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When do good communication models fail in global virtual teams?



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In our book, *Words Matter*, global virtual teams encounter communication episodes like the following: It is late in the day in Romania, and the engineers in Houston and Romania are on a shared call to review a complex design for a petroleum processing plant. They are at a standstill because of an argument about the best way to handle a specific design issue. Richard, one of the engineers in Houston, says in a frustrated voice, “Can I say something? Can somebody just draw a sketch and send it to us before we start changing everything? So can somebody spend five or ten minutes and do a sketch?” What he is proposing is that they abandon their shared technology that stores digitized drawings and draw a quick sketch, like engineers used to do in the old days. It is like going from a computer to a crayon. Richard senses his colleagues’ disbelief. He says, “Is this so crazy?” Finally, the Romanian engineer, Dimitru, responds slowly. “It’s not so crazy, but it’s Friday afternoon.” Richard responds, “I know it’s 5 o’clock there, but I want it now.” Dimitru is a little taken aback. “Ok we’ll get it done for you, Richard, maybe by Monday.” But Richard is persistent and adopts a different tone. “Just bear with me. If you would please pay attention, Dimitru. A simple sketch.” The engineers in Romania agree to take some time to hand-draw a sketch. They send it to Houston. With the sketch, the team suddenly has a new level of understanding of the concept. The Romanians have been assuming, incorrectly, that the Houston engineers were familiar with a design common in their part of the world.

Global virtual teams like this one have become commonplace in many, many organizations, stemming from the global markets, global workforce, remote work, and other contemporary work arrangements. Global virtual teams represent temporary work systems that are assembled for a joint task, performed by team members who collaborate primarily via digital technologies. Team members span geography and culture and often have only a narrow period of shared work hours. Within highly constrained temporal

spaces, team members coordinate and collaborate on joint tasks with many task interdependencies, requiring constant back-and-forth workflows among members. Leveraging various synchronous and asynchronous virtual communication modes, the teams must communicate effectively to prevent prolonged misunderstandings and work delays.

A variety of digital technologies make this communication and virtual work possible. But these technologies and their virtual spaces also produce complications. Virtual work relies on communication; communication is a process that relies on the speaker—an initiator of a communicative action—and the hearer—a listener or receiver of the communicative action—to collaborate together to produce understanding. In the opening example, the digitized drawings and the conversation failed to move the team forward. The hand drawing became pivotal on the path to mutual understanding. But why? The quick hand drawing is an age-old, traditional practice in engineering and design. It is not a crafted, professional document, but just a few lines and angles, exaggerated in the right places to show another person where to focus, and what is important. People grab whatever scraps of paper are handy to do these kinds of quick sketches. Disneyland’s Space Mountain was first drawn by George McGinnis on a napkin in the cafeteria.

The engineering team in this example was trying to get around one of the key difficulties in global virtual teams: when the speaker and hearer are not able to generate mutual understanding, even though they are using advanced technologies. As we explain below, part of this difficulty arises because the speaker, a Houston engineer, does not know his virtual hearer, a Romanian engineer, and the virtual setting provides few opportunities for them to understand each other’s backgrounds in terms of professional and cultural behaviors. Differences based on cultural behaviors are rampant in global virtual teams and affect the virtual space in which the virtual teams collaborate through technology.

Digital technology masks these differences or leaves them easily misunderstood. The resulting lack of understanding leads to communication breakdowns like the one illustrated in the scenario described. It was resolved by doing a “workaround”: going back to crayons. We argue that these moments of breakdown are a result of how our technological understanding is moving faster than communication understanding. This paper is an effort to provide a way for teams to speed up and enhance their understanding of communication. Global teams need a better understanding of how communication works to capitalize on what technological innovations in communication allow.

Unfortunately, people rely on several faulty communication models that limit their ability to develop good communication for global virtual environments. Faulty communication models persist because they are supported by countless everyday metaphors, and because most guidance on communication focuses only on speakers and neglects the important role of hearers. Virtual spaces contribute to communication problems. Although virtual spaces can disseminate copious information at remarkable speeds, and technology enables moment-by-moment reporting of what work team members have completed or are currently doing, this glut of information obscures what is *not* available, such as knowledge about the expertise of the team members doing the work. When expertise in communication fails to keep up with expertise in using technology, disappointing work outcomes, lowered trust, and dissatisfaction in virtual teams can follow.

We offer seven key lessons for ensuring better communication in virtual teams, and for better leveraging advanced technologies. These lessons are based on insights we gained from our research with global engineering teams over a three-year period. Much more effort is required from speakers and hearers in communicating and collaborating in global virtual teams than is customary in work that does not involve primarily technologically mediated communication across cultural boundaries. We found that the global engineering teams we studied inaccurately assumed that mutual understanding occurred simply because the technologies allow real-time communication and a shared focus of attention. Regardless of how advanced and similar the digital technologies across the sites were, the engineers had difficulty monitoring for consensus, checking understandings, and gaining insights about cultural differences in key types of communication. Each of these tasks is essential in making accurate predictions about the state of the work, work progress, and team members’ attitudes and engagement.

The key lessons we provide come from our in-depth study of global engineering centers where civil engineering design teams worked on multiyear projects involving industrial processing plants with proprietary technologies, complex piping systems, foundations, and environmental and safety considerations. The engineering centers were located in the United States, Romania, India, and Brazil. The projects involved 35–55 full-time people, with about 15 core members distributed across national boundaries. The projects initially involved plans to modularize the tasks in projects and to have each location complete them rather autonomously. However, the teams soon realized that the dynamic interdependencies in tasks required joint diagnosis and problem solving, as well as frequent revisions and clarifications of plans. Therefore, the teams had to devote a greater

amount of time and attention to communication than they had initially planned. Although the key engineers had face-time at the beginning of the project (in kickoff meetings) and project managers or project leads occasionally traveled, most of the time, the team members worked and communicated virtually via messaging systems, telephone, and videoconferencing, and they coordinated their work through a shared engineering design system, a shared database of drawings, a change order database, and action lists.

Our study design allowed us to sit beside engineers at all the sites as they worked together remotely. We witnessed many scenes of communication breakdown and the time-consuming processes of analyzing and correcting expensive misinterpretations. Our observations, our recordings of virtual meetings, and the engineers’ comments in interviews led us to analyze the virtual team environment’s influences on professional communication behaviors. We noticed how and when communication became the roadblock that kept teams from making progress—not only because the few overlapping hours made it difficult to take time to address how to communicate well, but also because of faulty assumptions the engineers had about how communication really works.

The virtual team environment is challenging because virtual space reduces opportunities for team members to grasp important aspects of the actual social surroundings of the members that are critical for understanding. For example, one engineer told us that because he attended a Bengali medium school (where the language of instruction was Bengali) rather than an English medium school, he faced a real challenge when he went to engineering school, where instruction was all in English. And it was not just the instruction; it was also the ways a team developed an engineering design in English, and even how to ask questions in English. His early experience in school, which was a significant part of his identity as an engineer, is linked to the history of West Bengal, where English was dropped from primary schools because it was thought to put an unnecessary burden on the poorer children. His experience is an example of the way a person’s social surroundings can affect not only how they approach a virtual collaboration, but also how comfortable they feel in communicating a lack of understanding. Because virtual team meetings are focused on tasks in joint projects, little background information is made available about the team members’ local settings, their beliefs about managing conflict, about whether hierarchies are important, about other aspects of culture and social life. In addition, virtual team meetings give little opportunity to observe each other’s behaviors and styles of interaction. Using multiple synchronous communication technologies did allow the teams we studied to use more efficient signaling for turn taking and alternative means of clarification and elaboration; but communications still were primarily channeled to engineering tasks, such as correcting pressure calculations, rather than learning about personal histories—and through those histories, about the cultural context of members they depended on to complete the tasks. Moreover, the technology provided no space for the kinds of informal interactions (e.g., in “hallway conversations”) that, like the quick sketch in the scenario we described, offer simple ways to communicate ideas and make progress on solving problems. The virtual environments obscured the acquisition of experiential data that are valuable in understanding, for example, why someone defends a certain view. But no one really noticed what was

missing because hallway conversations are not part of the standard models of “good communication practices.”

Ironically, as the engineers contributed their significant intellectual power to overcoming challenges in the environments of virtual work, in which they had reduced opportunities to interact with their colleagues, some of their efforts backfired because they relied on what we regularly hear people discuss as “good” communication models. These models may work fine when a team is made up of people with shared backgrounds who have time to spend in cafeterias and hallways; but in a global environment, they did not have the level of power needed, and the engineers experienced misunderstandings, erosion of trust, rework, delays, and even cancelled projects. In some cases, the most knowledgeable members sought transfers to teams that avoided global virtual team arrangements.

Being aware of these faulty communication models and challenging them is very important to the success of virtual team communications. In the following sections, we talk about two of these models and how they affected the global teams we studied: the information transfer model and the common language model.

“GOOD” COMMUNICATION MODELS THAT FAIL IN GLOBAL VIRTUAL TEAMS

The communication models that we regularly hear people talk about as “good” communication models are not, in fact, supported by research in communication. Yet, they remain firmly in use in professional communications and rarely are analyzed by those who support them. These communication models are particularly detrimental in global virtual teams because the complexity of working in a virtual environment amplifies the challenges of producing mutual understanding—particularly when other team members come from different social and cultural backgrounds.

Information Transfer Model or Computer Model of Communication

“We have a project execution plan, uh, and we have communicated that to them, but the project execution plan is written with the understanding that we’re working here in the U.S. And they said, ‘Oh, this only talks about engineering, and we still don’t understand how everything else works.’ They go through with a checklist mentality. We have guidelines, we don’t have checklists. It’s a philosophical issue.” (engineer in Houston)

The project was well into its fourth month when this engineer expressed his frustration with communicating to the team in Romania about certain procedures that were key to the project. The engineer provides a good example of the drawbacks of an information transfer model. We can see that these engineers themselves identify the problem with the information transfer model. The U.S. engineer admits that the project execution plan is written with the assumption that they are all working in the United States, and the Romanian engineers recognize that aspects key to working

together are missing—aspects that they describe as “how everything else works.” But with their information transfer model, the U.S. team members cannot see a solution and instead conclude that the Romanians are looking at the information wrong.

Viewing communication as “information transfer” means looking at the sending and receiving of a message as two activities that take place separately and autonomously, even in real-time synchronous communications. The idea is that information can be loaded into documents and transported across space and time through information and communication technologies; that people, like computers, receive and understand messages quickly and efficiently; and that any listener, like a computer, is universal and hence interchangeable for any other across the globe. When people say they do not understand, the solution is to send more information or to conclude that they are being inflexible about the information they have received (e.g., guidelines vs. checklists).

Another example of the information transfer model was when an engineer suggested that the teams create a template for emails to reduce misunderstanding. This strategy increased rather than decreased misunderstandings as the strategy did not take into account how the placement of an email within a context of other emails shapes its meaning. Using a template further removed cues that would have enabled people to understand each other’s style and personal point of view; it rendered the engineers’ communication scripted, formal, and centralized.

The engineers’ failure to see communication as a joint enterprise between speaker and hearer—which is a consequence of the information transfer model—became visible in the solution they devised after a bad miscommunication episode led to a week of lost work time. To recover from the miscommunication, they focused only on what the speaker had said. They resolved to become “more direct and clearer” and to create communications that were “unambiguous,” or that any hearer would interpret the same way. They ignored how different their hearers were in Romania, India, and Brazil, and “how everything else works” in these places. The information transfer model fails to recognize that, in teams with globally distributed members, speakers can never take for granted that the hearers in other countries process informational texts and utterances the same way and act according to what the sender or speaker meant.

In fact, the information transfer model is so popular partly because technology is so unbelievably efficient; it can be used to immediately send messages, such as complex manuals and execution plans, to multiple locations simultaneously. Video conference technology, including chat and screen sharing, allows many signals to be sent simultaneously, and users expect it to enable virtual team members to achieve understanding together and concurrently and to provide opportunities to reinforce and repeat. According to the information transfer model, “redundant media use” enables even more information to be transferred and seems to ensure understanding because it provides even more sending and receiving opportunities. In addition, after the meeting, the host can send an email to summarize the key issues. But redundant and repeated focus on a speaker’s transmission or screen share alone does not necessarily ensure understanding. The communication must take into

account the perspective of the hearer. If that hearer sees guidelines as checklists, there is a problem. The speaker has assumed too much common knowledge in his construction of the communication.

Advanced communication technologies often lead people to discount the part that skillful interpretation of what is *not* said plays in successful communication. As team members are bombarded by and expected to process signals from multiple digital technologies, the unshared cultural and professional practices also can multiply and can lead to conflicts about what constitutes a good engineering design or what novel idea is worth considering. In our opening example, we saw this dynamic play out in a way that begins to explain why going back to “crayons” helped to reveal the differences in design practices. Unfortunately, as digital technologies improve, the underlying assumptions in the information transfer model are less likely to be questioned because people get used to not having information about the hearer in asynchronous email communication and because information about the hearer’s level of engagement or understanding is difficult to assess, even in synchronous communication such as video conference calls.

Common Language Model

Another model that causes problems in global virtual teams is based on the idea that using a common language solves communication problems in global collaborations. For example, in the scenario involving the sketch, all team members were speaking English. The common language model relies on the assumption that language use involves shared vocabulary and shared grammatical rules and that these shared words and rules result in effective communication. Under this model, many companies respond to communication failures by focusing on a need for increased fluency in a single language, which increasingly is English.

In global virtual teams, fluency undeniably is important in time-pressured meetings and interactions. But what does fluency mean? It typically focuses on good grammar and an extensive vocabulary, rather than on shared ways of using language or on being prepared for diversity in how language is used. In fact, empirical research has found that a common language mandate generates another round of failures because native speakers judge non-native speakers (those who do not have complete mastery of the common language) negatively. They fail to appreciate the difficulties and extra effort required to do advanced professional work in English for non-native English speakers. The extra effort is amplified in virtual environments, where effective communication demands greater effort even for the native speakers. In addition, trust among native and non-native speakers is crucial: Some studies have reported that non-native speakers fear being intentionally misled by more fluent speakers.

Like the information transfer model, the common language model focuses on verbal communication. Both models neglect the importance of non-verbal behaviors, including gaze, gesture, facial expression, and body attitude. The famous scholar of body language, Ray Birdwhistell, one of the early scholars to seriously study nonverbal behavior, estimated that facial expression, gestures, posture, gait, hand, arm, and other body movements make up 65–70

percent of the social meaning of a conversation. Relying solely on the existence of a shared common language (e.g., English) is not enough to ensure that virtual global teams will communicate effectively.

Despite improved fidelity in video-based meetings, non-verbal cues are easily missed. Difficulties arise in seeing non-verbal feedback and signals for turn-taking, with ramifications for those who have the floor as the speaker. Those who want to take a turn to speak also are affected. The engineers in Romania wanted to design a turn-taking button to regulate when people could speak in a virtual meeting, so that people could avoid starting to talk at the same time, then apologizing, then starting to talk at the same time again.

Feedback signals and taking turns to talk are not the only non-verbal aspects of a conversation that are difficult to perceive in virtual team meetings. Interpreting eye gaze is also affected. As sociologist Erving Goffman asserted, our conduct with each other is affected by how we see others seeing us, or how we are being experienced in the moment by other people. We notice even the smallest glance of others and where their attention is focused—especially where the attention of a group is focused. In a face-to-face setting, people can often keep in view 20 people or more and can see how they are reacting to a speaker. But in virtual team meetings, members can focus on far fewer people simultaneously, and where someone’s gaze is directed is not clear because of the placement of the camera. Are the Houston engineers nervously fidgeting and looking away as the managing engineer rejects their Romanian colleagues’ design? Are the Indian engineers glancing at the clock, ready to go home?

Relying on both the common language model and the information transfer model, the engineers initially believed that virtual work would not require any adaptations in communication, as long as appropriate investments were made in reliable communication technologies and the speaker’s words or a writer’s text could be transmitted with high fidelity. When communication problems led to expensive reworking, they began to blame their virtual team members and accuse them of being uncooperative or incompetent. To make matters worse, the virtual work environment made recovering from these breakdowns difficult. Follow-up email communications and phone calls could not compensate for the lack of a conventional pat on the back, team-building activities, or hallway communications that were needed to recover and rebuild trust.

Based on our study, we offer seven key lessons for good communication in global virtual teams. These lessons are tailored to global virtual teams, although they also can be useful in communication in other circumstances, such as remote work and cross-cultural teams.

KEY LESSONS

Our key lessons are based on the following concepts:

- 1 The hearer is an important part of successful communication, but information about the hearer and feedback from hearers is reduced in virtual spaces.
- 2 Although virtual space looks the same, whether in the United States, India, Brazil, or Romania, it does in fact

mask significant differences. The task of creating mutual understanding cannot be taken for granted; it must be actively achieved and maintained through perspective taking that helps to anticipate differences in others' behaviors.

3 Although the transfer of information is important, much task-based communication is about performing an action with words: directing someone to do something, asking for cooperation, or negotiating a plan. The ways of communicating these actions can vary considerably across virtual team members.

The key lessons, elaborated below, can help global virtual teams to improve communication.

#1. There is no universal hearer; study team members' cultural playbooks.

Cynthia in Houston knew that two Romanian engineers had reacted angrily to her email, which really surprised her. She went back to the email to, as she said, reverse-engineer their response. When she re-read the email, she realized that she had only "looked at the email from American eyes."

In global virtual work, communication failures emerge when the technological sameness in virtual spaces begets "the myth of the universal hearer." As we've mentioned, successful communication depends on how fully speakers acknowledge the important role that hearers play both in crafting the meaning of a communication moment and in creating the mutual understanding on which successful teamwork and task accomplishment is built, step by step. Ignoring the importance of hearers, and of how their social and cultural context influenced their interpretations, was a recurrent problem among the engineers we studied, as illustrated by the exasperated comments of one U.S. engineer—"Why don't they simply know what to do?!"—and one Indian engineer half-jokingly said—"they have no clue what kind of animals we are here."

In our global engineering sites, global team members acted as if they were much more similar than they proved to be. The supposed similarities were reflected in their belief, often repeated to us, that "an engineer is an engineer" (i.e., all engineers would hear and interpret the same way). Because the technological environments looked similar, the team members had a tendency to imagine similarities between everyone "in the room," too. When our engineers spoke about communication as if all hearers were the same, they flattened the world and ignored diversity in cultural and personal backgrounds.

Even when they recognized cultural differences, they still thought they could find a universal hearer inside everyone. For example, one engineer told the others, "we should leave our cultural baggage at the door," as if doing so would help to solve their communication problems in their virtual collaboration. Trying to abstract their communication from culture—to the extent that such abstraction is even possible—resulted in extra time spent; but taking words out of their contexts to examine them did not help the engineers to understand what went wrong in email and other communications. Trying to create communications for a universal hearer did not work in the way that Cynthia's strategy of

trying to see the email from a different hearer's perspective did; the latter more successfully created the flexible communication strategies necessary in a virtual global office.

A shared language ensures that linguistic forms are intelligible across speakers and hearers, but the behavioral rules for how these linguistic forms are deployed or heard is not necessarily shared. Even among native English speakers from the same English-speaking context, the same language forms can be used in many different ways to accomplish different actions—particularly directives and requests. Hence, in globally distributed teams, team members cannot assume that people in other countries hear, understand, and act according to what the speaker intended—regardless of how standardized the language or immersive the technology is that is used for the communication. As a result, checking understanding regularly is essential. Checking understanding and generating meaning as a partnership between speakers and hearers generates new knowledge for everyone about how to communicate in global settings. Social conventions (each hearer's cultural "playbook") play an important role in communication in global virtual teams.

#2. Make time to discuss virtual team communication.

"Oh, you want to check the Lessons Learned File," the engineers in Houston told us, "talk to Madeline." But when we eagerly inquired about such a file in Madeline's office, she said, "well, actually engineers never really have time to sit down and record what they've learned, even though I keep after them to do it." We heard the same thing at each firm.

In global virtual work, success is related to how well members communicate. But during our three-year study, we never witnessed a team setting aside time to discuss virtual team communication, although in interviews with the research team, they poured their hearts out about what was not working.

Global virtual teams struggle to use effectively the few hours they share during the work day for synchronous communications. That moments of meta-communication or talks about "how we are doing with our communication" rarely or never happen is not surprising. Yet, focused time discussing communication might allow team members to become aware of their highly habituated and unconscious ways of speaking and listening. Developing awareness includes the ability to become better observers of the complex signals we use every day and our ways of interpreting them. Such discussions can focus on identifying problems not only by aligning the views of communication habits, but also by linking language use with different approaches to collaboration. Discussions of communication are crucial in global virtual teams, where awareness of differences is easily masked by technology's reduced social and cultural cues.

Testing a virtual team's assumptions about communication models is a starting point. For example, ask team members about metaphors they use to describe communication. One common metaphor that signals an information transfer model of communication is the phrase, "let me get my idea across to you." In reality, ideas—and even sketches on a napkin—are part of an interaction in which both the person drawing and the person receiving the drawing are active participants in what gets drawn.

Another productive conversation to have about communication involves revisiting and reverse-engineering the failure moments, such as instances of confusion or awkwardness. This conversation might be introduced by saying: “Let’s have a recall event and test our understanding.” Here, individuals are asked to backtrack and answer the question, “what did you understand me to mean when I said that?” When Cynthia took the time to reverse-engineer an email chain that had caused a very expensive communication failure—one that held up progress on an already delayed project for 48 h (in addition to the many more work hours lost)—she was able to become a more skillful and flexible communicator.

Conversations about communication need to address communication expectations in areas that are known to generate confusion and misunderstandings. One such area is the cultural aspect of communication involving “yes” and “no” responses. How a response of yes or no (or silence) to a question actually aligns with future intention reflects important cultural differences. In many places, refusing a request made by a person of a particular status is simply impossible. The Indian and Brazilian engineers often thought that giving no answer at all would be correctly interpreted by the U.S. team members as a “no” to a request. Instead, the U.S. team members interpreted it as a “yes.” In these cases, trust was undermined because only one party in the conversational exchange was aware of the cultural nuances of a non-response that meant “no,” or of the ways that certain intonations in a “yes” response mean that a request was unlikely to be fulfilled. To team members whose cultural practices defined moral behavior as following through on a commitment to undertake a future action, the “yes” answer had no other meaning. A person’s failure to follow called into question the integrity of that person. In other cases, silence after a request or directive was communicative, but what the silence communicated differed. “Silence is acquiescence” is more common in countries influenced by Western legal systems.

Greetings are another communication area to talk about. One of the Romanian engineers felt humiliated because the U.S. engineers did not use greetings in emails, and such greetings were also minimal in their synchronous sessions. Failing to greet someone or remaining aloof can be insulting and can even communicate hostility. Greeting people and asking them how they are, even when schedules are full and time is a limited resource, help to build professional relationships that influence the efficiency of communication, as well as task performance and team satisfaction.

#3 Build a virtual common ground across different virtual spaces.

“We’re having a chili cookoff on Thursday,” the engineering vice president in Houston announced, “bring your contribution!” “Saturday is our company picnic in the countryside, and we’ll have a cricket match between the engineers,” the Indian manager said. “We’ve rented vans to visit Dracula’s Castle in Transylvania on Friday,” the head of the team in Romania announced. This plan meant stopping halfway at that restaurant with the famous sausages.

In global virtual work, building common ground through stories and being together is critical for all aspects of teamwork; unfortunately, there are no chili cookoffs or cricket

matches, and the only blood-sucking vampire is metaphorical: misunderstanding. Still, ways of building common ground can be found, even in the most unexceptional work conversation.

Common ground is a kind of shared context *in situ*. When we establish common ground with someone in a conversation, it is a way of using just part of the vast cultural knowledge that we each have. We balance what we assume is mutually known with what is not mutually known. Common ground is part of every interaction, as a simple example shows: When we do not understand who someone is referring to, we ask for more information—for example, “do you mean the person in charge of accounts?” In this way, through clarification, we re-establish common ground. To test whether we’re on common ground, we might ask, “do you know the person in charge of accounts?” The process of building common ground is less like “standing still in the same space” and more like a dynamic dance that frequently requires moving beyond the familiar dance steps and can involve rapidly shifting emotions. This mutual use of knowledge and the skill of supplying knowledge to another person usually is accomplished so mindlessly when interacting with people of a similar background that it passes under the radar.

Shared context—what chili cookoffs and cricket matches create—is another way of talking about common ground. The word “context” comes from the Latin *con* (together) and *texere* (to weave); according to Merriam-Webster, it refers to “the parts of a discourse that surround a word or passage and can throw light on it.” Shared context is what is not in the words themselves, but in the shared experiences that give meanings to the words.

In global virtual teams, differences in social and cultural environments make this everyday job of creating common ground more important and one that requires more cognitive work. To illustrate, an engineer said, “so, you are dealing with a foreign country, foreign code, a code that is in flux—it can be challenging when someone in another country has to do what we do here.” A cross-cultural team, by its very nature, comprises people with gaps in what is shared, in terms of subsets of knowledge. When all meetings are virtual, people cannot rely on becoming familiar with each other’s cultural contexts for language use—the kind of familiarity that can be achieved through physical site visits and face-to-face interaction. When global virtual teams primarily interact across wires and digital space, less information about each person’s context makes building common ground more difficult. But because people also can feel insulted when others assume they do not know things that they do know, team members often undershare; they err on the side of assuming, incorrectly, that what they can take for granted also is true at others’ sites. Thus, they are more likely to omit critical information about the broader context, such as what has happened in the past.

Geographic location, a team member’s role on the team, native language, and other membership or affiliation categories that differentiate individuals all can be opportunities to explore, with the goal of generating more common ground and preventing assumptions that can result in deep divisions among team members. Building common ground is a cumulative process. By attending to and creating common ground, the expanded common ground becomes part of the history of

a team's interactions, and questions become easier to manage.

The challenge of building common ground in virtual teams is heightened by the way people use or do not use cameras and the absence of a visual head count. In one team that we studied, members assumed that absences would not be noticed and therefore did not have to be accounted for. But when the absences became apparent—for example, when other team members were reporting on issues that were clearly within the domain of a missing member—this absenteeism created confusion and surprise that adversely affected trust in teams. Rarely was a satisfying explanation given to team members at the other sites. Being clear about who is participating and who is not is an important way to build common ground.

Another simple but effective strategy in building common ground is to use repetition or reiteration. Saying the same thing but in a few different ways means that extra context can be added and meaning can be enriched. In global virtual team interactions, an important comment or clarifying phrase can be easily lost on either side as people try to manage multiple platforms and distractions in their local environment. For example, an engineer in Houston made a joke to another U.S. engineer about the names of the colors in the engineering program they were all using. That engineer laughed and then immediately repeated the joke and explained the meaning to the engineers in India, who were also in the meeting. His repetition of the joke showed that he realized a need to create common ground that would explain why U.S. team members were laughing, and to make sure other team members did not interpret the laughter as caused by something they had done.

A few engineers recognized that another important strategy in building common ground was to be curious about the other team members' culture and environment. Curiosity paid dividends in improved professional relationships. On the one hand, Romanians voiced concerns to us that their U.S. teammates might not even know where Romania is located geographically. This lack of curiosity was deeply troubling to them and affected their view of those at the U.S. site. On the other hand, when one Houston engineer began to learn some Romanian greetings and to inquire about the gardens he saw in some pictures of Romania, they received this interest enthusiastically, and it altered their view. Building good professional relationships is fostered by becoming knowledgeable about colleagues' contexts and cultures, through casual interactions at the beginning or end of synchronous meetings, and by adding details that address them individually in emails.

Although the opportunities for the informal exchange of information and its social signals are more sparse in a shared screen world, we've suggested some ways the engineers were able to build common ground. These steps toward team cohesion can be accomplished with even only a few inquiries and shared bits of experience during a meeting.

#4. Practice active perspective-taking of the hearer, even if you cannot see the hearer.

"I sent the files two or three weeks ago and have not received any comments from [the U.S. company]. Okay, we proved we were right so many times, and we have spent so much time. So we're not making any more

comments and giving them feedback. Maybe [the stress engineer] doesn't understand us well."

A crucial strategy in acknowledging the importance of the hearer, as discussed in Key Lesson #1, is to actively practice perspective taking of the hearer, even when the hearer cannot be observed. In the global virtual team context, finding ways to practice perspective taking is important because of the limited opportunities for getting to know the hearer. In addition, shared institutional knowledge might be lacking; shared cultural group membership certainly would be lacking. So assuming in a passive sense of how someone might be interpreting "what's going on" or understanding meaning is problematic. Taking the perspective of others requires explicit recognition of and attentiveness to the hearer. It requires giving up the information transfer model and other models that focus only on the speaker.

Even when the technology exists that provides images of the hearers and thus indications of their understanding or of signal alignment, the common practice of turning cameras off creates interruptions and challenges. Turning cameras off preserves a team member's private space; it also gives participants more control over how to prioritize their attention because, in any meeting, all agenda items are not equally relevant to all team members. Despite the challenges when little visual information is provided, taking time and investing effort to understand the hearer still is crucial. Marketers and advertisers are well aware of this need and spend significant sums of money to find out about their "hearers." Everyday virtual team interactions that are task oriented should be no different. Information about hearers (and audiences and customers) allows communicators not only to know whether their intention has been interpreted as they expected, but also to predict hearers' subsequent interaction behaviors, based on understandings of their motivations, thoughts, and affects.

Several strategies can be used to increase self-awareness and agility in taking the perspective of the hearer in global virtual teams. One strategy has already been described in our discussion of common ground, which is to be more curious about the social and cultural surroundings of others in the team. Another strategy is to become aware of how different the hearers can be simply by becoming aware of just how locally and contextually influenced one's own actions are. For example, native English speakers need to attend to the common practice of speaking indirectly because doing so is more "polite"; the intended sensitivity leads to ambiguity in their communication and therefore to misunderstandings of instructions, directives, and needs. This form of politeness, which is used to ensure that a request does not threaten the autonomy or the "face" (i.e., the respect, honor, and social standing) of other team members, can be shown in other ways. Whereas native English speakers might choose to soften a disagreement or critique rather than state it directly to another native speaker, a non-native English speaker benefits from a simpler, more direct syntax and approach. Hinting at conflict or disagreement did not work on the global virtual teams we studied. Such communication often was initially interpreted as dismissible, referring to nothing serious, and the interpretation later led to problems: "First they tell us we're doing fine, and then they're unhappy with the result."

Instead of relying on soft-pedaling to mitigate the force of a critique, team members can develop other mitigating actions, such as emphasizing the importance of mistakes or failures as a learning opportunity, showing respect for the team members in all communications, and watching for opportunities to express sincere appreciation for team members' contributions.

#5 See communication as action, not just as information.

It's the week of the model review, and the engineers who have worked on the design together virtually are now examining the completed model on the screens in front of them, as they sit in their dispersed locations. An engineer in Houston suddenly says, "I don't like the configuration. Can we make that water line at the top more accessible? If you could put that valve by the platform . . ."

We can unpack what is happening here and use this example to illustrate our fifth key lesson: Global teams need to become aware of how language is an important tool to *do* things, and not merely to give information. The information transfer model and the common language model seriously neglect this aspect of successful global communication. Communication as action, as we mentioned earlier, is one of the three concepts that guides the development of our key lessons. In fact, communication is one of the most powerful actions we have to get things done.

Global virtual teams are set up to accomplish tasks. One part of the team often has to accomplish a task while the other part of the team sleeps. If the work that is needed is misunderstood, a whole day and night is lost. Thus, each member of a team must be able to recognize the action intended in the communication—that is, the action that is conveyed with words. Because of the limited shared time for elaboration and clarification, misunderstood communication action leads to expensive time delays in the virtual global team environment. For example, the Romanian engineer does not recognize that "I don't like the configuration" is a directive but hears it instead as a statement about preference.

Consider the multitude of common workday actions accomplished with words: request, agree, disagree, assert, affirm, deny, remind, object, predict, conjecture, blame, criticize, praise, ask for help, urge, apologize, thank, name, promise, offer, complain. For better or worse, people tend not to announce the intention of their communication action by saying "I hereby complain . . ." or "I herewith offer . . ." But they do make these statements in ways that are culturally understood as the action itself. In the virtual model review described, the words, "I don't like the configuration," are not really acting as a statement about preference—like "I don't like striped shirts." Instead, the words convey an action (rejecting a design) that requires others to *react*—to undertake a certain next action (revising the design). Similarly, the question about the water line is intended to indicate that the water line should be changed. Although the U.S. team members of the virtual meeting will understand this expectation, how do those sitting in Romania understand the question? As we saw later, their interpretation differed, and the American team members were irritated and frustrated when the water line was not changed. The conditional phrase about the valve is a way of stating the

directive, "put that valve by the platform." In this short quote from an engineer are three actions: a directive to change the design, a request to change a water line, and a directive to put a valve by a platform.

When the action communicated as complaint or criticism is properly interpreted, the engineer responsible for the design can take the suitable next action. But when the model fills the computer screen, blocking any view of the engineers, their faces, and indications of their attitudes and their level of understanding, the action words alone have to convey and carry the meaning. The engineer who communicated was very indirect ("Can we make that water line more accessible?"). More explicit communication carries the expected action: "That water line looks wrong to me," or "that valve location has to be changed."

What we often saw among the global virtual teams was a failure of non-U.S. team members to correctly interpret and react to indirect requests for action in English that were disguised as questions or preferences. Virtual team members who could easily recognize directives to do something failed to recognize the intent of a critique as action and therefore failed to perform the appropriate reaction: making adjustments to the design. In the global virtual office, where cameras may be off or the view of all the team members is limited, looking for a speaker's intended action is important.

To further illustrate the need to see communication as action and not as information transfer, let us look at requests. Making requests deserves special attention because requests overwhelmingly were the most common communication action in emails in our study. The emails revealed that requests take many forms, and what these "simple" action communications seem to share, across the board, is a high potential for creating problems in relationships. The reason is that making a request often is seen as impinging on someone else's autonomy and planned work priorities. In a virtual environment, we generally cannot know how busy another team member is, whether they've already been working late every day this week. As a result, requests must be communicated carefully.

We noted some challenges to recognizing request actions in global virtual teams. Both in emails and in other forms of communication, we found that request actions by native English speakers often were softened to preserve (the illusion of) autonomy: "It would be nice if we could have a list of all the upcoming equipment deliveries." This form of communication created confusion among the team members in remote sites. The introductory formula, "it would be nice if . . .," can make the communication action confusing to a non-native speaker because it sounds like an observation, instead of a request. In addition, and from the non-native speaker's perspective, many languages have grammatical markers that speakers can use in requests to convey respect unambiguously—for example, "Honorable one, get us a list of all the deliveries." The English language does not offer this option. As a result, non-native speakers' request in English might seem very direct, and what they intend as a polite request, but one that lacks the grammatical marker for it, might seem like intentional rudeness to another team member.

The key is to understand that two types of communication actions require special attention: those that are likely to threaten the future autonomy of a team member and those that seem to invoke a hierarchical relationship (e.g., by suggesting you have the power to order someone to do something). In these two scenarios, two communication actions must be done simultaneously: Along with the intended action—the request or directive—a respect communication action also is needed. Numerous options are available for this communication. For example, “please put that valve by the platform,” or “the rest of the drawing looks great, so the last step is to fix the location of that valve.” Using the framework of communication as action allows virtual team members to better see how their native language and communication patterns might be shaped by their cultural history—and how their cultural history relates to the communication actions of other team members. If team members see that learned communication actions can inadvertently offend or confuse others, they more likely can avoid offense and incorporate the communication action of showing respect to offset actions that are potentially threatening to good relationships.

#6 Recognize the limits of email.

“They want emails for everything, not by phone now. I spend time and energy and [the lead U.S. stress engineer] gets nervous. I spend too much time and it’s also everyone is getting tired. They say do it the ‘company way,’ like with the piping, but when we email with questions, it takes time to answer.”

Global virtual teams involve communication actions for planning and execution of tasks. This task focus becomes evident in examining the engineers’ inboxes, where emails seek clarification, give detailed explanations, or communicate that a particular task has not been done as expected. In many of our teams, much of the daily work hours were spent in replying to and composing email. Email did not require advance scheduling of synchronous sessions and allowed more flexibility when the team members shared limited work hours. But the engineers underestimated the time it took to craft an email that did not result in a flood of return emails asking for clarifications and explanations. The email communication more readily revealed incomplete language mastery.

Emails tended to be exchanged between team managers and then, after the resolution of issues, shared with team members. The managers spent many hours in their office, in isolation, to craft, edit, and fine-tune emails because they were not native English speakers and because this communication action became part of the permanent records of the work. For example, commitments made in emails were viewed as more formal and hence consequential than commitments uttered in videoconferences. Team members found that “this mode of working is taking its toll on the team.”

Formality and transactional communication models might improve the clarity of obligations in a virtual environment. But they are not as good for building team relationships through the kind of joint (and more “messy”) problem solving that takes place in less formal communication channels. In addition, email communication provided little context

about others’ communication styles to help team members in anticipating future behaviors. Teams have to strike a balance between adding context and including overly personal or social communications; too much of the latter interferes with effective communication. Research on virtual teams finds that communications implying personal relationships when none exist or containing too much social content tend to annoy members who expect task-focused communication action.

#7. Build trust through increased attention to communication patterns.

“I want to know if there are people giving instructions differently. It’s driving you crazy, driving me crazy. You’re doing work unnecessarily. There’s a disconnect here.”

Communication in successful global virtual teams is focused on task coordination—and successful task coordination requires trust. Trust allows team members to take part in activities that they cannot personally control or monitor—activities where they might be disappointed or put at risk by actions of others on the team. Thus, communication can be a major trust-building (and trust-destroying) action.

Researchers on global virtual teams often focus on task-based trust—that is, trust that grows based on fast and reliable communications, consistency in performance, and responsiveness and follow-up on commitments. Such task-based trust plays an important role in building trust early on in newly formed global virtual teams that are not able to meet face-to-face for a kickoff meeting. But even here, virtual team members need to be able to negotiate what “fast and reliable,” “consistent,” and “responsive” means, rather than imposing one location’s norms on other team members in different social and cultural environments. Ideally, global virtual teams need to be flexible with normative actions and learn what behaviors best serve the team.

Moreover, longer term global virtual teams need to focus on building relationship-based trust in addition to task-based trust. This goal is more difficult to achieve in cases where team members remain invisible to those in other sites—especially if team members lack professional knowledge of one another. Invisibility is not just about the lack of a visual image; it also can result from other factors, such as when certain team members dominate meetings or when individuals live in locations with no overlap in workday hours. In the sites we studied, much of the communication was handled by project managers and project leads. These leaders had little awareness of how excluded and how unrecognized for their contributions the team members felt at times. In these cases, all forms of relationship-based trust—whether built on ability, integrity, or benevolence—were lacking.

But relationship-based trust can grow through communication actions recommended in some of the previous steps, such as being curious and learning about other team members’ environment and experiences. Team members can take the time to ensure understanding, which builds trust—for example, taking a bit of extra time to communicate key issues in multiple ways and even with some redundancy.

The types of unintended interpretations we’ve already described can result in trust violations (e.g., seemingly disrespectful behavior, as in the case of missing greetings,

Table 1 Key lessons for global virtual teams

Key lesson	Description	Example	Application
There is no universal hearer; you have to study members' cultural playbooks.	Good communication in virtual spaces means recognizing that even though virtual space looks similar on every computer, there are important differences among team members, whose contexts we can hardly see.	You realize when you look at your email that your colleague misunderstood the request you sent. You try to find out how she understood it to learn about her as a hearer.	What you say will be understood differently in different virtual and cultural worlds. Become aware of your own habits of interpretation that are distinctive to your culture.
Set aside time to discuss virtual team communication.	Technology has advanced enormously, but our understanding of communication has not kept up. We need to identify our presuppositions and remedy them.	Virtual teams rarely talk about how they communicate or what their ideas about communication are.	Find out if faulty models of communication influence virtual team members. Discuss cultural differences in being critical, making requests, and saying 'no.'
Build a virtual common ground across different virtual spaces.	Common ground is critical for successful communication because much of what we say depends on knowledge our hearer already has. Because of cultural diversity in a global virtual team, we have to assume less common ground or common knowledge.	Someone uses a baseball metaphor to quickly communicate a situation – for example, “we just hit a home run.” Virtual team members in other contexts do not understand (is that a good thing, or a bad thing?) and are reluctant to stop the meeting to ask.	Do not assume you have common ground with virtual team members; consistently build common ground, add background, repeat, and explain. Be careful with metaphors.
Practice active perspective taking of the hearer, even if you cannot see the hearer.	Approach communication as a dynamic process between speaker and hearer. Actively consider your hearer in every communication, and consistently gain input from hearers.	Team members in the United States complain that the Romanian engineer orders them around. In the Romanian language, being direct is okay when you add a polite pronoun. But because English has no 'honorable you,' he seems abrupt and bossy in English.	Spend time getting to know your hearers. Find out about their habits and needs and how they interpret language.
Recognize communication as action rather than as information.	Most communication models stress information transfer or sharing a single language. But language on global teams is about action—doing things with words. Some actions, like requests and directives, are done very indirectly in English and might not be understood as intended.	A Houston engineer says, “it would be nice if we could have a list of what's outstanding.” For the U.S. team member, this statement is a request. But a team member in another part of the world might not hear the intended action, prioritize it, or ever send the list.	Be more direct with requests and directives, but be sure to do so politely and respectfully. For example: “We appreciate the work you've done on this. So that we can move forward, please send a list of the outstanding items.”
Recognize the limits of email.	Crafting emails that do not cause a flood of questions and requests for clarification takes time. Also, non-native English speakers often are judged for imperfect English.	Team members complain that email is “taking a toll on the team” because of the time it takes to write and answer emails.	Find ways to communicate synchronously to leverage the dynamic process between speaker and hearer.
Build trust through increased attention to communication patterns.	Communication breakdowns threaten trust and create barricades to building trust. Language also is a powerful tool for repairing trust.	Virtual team members complain that “first they tell us everything is okay, and then they tell us there's something wrong. Which is it?”	Build long-term trust by taking extra time to communicate. Communicate key issues in multiple ways and with some redundancy. Respect others' expectations, such as using greetings and being clear about what 'yes' means.

a failure to say ‘no,’ and misunderstood politeness). In addition, virtual environments limit trust-building because they reduce the informal and spontaneous social moments that can build relationship trust by increasing understanding across global communities and because they can render communication more formalized and centralized. Of course, communication actions also can have a powerful role in trust repair. Actions such as explanations, accounts, apologies, regrets, forgiveness, and reinstatements can help to restore trust and lead to a more functional team.

CONCLUDING THOUGHT

Despite the advanced virtual environments that are now available to global virtual teams, communication challenges continue to be pervasive and need active, ongoing attention regardless of how long the distributed team members have been working together. In global virtual teams, participants have to manage more diverse perspectives, and sharing perspectives is more complex. Digital technologies make it ever more critical for speakers to attend to and monitor hearers. However, as technologies have become more available and facilitated real-time communications with reduced delays over long distances, the information transfer or computer models of communication appear to have become a fixture in people’s discussions about communication, according to our findings in this study; people still celebrate that everyone is able to speak the same language. Although physical distance is able to be experienced as closeness, and the same language facilitates new opportunities for collaboration, the potential for spectacular failures remain when team members fail to attend to communication—and when different perspectives about the work in which members of global virtual teams engage is not part of a meta-conversation about communication. The technology itself, while formidable in what it makes possible, has limitations that affect the success of global virtual teamwork. The

contexts of others’ communication actions often cannot be observed and used to build new knowledge about their everyday interactional behaviors.

A key leadership capability in global virtual teams is making time to discuss communication and understanding—and specifically to encourage team members to develop awareness of their own language habits, including how they make requests and deliver directives, and of how others in the team use language. Explicit discussions about communication are not unproductive time, but instead are a way to prevent and to mitigate expensive mistakes. Without awareness of their own communication habits, native speakers speaking their native tongue can create challenges for the whole team. Team members must be encouraged to learn about others’ social and cultural contexts.

To summarize, we offer seven key lessons designed to improve communication in technologically mediated global environments (see [Table 1](#)). First, there is no universal hearer, so members of global teams have to be prepared to learn about their team members’ cultural playbooks, and whether a certain communication action is acceptable across teams. Second, teams must spend time discussing virtual team communication. Third, teams must build a virtual common ground while recognizing also that virtual spaces are different, even though they look the same. Fourth, team members should practice active perspective taking of the hearer, even if they cannot see the hearer. The hearer plays a critical role in successful communication action. Fifth, become aware of how communication is action and not just information transfer. We do things with words. Language is powerful, and learning how to use it requires time and attention. Our knowledge of communication has not kept up with our knowledge of the technology that has enabled the virtual global office. Sixth, recognize the limits of email in global virtual collaborations. Seventh, build trust through increased attention to communication patterns.



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