis.

### 4. Results and Discussion

Based on the qualitative and quantitative data, five types of challenges, which can be operationalized as constraint variables, were identified:

1. Challenges relating to language competence (“language”)
2. Challenges relating to cultural differences (“culture”)
3. Challenges relating to the complexity of the project (“complexity”)
4. Challenges relating to time (“time”)
5. Challenges relating to technology (“technology”)

To better understand what role the constraint variables played in the cross-cultural virtual collaboration, we need to define them more clearly. The five constraint variables have been operationalized based on the feedback received for the survey questions, and we map their meanings by highlighting select remarks from the survey respondents’ responses to the qualitative questions.

Analyzing the quantitative data along the five operationalized constraint variables, we found that the weight of these variables were vastly different for American students and the European students. Table 1 compares the percentage weights of each of these constraint variables.

Table 1. *Constraints as weighted by European and US students*

Variables	European (FR/GR)	US (NC/SC)
1. Language	0%	30%
2. Culture	23%	45%
3. Complexity	41%	58%
4. Time	59%	47%
5. Technology	12%	89%

The table shows that while this collaboration involved native-speakers and non-native speakers as participants, the language variable was somewhat constraining for the American students with 30% mentions, and it did not appear to be problematic at all for the European students. Given the complex nature of the “culture” constraint variable, the on-the-surface cultural differences were mentioned by 23% of the European students and by 45% of the Americans students. More challenging was the complexity of the project with 41% and 58% mentions respectively. The time variable, specifically defined, again, for the purposes of this study, surfaced in 59% of the Europeans’ feedback and 47% of the Americans’ feedback. Technology-related issues were most often discussed by the American students at 89% and were addressed considerably less by the European students at just 12%, showing the widest spread difference.

Comparatively, the European students felt that the time variable influenced their project the most (59%), and for the American students the most relevant constraint were the issues relating to technology (89%). This would suggest that as the teams worked on their co-authored documents, they made their communication and collaboration choices based on time constraints and, strongly connected to that, the effectiveness of various technologies. While we hypothesized that performance expectations and motivation and personal/private spheres would be situational constraints, they were not mentioned. However, the prevalence of the technology variable also implies that students’ selection of what technologies to use might have been influenced by the affordances related to how communications tools limit or help the separation of private and professional spheres. The five constraint variables will now be discussed one by one.

#### **4.1. Language**

The “language” constraint variable can be defined in our study to mean the challenges that stemmed from the difference in the language proficiency levels of American and European students. Some remarks to illustrate the nature of this situational constraint are:

“One of our team members didn’t speak very good English, but we tried to write emails with the simple English.” [SC 15]

“There were a few English errors, but it was nothing that caused confusion.” [SC 22]

“Most of my team members could speak English at least decently. They would message us what areas they were struggling with, and we would give them tips on how to expand.” [NC 5]

“I tried my best to write proper English and nobody complained, so I guess there were no problems.” [GR 6]

What we observed and the survey confirmed is that while no language barrier existed between the teams, only the American students identified the language constraint as a variable. Some American students pointed out that their European counterparts would only list phrases of ideas as opposed to full sentences composing a paragraph. Many American students entered the project with the expectation that non-native speakers would be less comfortable with working in English, so they showed great flexibility and tolerance. The reason European students could have felt there was no language barrier may relate to the difference in receptive and productive competencies: they could easily understand spoken and written English and, if they had difficulties producing their own text in English, the American students made an extra effort to compensate.

## **4.2. Culture**

The “culture” constraint variable can be defined in our study to mean the challenges that stemmed from differences in national holidays, academic calendars, course schedules, grading systems, and relationship to knowledge, work, and privacy. Cultural constraints were talked about by 23% of European students and 45% of American students. Some remarks to illustrate the nature of this constraint are:

“The challenge was the German culture’s emphasis on security, so we communicated with them and sent files to them in a way they were comfortable with” [SC 20]

“The French seemed to be more laid back.” [NC 12]

“The difference was the university system and expectations of the written assignment.” [GR 22]

“ASU students’ expectations were high, ours were medium.” [FR 6]

These remarks indicate that students were aware of the variances that can distinguish cultures, but this theoretical knowledge translated only partially to everyday practice. We believe that the opportunity for hands-on experience with cultural variables is the key to transforming this constraining factor to a factor catalytic for successful collaborative enterprises.

## **4.3. Complexity**

The “complexity” constraint variable can be defined in our study to mean the challenges relating to project management and problem-solving. From the total number of students, 41% of Europeans and 58% of American believed that the complexity of the project was a constraint. Due to the high degree of freedom that authentic learning granted to students, this collaborative assignment required mixed teams to structure their work independently and to select the best communication and production strategies, therefore the perceived complexity is in straight correlation with the authenticity of the project. Some remarks to illustrate the nature of this situational constraint are:

“Our group underestimated the complexity of the project, but we created a Google document so we can work individually on our own time.” [SC 18]

“Making sure we were all the same page was a challenge. Divided up different sections.” [NC 5]

“The challenge is that we are used to software solutions.” [GR 7]

“I didn’t have to do this kind of written document in a long time and it was quite challenging to do.” [FR 9]

When speaking of the complexity of the project, some comments touched on other constraints such as time difference, technology, and language proficiency, showing that “complexity” was defined differently depending on where students struggled with the collaboration.

## **4.4. Time**

The “time” constraint variable can be defined in our study to mean the challenges that stemmed from the two teams’ different time zones, which resulted in a six hour shift of daily rhythms. This limited understanding of time only partially covers all issues that can be, in some way, tied to the exigency of the project, which mirrored time-sensitive, intense, real-world professional project scenarios. Time was the most problematic, but more so with the



European students at 59% than the American students at 47%. Some remarks to illustrate the nature of this situational constraint are:

“It was difficult to communicate due to time difference, so we used Whatsapp which worked on our phones.” [FR 8]

“The difference was quite hard. When one was finished with the day, the other just starts.” [GR 1]

“The time difference played a part in the lack of communication. We had to get up early and didn’t rely on Germans to answer instantly.” [SC 11]

“We definitely struggled with the time difference.” [NC 9]

As the FR quote shows, the time constraints found their resolution in students’ technology choices. The most decisive affordances that the communication and collaboration tools carried were their instantaneousness, and students gravitated towards the technology that allowed them the most immediate feedback. The comment from SC hints on the fact that time perception also influenced what message turnaround students were comfortable with. In this project-based assignment, the dynamic relationship of the participants allowed them not only to make their rhetorical choices, but also to continuously learn from each other and re-adjust their expectations.

#### **4.5. Technology**

The “technology” constraint variable can be defined in our study to mean the challenges that resulted from the wide variety of available technologies and the difficulties in selecting the optimal one or a combination of the optimal ones. It was highly problematic for the American students at 89% and much less so for the European students at 12%. Some remarks to illustrate the nature of this situational constraint are:

“We had a hard time figuring out what technology to use to communicate with the German students.” [SC 2]

“The only technical challenge was that students weren’t familiar with Google docs and did not have Gmail accounts.” [NC 11]

“We at first struggled to find the adequate communication platform as email was proving to be difficult. When we switched to FB Messenger, communication became much easier.” [NC 1]

“The way we communicate was a bit challenging because I don’t read emails every day.” [GR 7]

For the American students, technology emerged as the biggest challenge in negotiating the most effective tools to work with their teams, and comments repeatedly suggested that one of the prime affordances was how much a given technology supported instantaneous feedback. This seems to be the reason, for example, why no groups exclusively relied on email. With the well-developed digital technology infrastructure in both the US and Europe, students had to critically weigh the pros and cons of each of the many communication and collaborative writing technologies, in light of not only their effectiveness and personal preferences, but also their own and their partners’ cultural and regulatory constraints. Students were given the freedom to make rhetorical choices based on the situational constraints and the abundance of choices from various collaboration and communication technologies with their varying affordances made it complicated for students to negotiate the most efficient ways to work together.

## **5. Limitations**

For a more conclusive result, a higher number of usable survey responses would have been desirable. Although all students submitted surveys and all US student surveys were completed without a problem (NC: 15 and SC: 23), we did not anticipate that 23 of 30 French students would have duplicate answers among group members and 6 of 13 German students would have incomplete written responses, rendering all of those surveys unusable. This result suggests that the ESL students had difficulty expressing themselves in the survey format or lost interest on this aspect of the project. To secure high survey returns from all groups, the surveys should be administered in class and checked for completeness before submission. The use of two different assignments may also have posed a limitation as it could be a controlled variable with an identical assignment. This can be addressed in future research.

## **6. Conclusion**

This exploratory research demonstrates that principles from rhetorical theory can shed light on the situational constraints deemed most problematic in students' international virtual collaborations and suggest possible ways to minimize these constraints to make collaborations more effective. The benefits are clear: passing the TOEFL and applying English to various workplace genres (ESP) are highly compatible goals as they help ESL students improve both their receptive and productive competencies. In addition, mastering the application of English with typical workplace genres reduces the on-the-job learning curve and makes ESL students more immediately productive and marketable. This research would also support that intercultural sensitivity and rhetorical awareness are best developed through hands-on, authentic projects. The results from this study are only a beginning in what we hope will be useful to ESP pedagogy in projecting how best to prepare students for international virtual collaboration.



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