DESIGNING COMMUNICATION FOR COLLABORATION ACROSS ENGINEERING CULTURES

A teaching case

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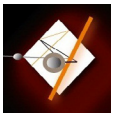
This pedagogical case aims to better prepare engineering students for communication tasks in international collaborations. Its origin is an interview with a young female engineer in the United States who, when asked what might have improved her technical communication classes, answered by listing her current difficulties with intercultural and international collaboration on design projects. Her interview established a frame for the short case on international collaboration that follows. Included are materials suitable for students and resources to guide teachers.

Keywords. International collaboration, Intercultural communication, Project management, Gender, Web conferencing.



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In an interview about her day-to-day writing and communication tasks, a new engineer noted that she would be better prepared for her current work if her communication classes had discussed the challenges intercultural and international projects would pose, and also if they had addressed how young engineers might construct or tweak the lines of communication in international work. Such pedagogy would help her now as she routinely works across cultures, across disciplines, and across engineering goals. Yu (2012) reports that our informant's interest in intercultural communication is shared by 86% of the U.S. engineering students she surveyed. Yu concludes that instruction in intercultural communication needs to address students' attitudes that favor their own cultural approaches. This case pursues a somewhat different, but still a complementary tactic: it does not confront students' preconceptions as much as it focuses their attention on redesigning how communication circulates around a project. In addition to relationships among the participants, the case that follows examines the structures and routing of communication in an international collaboration. The case was built on the real example provide by our informant, but tailored to address a broad set of intercultural communication issues.

A number of dimensions are highlighted by the case:

- The engineers are located at different sites—making face-to-face meetings too costly and at the same time complicating interpersonal communication.
- The new lead designer is a woman while all others participating are men.
- Disciplinary prestige affects discussions because the clients have doctorates while the designer has a BS degree, although she is

the only one involved who has in-depth knowledge of materials properties.

- Project investment also is frequently questioned because a new hire has been assigned to "fix" a strained collaboration.

The rest of this document is divided into three parts: 1) the case narrative suitable for distribution to students in a technical communication course as a basis for analysis and discussion, 2) theories and research from various disciplines that can be used by teachers to support and supplement the case, and 3) discussion questions, activities, and deliverables to extend use of the case.

Case Narrative

Marisol Hidalgo, a new design engineer at Dynamic Engineering, Ltd., works at the Cumberland office located in North Carolina. As one of her first job tasks, she is assigned to work with a team of engineers at the company's research center in Bangalore, India. Cumberland is designing a series of parts that the Bangalore engineers are using in their research on a new jet engine. Her boss, Kevin Smith, tells her the assignment is hers because of her materials knowledge—her degree is in metallurgy, not mechanical design—and because other engineers assigned to the project have not "meshed" with the Bangalore team. He suggests that Marisol can bring "new eyes" to the team and asks that she begin by observing and suggesting ways in which the collaboration can be improved.

Marisol suspects some thorny problems may underlie Mr. Smith's "not meshed" comment, so she not only attends one of their conference calls, she also investigates the background of how the two sites work together and communicate at times when they are not meeting. She finds:

- The Bangalore team functions exclusively as a research team—all have PhDs—and the Cumberland site is charged with designing parts to enable the researchers to test their theories about improving power output and efficiency in a jet engine the larger company will produce in the future.
- Weekly meetings are held using WebEx, a web conferencing computer application that allows live voice communication and screen sharing, but they choose not to include the video communication function. Interestingly, in the meeting, she notices the screen sharing does not seem to be interactive or collaborative—they might as well have emailed PowerPoint slides or Excel charts.
- These meetings usually run 2 hours and seem to just end abruptly. They do not close with any written or verbal statements about the coming week's work.
- Weekly meetings typically start at 9:30 a.m. U.S. Eastern Time—7:00 p.m. in Bangalore.
- The day after the meeting, the Bangalore team sends a memo with their updated requests—written when they arrive at their offices in the morning, which is nighttime in the US.

Jon Merrell, the previous lead in North Carolina, tells Marisol that those memos she'll receive after the meetings are wildly different from what happened in the meetings, and that they often reintroduce demands for design features that were ruled out during the previous meeting. But, as Marisol digs further, she discovers that many previous emails were cc'd to

an Indian engineer at the Cumberland office, Dr. Kumar, who others know, but who is not part of the project team. It seems that the Bangalore team doesn't send her group all the memos; for every memo her team receives, Dr. Kumar has received—and answered—emails that he does not share. So, if the Bangalore engineers assume Dr. Kumar shares those memorandums, they may well think they have negotiated with Cumberland by talking with Dr. Kumar. Thus, the Bangalore team may think Marisol's team is uncooperative or ignorant at the same time as her team thinks the Bangalore researchers are either unable to understand the limits on part design or unwilling to abide by decisions made in the meetings.

The more she digs, the more complex and entrenched the communication problems seem to be. The Bangalore team is codirected by Dr. Soudha, who has a PhD in physics, and Dr. Gowda, who has a PhD in applied mathematics. When she finally talks with Dr. Kumar at Cumberland, she confirms that Dr. Kumar often receives many memos from the Bangalore scientists for every message they send to her department. He further offers that the Bangalore team may have internal conflicts of interest that he would trace to theoretical differences: Dr. Soudha does not think they should disrupt their theoretical work to specify designs for prototype engine parts, and Dr. Gowda is more concerned about testing their ideas in order to keep their funding secure. Dr. Soudha also likes to think at night when others have left the center, and this meeting interrupts his mental work. So the leaders of the Bangalore team have issues with each other over whether they should spend time with the Americans who ask such mundane questions as "what temperature should this part withstand and for how long?"

Marisol has begun this investigation with the expectation that she will be in daily contact with the Bangalore team, but she also finds out that

messages relevant to her design of parts for their research project circulate differently than she anticipated. For example, every memo received from the Bangalore team has been so "worked over"—in part by sending drafts to Dr. Kumar for comment—that memos are typically very formal—and sometimes introduce topics not discussed in the web meeting—when they reach the North Carolina team. Meanwhile, Marisol realizes that memos from the North Carolina team probably seem too informal for the Bangalore team's preferences and may seem out of date because of the negotiation they have conducted with Dr. Kumar. She sees this back-channel talk between the Bangalore team and Dr. Kumar as potentially dangerous to successful collaboration, but she also finds him approachable and helpful. It may be the case that he has kept the formal collaboration from collapsing in the past.

Although the same meeting time has been used consistently, it occurs to Marisol that time differences between the sites—9.5 hours—increase the possibility of misremembering as the Bangalore team is at the end of a long workday when weekly meetings are held, and conclusions are not documented. Interactive white board screens are often not written down and conclusions about next steps are not penned in the meeting. No documentation is begun until the next day—if at all. Since the meetings have been conducted this way for several years, their patterns are entrenched and likely to be difficult to change. Further, she doesn't know if others would accept a new employee disrupting their routines; it might draw attention to her gender and youth.

Manager Kevin Smith has asked Marisol to make suggestions that he can champion, so she needs to draft a report to him about the communication problems. She is mindful that he will likely copy the text of any ideas he likes into a memo of his own—so she tries to write as she thinks he would.

Supporting Theories and Research

This case can be used in several different ways and types of courses. It might be used as a single-class-session discussion activity by sophomore-level engineering students who have not experienced professional internships. In such an early course use, the case can help students understand that: disciplinary differences can spark clashes, as can divergent work goals; cultural differences can impact communication etiquette and style; communication can circulate in ways that aid and hinder collaboration; and communication infrastructures sometimes need to be changed.

With junior and senior students the case might be expanded in scope and depth to include consideration of theories and research relevant to cultural, organizational, and disciplinary communication. The next section provides research on intercultural communication that might be supplied to students before a discussion activity, and can also lend theoretical support to situated learning activities including the writing of deliverables related to the case. These "learn-by-doing" activities are described in the third section.

Research on Intercultural Communication

Teachers who have not used intercultural cases before may want to introduce this case with some statements about the importance of intercultural communication in engineering.

Intercultural communication often begins with Edward T. Hall who coined the term to collect the work he and others were doing in the U.S. Foreign Service Institute in the 1950s to cover the (mis)understandings generated through body language, speech, and writing (Hall, 1959). Widely held distinctions grew out of this work that investigated differences in values

and behavior across individuals, groups, and even nations. Hall contended that two important dimensions of difference (i.e., ones that may lead to powerful misunderstandings) could be revealed by identifying high context versus low context cultures and by identifying proxemics—or the physical dimensions of communication difference. High context cultures, for Hall and his many followers, refer to cultures that spell out few details in writing because it is expected that the receivers know much of the context. His example of high-low problems was France to Germany versus Germany to US. The French and Germans have more trouble communicating in writing than do Germans and Americans because France is a high context culture, while Germany and the US both are low context cultures.

Hall's classic example of proximal distance compared Arabic speakers and U.S. English speakers, with the Arabic speakers expecting a truthful speaker to stand close to them, speak up, and maintain eye contact while the Americans would back away, speak more softly, and sometimes look away when they were made uncomfortable by close contact (Hall, 1966). While this work has been problematized, high and low context and proximal distance principles still are used often in intercultural discussions.

Geert Hofstede in the 1970s and 1980s developed dimensions of difference across cultures into the Hofstede model. These identified six nation characteristics—four of which became widely used in cross-cultural research in psychology: power/distance, uncertainty/avoidance, individualism/collectivism, masculinity/femininity, long/short term orientation, and indulgence/restraint. In a recent article, Hofstede (2007) pulled together results from a number of studies to contrast what is most and least important

Table 1

Priorities Revealed through Interviews of Managers

India managers	US managers
MOST important: family interests, continuity of business, personal wealth, patriotism, power	**MOST important**: growth of business, personal wealth, this year's profits, power, staying within the law
LEAST important: staying within the law, creating something new, responsibility to employees, respecting ethics, game and gambling spirit	**LEAST important**: profits 10 years from now, responsibility to employees, family interests, continuity of business, creating something new

Source: derived from Hofstede (2007)

to managers. As depicted in Table 1, the managers he surveyed from India and the US clash on: importance of family, long term orientation, and staying within the law (for a good discussion starter have students check The Hofstede Centre website at http://geert-hofstede.com/countries.html).

Shalom Schwartz developed two different value theories, one about individuals—in the 1970s and 1980s—and one about cultures. From the 10 individual motivations, he developed a mapping of individual value regions based on two dimensions: openness to change versus conservation and self-enhancement versus self-transcendence. When he transferred this work to cultures, he used his Schwartz Values Survey to assess intercultural values and applied that work to intercultural communication. Working with a number of psychologists interested in human values across cultures, Schwartz charted universal value constructs found in cultures including: harmony, embeddedness, hierarchy, mastery, affective autonomy, intellectual autonomy, and egalitarianism (Schwartz, 2008; the further reading provides a link to this report with good visuals for use in class). Intercultural business research began to use Schwartz's work—along with the European Social

Survey—quite widely in the 1990s and Schwartz's scale became popular in intercultural business research as a way to understand differences (see Schwartz, 2006).

Relevant to this case, Schwartz's work maps India as a hierarchy culture that values social power and authority. It also accepts uneven wealth, which leads to valuing humbleness. The United States maps as a mastery culture that values daring, independence, social recognition, choosing its own goals, and being capable, successful, and ambitious. In many ways the cultures should be compatible as workmates.

A wrinkle found in this case plays on a primary incompatibility as the disciplinary—and real—power is in the control of the Bangalore scientists. According to Schwartz's thinking, the Indians will expect that hierarchy will trump in discussions and that hierarchy is on their side: they are the scientists at a research center, the Americans are engineers who are so lowly they must design prototype engine parts. At the same time, though, the Americans will seek to make designs—and parts—work, to do so efficiently, and to stay on the task of solving whatever problems arise. They are unlikely to defer to their Bangalore colleagues on what matters to them, i.e., that the parts work.

Implementing the Case: Questions, Activities, and Deliverables

As stated in the introduction, this case is loosely based on information we were given during an interview with a young, female, American design engineer. It started with her response to the question: "What would have better prepared you for the communication challenges of your day-to-day work?" She responded by talking about her collaborative project with a research design team in India. A new engineering graduate, she made the

remark that her undergraduate communication classes had not anticipated, or prepared her for, how often she would work on international teams. "It would have helped me to practice thinking about how messages move around, and also to try out electronic meeting software. Probably cultural awareness stuff, too. Although I don't know how that fits with classes."

The case is written so that it is scalable. Students can read the case narrative by itself to prompt a single-session discussion activity in an engineering course. The case can also be implemented more widely in a variety of courses that address professional ethics, communication, and teamwork. As a multi-week project, students can use the case as a vehicle for practicing a variety of communication analysis activities and writing assignments.

In this section, we offer discussion questions, activities, and deliverables—realistic communication products—that might be produced by students who assume the role of the central figure in the case. We first describe these as assignments and then provide further detail of situated learning activities within the context of the case.

Discussion Questions

- Should Marisol directly address the Bangalore team's special relationship with an Indian engineer at the North Carolina site? If so, how?
- Which is more likely to be problematic for Marisol—her age, her gender, her education (only a BS dealing with PhDs)—and how does she position her ideas to separate them from these possible centers of discrimination?

- What actions of the North Carolina team are most likely to be seen by the Bangalore team as marking the Carolinians as "silly" Americans?
- What actions of the Bangalore team are most likely to be seen by the North Carolina team as marking them as playing to stereotypes of Indians or foreigners?
- Should she share what she has discovered about back-channel communication with others in her group?
- What technical adjustments might be considered, such as having participants in the web conference use the video as well as audio functions?
- If the web conferencing software allows recording of electronic meetings and sharing a link to the recording, what are the technical, legal, and cultural issues?
- What "little bet"—the smallest action that can affect the situation—might Marisol try first?

Activities

Communication path tracing. In her investigation, Marisol focused on how communication moved—and did not move—around in the collaborative project. As she found out about back-channel discussions, she began to consider whether to include it on her map. Would such disclosure be seen as policing discussion? Would leaving it out make the Bangalore group think she does not know that they use other channels? Or is it possible that they do

not recognize their conversations with Dr. Kumar constitute a back channel? Using the narrative above, map a communication path (see Figure 1, p. 141, for sample path). If you cannot trace all parts of the path, note the need to find out more in this area.

Role-relationship mapping. Another visualization technique that can clarify the collaboration process is to draw a map of the project roles and workplace relationships of the various parties involved.

Deliverables

Case analysis report. Directed to Kevin Smith, this short report analyzes the project communication process. It may include a visual that maps or charts the flow of information.

Recommendation report. Directed to Kevin Smith, this short report would follow the analysis and a discussion of the analysis. It would recommend changes to the work communication patterns.

Internal memos. Mr. Smith, Marisol's supervisor, will send several memos to various stakeholders in the project. He may, for example, send a memo to the Bangalore team leaders to introduce Marisol as the Cumberland team's new primary contact and make a few modest suggestions for improving team collaboration and communication.

Extended Case Implementation

Additional Discussion Dimensions

In her discussion of the communication challenges, Marisol noted a variety of issues that included: time zone differences, cultural diversity across the workforce sites, disciplinary complexity caused by both differences in area and in level of education, communication barriers, and communication path differences. These differences get displayed in written, oral, and computer-mediated communication, and sometimes they "stop down" the work. Of particular note is a difference in work focus: the Bangalore team is at a research site, which leads them to focus on theory and invention; and the U.S. team is a typical design team with a variety of projects and clients, which leads them to focus on tasks. Also, there are gender differences to take into account, as revealed when Dr. Soudha told Mr. Smith that he was sure the U.S. branch was making their project less of a priority by assigning it to a woman.

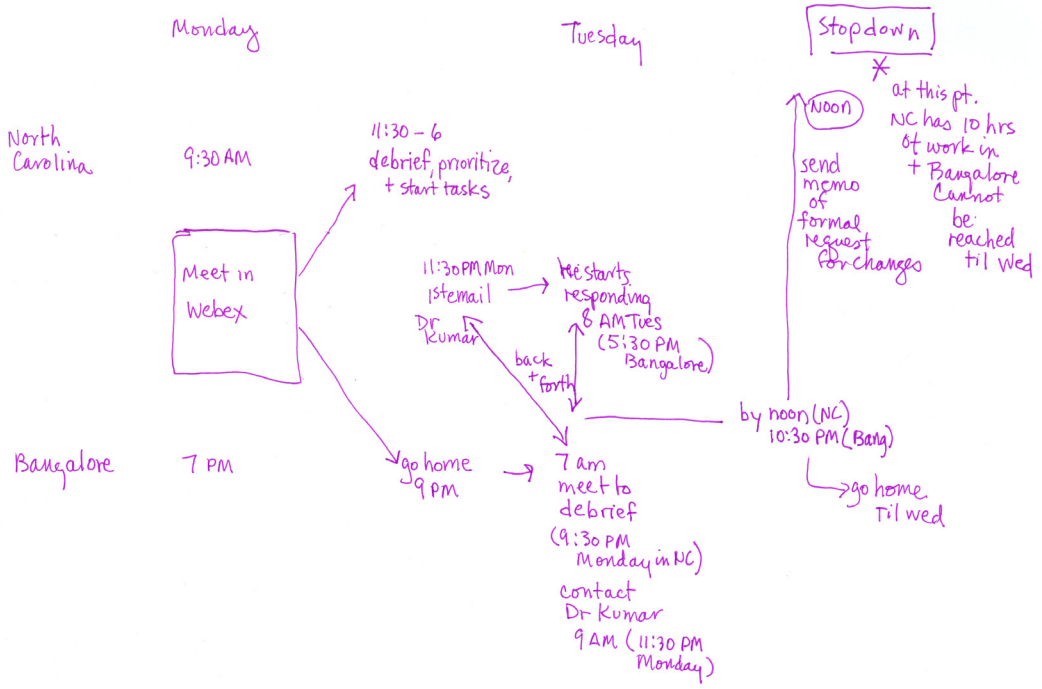
Interestingly, the intercultural dimensions that are stressed in this narrative are discipline and power, which may be hidden by the more obvious culture and communication aspects. The research engineers in Bangalore are more scientists than engineers, with one of the leaders having a BS in mechanical engineering but also a PhD in physics. They tend to view the Cumberland engineers as hopelessly applied. In direct contrast, the mechanical designers in North Carolina take pride in making machines work. Marisol is more applied than the research scientists but generally more scientific than the design engineers because of her specialization's theoretical use of chemistry.

Advanced Case Activities: Paths and Maps

A number of activities are supported by this case. In addition to traditional discussion questions intended to help students tease out issues lurking behind the narrative, this case suggests activities drawn from sociological research practices that often trace the circulation of actions or map relationships among people—or roles. Bruno Latour and Steve Woolgar, for example, used the tracing of mundane activities as a way to study work in scientific laboratories in *Laboratory Life* (1979). Their work merged with the work of others interested in the study of science and technology to form actor-network theory that features tracing as a way to reveal the ways ideas and actions circulate through laboratories during the process of science. Figure 1

Figure 1

Sample Communication Path Trace for Two Days



shows a sample communication path tracing that we drew during our informant interview. This tracing details how time-of-day differences between the two sites compound the impact of their miscommunications. By the time the Bangalore team can deliver their thoughts on the meeting—which they send after working late into the night—the Cumberland team has invested 10 hours of design work into what they thought were the priority tasks coming out of the WebEx meeting. Communication path tracing, in this instance, clarifies how quickly differences can spiral into dysfunction.

The mapping of relationships has been used widely in sociology. Pierre Bourdieu made them prominent in his work, and in *Homo Academicus* (1988) he focused on building multiple maps that aimed to picture complex cultural relationships that helped explain political and philosophical disagreements among professors in French universities. In that book, his research argued for the relative power of certain professors and disciplines through maps he made of their relationships via education, home background, political affiliation, and disciplinary allegiances. While Marisol, and others encountering this collaboration, are not going to invest the time to map the relationships among the various teams, it may be useful for a person encountering this project as a newbie to sketch the relationships based on the information that is easily available.

We adapt these sociological methods of tracing and mapping to case work, asking students to map out how communication moves around the collaborative group. By using tracing to identify dysfunctions—and there are several possible ones in this case—Marisol can address problems in teamwork that can be offloaded to "poor infrastructure" without pointing out less comfortable problems that may be traceable to distrust across groups, disciplinary differences, and so on. Because engineers typically are

less comfortable with the latter discussions, showing an infrastructural solution might help all save face. The mapping of relationships, too, can assist Marisol, or any person new to an established collaborative group, to assess who might be inclined to trust the opinion of a newcomer because of the roles that person inhabits.

"Best Ball" Approach to Deliverables

The case can be constructed to operate in one class as a discussion prompt, but it is most effective if it is distributed over several classes and includes several deliverables. We have had success with a best ball sequence in which each student produces a deliverable and receives individual feedback, and then the instructor discusses the deliverable using examples from students' submissions. This brings the group back to a common point from which they individually generate the next deliverable. Typically, the first deliverable is a case analysis report based on reading the case.

Case analysis. The case analysis should be written to the U.S. manager, Kevin Smith, to describe the communication patterns at work in the international team but not provide any recommendations or solutions. The case analysis may include communication path tracing (see Figure 1, p. 149) and role-relationship mapping and should be in an appropriate business report format. The teacher can provide feedback to students on the formatting and content of their case analyses, and then use examples from students' case analyses to generate in-class discussion intended to produce a consensus analysis. Students then write individual recommendation reports based on the group discussion of the case, providing the teacher with a second report grading and feedback opportunity.

Recommendation report. The recommendation report should describe potential solutions in terms of why, how, and by whom the solutions would be implemented. The report should provide priorities and a proposed sequence for implementing potential solutions. The primary focus should be on actions that can be taken quickly and that are expected to produce observable benefits, i.e., the "low hanging fruit."

Internal memos. The writing of internal communication memos provides students with practice in a very different type of writing. Within the constraints of the case, Marisol does not write the memos directly but rather writes the text of memos that she will provide to her supervisor, Mr. Smith, so that he can compose and send memos to key stakeholders. Ghost memos may be written to Drs. Soudha and Gowda of the Bangalore team and potentially to Dr. Kumar, the North Carolina-based engineer who maintains a back-channel relationship with the Bangalore group. These ghostwritten memos from Mr. Smith should introduce Ms. Hidalgo as the new lead engineer for the Cumberland group—stressing her credentials as a materials scientist—as well as suggesting a few minor changes to the structure of collaboration.

An obvious potential change the newly assigned engineer Marisol can propose is a change in meeting time. Current WebEx meetings require the Bangalore group to stay at work as late as 10:30 p.m. A less obvious response is to tackle logistics for building—and reinforcing and remembering—consensus. There are a number of ways of approaching such a change. A technological change that may help might be to record meetings—built into the web meeting software—and to add an agenda window that will sit on the WebEx desktop so that the group can update that agenda with the work they agree upon during the meeting and have a record of the meeting. Many

other project management ideas can be viable solutions, but aim for ones that nudge what is done already—wholesale changes are not likely to be successful in a project that already has years of semidysfunction.

Of particular importance in the follow-up memos is maintaining a respectful tone—a bossy or rude tone would be a failing response.

This case reveals numerous cultural sensitivity issues that may offer fruitful discussion. These include differences in: formality between the groups, directness of communication, level of education, disciplinary foci, team missions, and—in this case—age and gender.

Resources

News and culture online. Bangalore has a number of newspapers that have online editions:

- Mid-day: http://www.mid-day.com (compact daily newspaper)
- Bangalore Mirror: http://www.bangaloremirror.com/
- Deccan Herald: http://www.deccanherald.com/ (a main English-speaking newspaper for the districts of Kamataka, which includes Bangalore)
- The Hindu: http://www.thehindu.com/ (3rd largest English language newspaper in India)
- Times of India: http://timesofindia.indiatimes.com/ (largest English language newspaper in India)

Conferencing software. If students are interested in considering other conferencing software, Wikipedia lists a comparison of features for web conferencing software, complete with links to the products' websites: http://en.wikipedia.org/wiki/Comparison_of_web_conferencing_software

Videos. It also may be helpful, particularly for the introductory courses, to locate short videos that demonstrate particular cross-cultural ideas and encounters.

- Integration training's "Cross-Cultural Communication" (6:22) introductory discussion of practical differences across variables: power-distance—how much hierarchy is valued—individualism/collectivism, masculinity, and long-term orientation. It also brings up food and time. While the narrator presents Hofstede's framework and does not mention Hall or Schwartz, his discussion is consonant with their research as well. http://www.youtube.com/watch?v=at7srdUiRfM

- "Cultural Training: Americans and Indians Communicating Across Cultures" (2:30): two women workers—one in the US and one in India—talking about a common project. This shows problems that arise on a call between the U.S. worker's focus on the task and the Indian worker's focus on establishing a connection before turning to the task. The Schwartz differences between India and the US are emphasized. http://www.youtube.com/watch?v=UimqMmMq9C0

- "Managing Cultural Differences: High and Low Context" (4:45): Prof. Robert Moran for Thunderbird School of Global

Management explains high context and low context and how these differences work in business. http://www.youtube.com/watch?v=T3iYmZGome4

Surveys

If the class might profit from taking a survey, a shorter values survey called the Portrait Values Survey developed by Schwartz and his colleagues—plus a coding key—can be found at http://wiki.mgto.org/portrait_value_questionnaire_pvq This survey shortens Schwartz's full values survey (Schwartz et al., 2001) and is a grosser measure, but it takes only a few minutes of class time.

If the class focuses on values, or morals, the students can participate in a wide-ranging study of morals at http://www.yourmorals.org Run by social psychologists at University of Virginia, University of California (Irvine), and University of Southern California, the Schwartz Values Survey can be completed if they make an account—and they will receive feedback.

Additional reading for students

Gunia, B., Brett, J., & Nandkeolyar, A. (2012, December). In global negotiations, it's all about trust. *Harvard Business Review*, p. 26. http://hbr.org/2012/12/in-global-negotiations-its-all-about-trust/ar/1

Additional reading for teachers

Andrews, D., & Starke-Meyerring, D. (2005). Making connections: An intercultural virtual team project in professional communication. *Proceedings of the International Professional Communication Conference, 2005*, pp. 26–31. http://dx.doi.org/10.1109/IPCC.2005.1494156

Examines potential challenges and fixes possible in-collaborative teams that work across cultures.

Bargiela-Chiappini, F., & Kadar, D. Z. (Eds.). (2011). *Politeness across cultures*. Basingstoke, Hampshire, UK: Palgrave Macmillan.

Their introductory essay traces politeness research since Lakoff's early work, focusing on business implications.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, *2*(1). http://dx.doi.org/10.9707/2307-0919.1014

Introduces Hofstede's model in the context of intercultural psychology.

McNair, L. D., & Paretti, M. C. (2010). Activity theory, speech acts, and the "Doctrine of Infelicity": Connecting language and technology in globally networked learning environments. *Journal of Business and Technical Communication*, *24*(3), 323–357. http://dx.doi.org/10.1177/1050651910363275

Looks specifically at complexities of technology in global teams.

Ralston, D. A. et al., (2011). A twenty-first century assessment of values across the global workforce. *Journal of Business Ethics*, *104*(1), 1–31. http://dx.doi.org/10.1007/s10551-011-0835-8

A recent updating of Schwartz's survey taken in 50 countries worldwide. For the most part, confirms Schwartz's conclusions but is useful if students challenge the data as incommensurate or out-of-date.

Schwartz, S. H. (2008). *Cultural value orientations: Nature and implications of national differences*. Israel Science Foundation Grant 921/02. Moscow: Publishing house of SU HSE.

This report includes visuals at the end of the report that can be used to show his models to students.

Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online Readings in Psychology and Culture*, *2*(1). http://dx.doi.org/10.9707/2307-0919.1116

Introduces Schwartz's model in the context of intercultural psychology.

Verdugo, R., Nussbaum, M., Claro, M., Sepúlveda, M., Escobar, B., Rendich, R., & Riveros, F. (2013). Preparing undergraduate computer science students to face intercultural and multidisciplinary scenarios. *IEEE Transactions on Professional Communication*, *56*(1), 67–80. http://dx.doi.org/10.1109/TPC.2012.2237254

Winsor, D. A. (2003). *Writing power: Communication in an engineering center*. Albany, NY: State University of New York Press.

Looks at ways communication acts to structure power relationships in an engineering center.

Volkema, R. J., Fleck, D., & Hofmeister, A. (2011). Getting off on the right foot: The effects of initial email messages on negotiation process and outcome. *IEEE Transactions on Professional Communication*, *54*(3), 299–313. http://dx.doi.org/10.1109/TPC.2011.2161804 ■

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