Journal of Rhetoric, Professional Communication, and Globalization

2014

Designing for Engagement: Intercultural Communication and/as Participatory Design

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Within rhetoric and professional communication, intercultural research has most often focused on such elements of communication situations as languages, issues regarding translation, and adaptation to culturally situated value systems of interlocutors (Maylath, 1997; St.Amant, 1999; Thatcher, 2010; Wang, 2010). Technological infrastructure for intercultural situations, however, is largely conceived of as a material base upon which communication runs. If we consider an infrastructure as a dynamic meeting of communicators, modes of communication, and technologies, however, it is unclear how we might apply existing intercultural research methods and findings to the design of such communication systems. As a heuristic for moving toward thinking about both infrastructure and intercultural inquiry in this more complex manner, I provide below a literature review geared toward wedding best practices in user experience design (UX) with best practices in intercultural inquiry.

Several trends in each conversation will become apparent from this literature review. Namely:

> **1)** Intercultural communication research has sought recently to complicate cultural systems and how individual interlocutors relate to them with an eye toward developing culture-focused approaches to professional communication;

> **2)** Research focusing on the ways users access communication infrastructure has similarly begun to shift toward understanding users as participants and stakeholders rather than simply as "end users" of the technologies infrastructures contain;

> **3)** UX research methodologies have largely neglected culturally specific lifeways of users just as intercultural research methodologies have neglected the design of communication infrastructure.

I argue that the third trend is particularly relevant for the development of new UX research methodologies that take a vested interest in the cultural lifeways of communication stakeholders.

From making these trends explicit through a review of relevant literature, I turn to developing a UX research methodology that I call engaged design, a methodology that treats the cultural lifeways of stakeholders as invaluable assets in the design of communication infrastructure. In doing so, I draw on a hybrid writing class I taught to a student user-base of mostly Chinese international students as a case-in-point. Central to such a methodology is engagement with actual users at each stage of use and design, including preliminary research, prototyping, user testing, and maintenance. Also central is engagement that adapts each stage of design to the cultural systems of actual users. The latter move, I claim, should make full use of best practices within intercultural research, including methods of adapting communication practices for linguistic diversity, translation, value systems, and all other ascertainable cultural factors within a communication situation. Ultimately, through this article I hope to start a conversation that helps UX designers better understand what intercultural research has to offer them and that helps intercultural rhetoricians understand how they can contribute to culturally sensitive communication design.

Global infrastructure and intercultural communication

The term infrastructure has a broad history within rhetoric and professional communication. It can be conceptualized as the total system of available user-communicators, networks, sites, media genres and knowledges, technologies, and modes, given a particular communication situation. For Star and Ruhleder (1996), this system "emerges for people in practice, connected to activities and structures" (p. 112). Following Grabill (2007), a communication infrastructure is composed of *all* the elements that enable the work of communication, in other words, including standards/conventions, cultural identities and practices, and diverse purposes and needs, as well as more technological and structural elements such hard-wired networks, technologies, and information systems (p. 40; see also Selber, 2004; DeVoss, Cushman, & Grabill, 2005; Spinuzzi, 2008; Grabill, 2010). To borrow a term from the sciences, communication infrastructures are *irreducibly complex,* meaning that they only make sense when viewed as a system. Abstracting out individual components causes those components, now devoid of context, to lose connection to the meaningful interactions with all other components that affect how individual components operate.

Take as a case-in-point a heavily networked, hybrid classroom within a research-intensive university, such as the one connected to the following course site I designed and taught from in an accelerated summer session in 2011: http://www.guiseppegetto.com/wra150/. Such a classroom relies on the following elements of infrastructure:

> **User-communicators**: an instructor (myself) and the students, the majority of whom were Chinese international students who had not mastered Standard Edited American English; there were also three American students, one Korean international student, and one Japanese international student;

Networks: the class itself, as both an in-person and online social network; student peer networks—ones students were placed in for writing workshops and those students formed organically; various social media networks that extended beyond the class, supported by technologies listed below;

Sites: including the classroom itself but also dorm rooms, coffee shops, and study areas within the Midwestern, U.S. town from which students most commonly accessed the course website during online interactions; the domain of the course website itself; microblogging platforms mentioned below; the course itself as a site within a college offering accelerated hybrid courses for students looking to complete their first-year-writing requirement over the summer;

Media Genres and Knowledges: the academic essay and the conventions for successful college writing as defined by the university's writing community; blog posts and blogging conventions; the knowledge articulated by the university's Writing Program Director that students who waited to take their first-year-writing requirement until the summer often did so because they were hesitant writers and/or ESL learners;

Modes[1]**:** the syntax rules and overall conventions of Standard Edited American English; usernames and passwords for logging in to various online locations, including the course site itself; e-mail; instant message; text messaging; text, image, and video deployed within word processing software and social media;

Technologies: student laptops; the overhead projector and desktop PC installed in the classroom; various software programs; various web applications including WordPress, Tumblr, Twitter, and QQ—the latter being a Chinese social media platform; wireless and wired Internet connections.

This case-in-point foregrounds a communication problem familiar to any intercultural researcher: a conflict between the cultural expectations of interlocutors, especially when some are in positions of power over others, such as in a classroom setting or hierarchically organized professional organization. None of the international students who enrolled in this course understood the meaning of the term "hybrid" that accompanied the course description in the schedule, for instance, as evidenced by their collective shock on the first day of class when I explained that the class would be conducted partially online. In fact, the majority of international students reported to me that they had enrolled in the course because they thought the class met only twice a week (which it did, face-to-face), and because they wanted to get their writing requirement over with as quickly as possible, mainly because they dreaded writing in Standard Edited American English to an audience of native speakers.

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[1] Here I am defining mode/media following Bezemer and Kress (2008) in the following manner: a mode is a culturally shaped resource (or basic component) used for communication, and a medium is a channel for distributing that communication.

What may be less obvious is that infrastructures necessarily involve a dense, interconnected web of cultural identities and practices that user-communicators and designers bring with them into their interactions. The design of user experiences within infrastructures, in other words, should be as much the province of intercultural researchers as it is of IT staff, and in actuality both parties are necessary to create an infrastructure that engenders successful intercultural communication. As Kostelnick (1995) argued early on, for instance:

> [a]dvocates of a culture-focused approach [to communication] contend that because… communication is intimately bound to experience, it can function only within a limited range of cultural contexts; here design is driven by sensitivity to cultural context and by the belief that alternative representations are not only possible but desirable… Those on the culture-focused end of the spectrum argue for matching forms with specific communities of users, or at least configuring the representation so it allows flexible and inclusive interpretations… Culture-focused advocates, moreover, would claim that universal design is itself an illusion since by its nature design reflects social and cultural values. (pp. 183-184)

Such a culture-focused approach within intercultural inquiry has resulted in recent projects that seek to understand cultural requirements for professional communication in a wide variety of cultural and technological contexts, including the transfer of U.S. technologies to joint U.S.–Mexican manufacturing facilities in northern Mexico (Thatcher, 2006); the development of a digital literacy component within a community-based health literacy/ESL curriculum on the US–Mexico border (Mein, Fuentes, Soto Mas, & Muro, 2012); the impact of political goals on the adoption of modern technology and the teaching of English in Romania (Wetzl, 2010); user expectations of Internet use and value within Central Asia (Walton, Yaaqoubi, & Kolko, 2012); the design of IT products that support mobile text-messaging in China (Sun, 2012); and many others. The focus of this growing body of literature is tracing and articulating the complex interconnections between specific cultures and communication media, much in the same way Kostelnick advocated: the goal is understanding culture-specific communication practices, not the creation of universal communication paradigms that will presumably work in all situations.

Culture-focused communication inquiry stands in stark contrast to prevailing literature within the field of Information Technology, however, which continues to utilize a universalist stance when approaching the design of technological systems and applications (e.g. Barkai, 2012; Bradley & Macaulay, 2012; Campbell & Eitenbichler, 2012; Osterman, 2011). The following excerpt from the promisingly named recent white paper from Osterman Research (2011), "Embracing and Empowering the Consumeration of IT," represents this universalist paradigm:

> Integrating consumerized and IT technologies into a single management infrastructure can create synergies and greater efficiency than is possible by using only those tools that IT has deployed. As but one example, the use of a cloud-based file-sharing system can make employees more efficient and speed decision-making by making content available to others more quickly. At the same time, a cloud-based file-sharing system can significantly reduce the amount of storage required on email servers, making them operate more efficiently, as well as speeding up backups and restores. (p. 7)

Witness here a major discrepancy between a definition of infrastructure that is open to user customization and the definition deployed above. At the same time that we learn from such thinkers that "the use of a cloud-based file-sharing system can make employees more efficient," we lose all context for the needs, identities, and cultural contexts of those humans here named "employees." It is the "single management infrastructure" that is the agent in this conception of infrastructure, not the designer, maintainer, or user of that infrastructure. Further, this unexamined bundle of technologies has the power to "create synergies," "speed decision-making," and other impressive-sounding activities. We are left to guess what these activities *actually look like* when human beings engage in them, human beings living and working in cultural and material realities that these over-simplified terms-of-art cannot account for.[2]

One ray of hope within IT is a burgeoning movement known as participatory design. Begun within the collectivist design discourse of Scandinavia, as Sun (2013) mentioned, in the US it has been taken up as a serious design philosophy largely by practitioners of User Experience Design (UX) (p. 268). Participatory design holds that the only sound design methodology is one that engages users at every level of use and design, including preliminary research, prototyping, user testing, and maintenance (Courage & Baxter, 2005; Potts, 2013; Simonsen & Robertson, 2012; Tomer, 2012). As Courage and Baxter (2005) explained this design paradigm:[3]

> To maximize the usability of a product, the user should be involved from the product's inception. The earlier the user is involved, the less repair work needs to be done at the final stages of the lifecycle (e.g., after a usability test). The [design] process should begin with user requirements gathering. By collecting user requirements, you can gain an understanding of such things as what your users really want and need, how they currently work or would like to work, and their mental models or mental representations of their domain. This information is invaluable when creating a superior product. (p. 4)

Participatory design moves away from universalism and towards specificity. The gathering of user requirements encourages designers to account for the roles users will play within a given infrastructure, roles defined through empirical research conducted in-context, often in the user's home or workplace. Typically called "personas," these roles are not a priori, as O'Connor (2011) contended, but rather represent patterns that emerge through ethnographic interviews of actual users, typically at least thirty of them per persona.

It is arguable, however, that such a methodology still ends up treating personas as universalist stand-ins for actual users who inhabit a specific cultural context. Even though, as Matz (2012) argued, such wide-ranging data as age, gender, language, cultural background, physical abilities and disabilities, and problem-solving abilities are typically gathered on each participant, the very

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[2] Though it may seem like I am unfairly beating up on IT folks here, this complaint is nothing new within their field, as evidenced by thinkers like Star and Ruhleder (1996), and also, more recently, Hanseth (2010).

[3] Though this book mentioned the older paradigm of User-Centered Design or UCD as its framework, it is considered by designers in industry to be a touchstone for the participatory design movement because of its detailed explanations of how to engage users in the design process. It was one of the first design books, in other words, to go beyond the User-Centered paradigm, which doesn't necessarily require involvement by actual users.

concept of a *persona* is based in a Westernized, individualist paradigm, meaning that it would work poorly in many non-Western and/or non-U.S. cultures, such as Mexico, Eastern Europe, and China (Mein et al., 2012; Sun, 2012; Thatcher, 2006; Wetzl, 2010). It is also arguable that such a concept neglects how users access specific types of infrastructure. It is unclear how a single interview, even one conducted in a home or workplace, could unveil all the complex interactions between even a single user and the infrastructure he or she utilizes on a daily basis, infrastructure that in many parts of the world may include mobile, home, work, television, hard-wired networks, wifi, landlines, and a variety of other technologies and media, not to mention a wide array of beliefs, attitudes, and cultural identities and practices that become entwined with this infrastructure as it is utilized in daily life.

According to a recent report by the international research firm Euromonitor International (2012), in 2010 there were roughly two billion Internet users worldwide, up from one billion in 2005. In 2010 many of the leading developed countries in Internet usage/access boasted rates of access well over fifty percent:
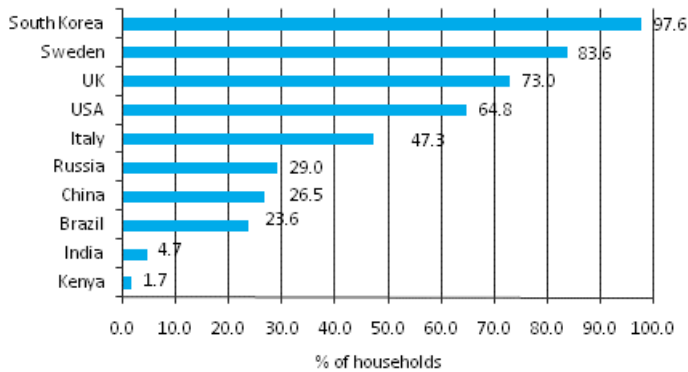
Figure 1. Proportion of households in possession of broadband-enabled computers in selected countries: 2010

And although according to ITU (2011) only 21.1% of the population in the developing world has regular access to the Internet, many users in developing countries are attaining Internet access via mobile technologies, which often require less technological infrastructure than more complex networked systems. According to a recent report by the GSM Association (2010), users in the developing world now account for four out of every five mobile Internet connections:

	Developed [1]	Developing [2]
Connections (billion)	1.17	3.98
Growth, quarterly (%)	1.59	3.90
Growth, annual (%)	4.39	19.10
Population (billion)	1.04	5.78
Penetration (%)	112.7	68.78

Mobile connections by developed and developing economies Q3 2010
Source: Wireless Intelligence, World Bank

[1] GNI per capita high-income ($12,196 or more)
[2] GNI per capita low-income ($995 or less) or middle-income ($996-$12,195)

Figure 2. Developing world accounts for four in every five mobile connections

As Sun (2012) argued, findings like these should indicate to researchers that there are few givens when approaching today's technology-driven communication situations, especially when considered from a global perspective (p. 8).

If this is the case, researchers must "localize" research methodologies to specific groups of users and their cultural contexts. Localization is a "design philosophy that integrates action and meaning in technology design in order to make a technology usable and meaningful to culturally diverse users" (p. 267). This focus results in a design methodology called Culturally Located User Experience (CLUE) that includes the following principles:

- Local culture constitutes the dynamic nexus of contextual interactions and manifests numerous articulations of practices and meanings.
- User experience is both situated activity and constructed meaning.
- Design is both problem solving and engaged conversation. (p. 267)

Sun (2012) has gone farthest toward creating a methodology that is both user-driven and culture-focused. Rather than the creation of monolithic personas that are meant to represent individuals from every conceivable culture, CLUE is a dialogic approach that engenders examination of ways users make meaning via technology within a particular cultural context and the ways these acts of meaning-making can be integrated into a design process.

The work that remains is to develop UX research methodologies that engage users in diverse cultural contexts within a truly participatory framework. Such methodologies would treat all communication infrastructures as culturally produced and maintained systems. Under the rubric of such methodologies, UX designers would take little on faith, in other words, when it comes to designing technological systems for specific users. They would assume that each community of users will have its own set of culture-specific needs and purposes that technologies should be

designed to meet. Furthermore, they would *engage* users as stakeholders within all levels of communication research and design, rather than treating participants as end-users, or even personas, that a product or service is designed to satisfy. In order to foster the development of such research models, I develop below a methodology I call *engaged design*, which encourages researchers to investigate culturally situated practices and values of both designers and users in order to use these practices and values as assets for UX design.

Hybridizing knowledge-making:
Researching and designing with users through engaged design

Above I sketched out the only components of communication infrastructure that I advocate as a priori design heuristics: user-communicators, networks, sites, media genres and knowledges, technologies, and modes. This is by no means an exhaustive list, but it is a good starting point for inquiry into a specific infrastructure. It is also a list that is in order of importance. Users and their diverse purposes and needs should always be the starting point for engaged design inquiry, followed by the primary networks users work in, the physical and technological sites they use for access, the media genres and knowledges they use and value, the technologies they use and value, and the modes of communication they use and value. This is also an empirical methodology: the only way for designers to understand user needs and purposes, particularly in a culture-focused way, is for them *to get involved in the complex lifeways of actual users to the extent that designers begin to understand exactly what user needs, purposes, and values are*.

Above I also referenced a design case-in-point: teaching a hybrid writing class to an audience of mostly Chinese international students. In this case, the infrastructure I was working in was impacted by—and in turn impacted—the cultural context many student-users were coming from. This was particularly evident in student expressions of trepidation about communicating in Standard Edited American English. What may be less obvious is how this communication infrastructure was originally designed to *promote* rather than adapt to this intercultural conflict, however. By designing an accelerated course that would be taught partially online to a constituency of international ESL learners, the university administration had placed students who needed significant support to fulfill their writing requirement in a precarious position. The students, attempting to game the system by taking a summer course in order to knock out a requirement they found to be onerous, were then forced to adapt not only to academic writing conventions they were unfamiliar with, but to do so in a fast-paced (the course lasted only forty-six calendar days from start to finish) and technologically advanced communication situation that required them to navigate several modes of communication that they were also unfamiliar with. This conflict was embedded not only within the most material and technological elements of this infrastructure then, but also within the *social implementation of those material elements conceived of as a system*. Rather than being designed to meet needs of actual student-users, in other words, the course was designed to be an efficient, accelerated course that a universalized college student persona could take during a six-week summer session.

To redesign the user experience of this course, I would need to think differently about the problems I was experiencing as an instructor, which included students struggling to keep up with the pace of the course; students complaining that the homework and major assignments for the course were too time-consuming, given the rest of their course load; and students struggling to

use the variety of technologies necessary to navigate a hybrid course. As a methodological framework for intercultural communication design, whereas Sun (2012) advocated a dialogic model, I prefer one based in hybridity. As a communication system that is irreducibly complex, infrastructure is an inherently hybrid concept: it involves the perspectives of a variety of stakeholders who respond and react to their technological and cultural environment—and thus end up changing it—in myriad and often unpredictable ways.

At the same time, I am cautious of idealizing hybrid systems, which for Mao (2006) can result in "overlooking altogether how tensions between two [or more] traditions become manifested in particular, specific practices" (p. 29). Rather, I prefer a hybrid framework for technology design that attempts to negotiate what Mao (2006) called a rhetoric of "togetherness-in-difference."[4] Such a rhetoric:

> seeks not uniqueness-qua-coherence from within, but complexity, heterogeneity, and ambiguity from both within and without—from a space where different rhetorical practices meet, clash and grapple with each other, and where their encounters are always inflected with highly asymmetrical relations of power. (p. 29)

On the second in-person day of class, for instance, when students erupted in protest at the course's workload—a protest unsurprisingly led by one of the few American students enrolled in the class—I used the discussion as a moment to fuel redesign of the course. This very uncomfortable conversation in which the student who had initiated the conversation argued I had "thrown too much technology" into the course, became a moment in which we began to hybridize our learning community, as I was forced to articulate my aims for the course, as well as its place within the larger framework of the university. At the same time, however, students began to articulate the problems they were facing with the course, and to implicitly signal to me their needs, purposes, and values.

What I am calling *engaged design*—in contrast to participatory or culture-focused design—is a hybrid design framework that encourages messy, back-and-forth conversations with actual users. What most differentiates it from previous design paradigms is that engaged design encourages real investment by users within the design process, rather than participation in an a priori process led by a design team or the dialogic adaptation of existing design paradigms to a specific culture. In short, engaged design is a philosophy that engenders the following principles, stated as design maxims in the parlance of IT:

- Design locally, think globally, in both a technological and cultural sense.
- Seek stakeholders or partners, not just "customers," "test-users," or "end-users."
- Design *with* stakeholders, not for them.

What follows is my articulation of each principle as I first applied it to redesign a hybrid writing class.

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[4] Mao is here borrowing this term from Ang (2001), but the former's inflection on this term is what most interests me here.

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Design locally, think globally, in both a technological and cultural sense

The first four words of this maxim have become a rallying cry for participatory designers interested in culture-focused design. At the same time, the focus of this maxim has been cultural localization and the adaptation of existing technologies to specific cultural contexts. I intend it in several senses. First, at the cultural level, designers *should* seek to work with the users in front of them, and within the local cultural context those users inhabit. Localization is key to any sound design process, as is adapting that design process to the cultural context one is working within. This localization does not mean that designers should lose touch with the larger contexts of technologies and cultures they are working with, though. During the uncomfortable conversation my students started on the second day of class, their first proposal was that we not use any digital technologies for the course. This would've been death to a six-week hybrid writing course, however, so I had to push back against this proposal, even though many of the international students in the class voiced concerns about attempting to master Standard Edited American English while also having to juggle a variety of new technologies. This had most to do with students' fear of microblogging platforms like Tumblr and Twitter, technologies the Chinese government continues to attempt to prevent its citizens from accessing (Branigan, 2013). Outside of the breach of a cultural and technological taboo in a school setting, the students were concerned that they would sound even more like non-native users of English while using these technologies to communicate with their three American classmates.

This brings me to the second sense in which engaged design balances local and global contexts: local user choices must be balanced by the entire infrastructure that those choices are a part of. I couldn't make decisions based solely on the user preferences of the twenty-odd Chinese students in the course, even though they were the overwhelming majority of the user population. The course also included three American students, one Korean international student, and one Japanese international student. I was teaching as part of a writing program which valued the use of digital technologies to teach writing, and I strongly felt that social media, in particular, was important to understanding emerging communication technologies, and was thus a key asset to college success, particularly in a research-intensive American university. The design choices I made had to embrace the hybridity of this situation, both culturally and technologically. I couldn't focus so much on local technological and cultural concerns that I neglected more global contexts. Nor could I focus on global technological and cultural concerns to the detriment of the local user context.

This quandary is in line with current thinking in social and cultural theory that warns of the dangers in retreating to a systems view of social assemblages, or to fetishizing local instances of an assemblage as though there can be no comparative analysis between instances (DeLanda, 2006; Hall, 1986; LaClau & Mouffe, 2001; Latour, 2005; Thatcher, 2010; Sun, 2012). As Sun (2012) most recently noted, elements of any intercultural user experience—such as local culture, the experiences of actual users, and design as a problem-solving process—are all reciprocal interactions among a variety of technological and human concerns (p. 268).

Unfortunately, there is no clear roadmap I have discovered for how to balance local cultural and technological concerns with those at a global level. In my own work, I have drawn on the theories of DeLanda (2006) to help make sense of this complex balancing act during design

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processes. Adapting his theory of social assemblage to the current argument, a communication infrastructure can be mapped along the following planes:
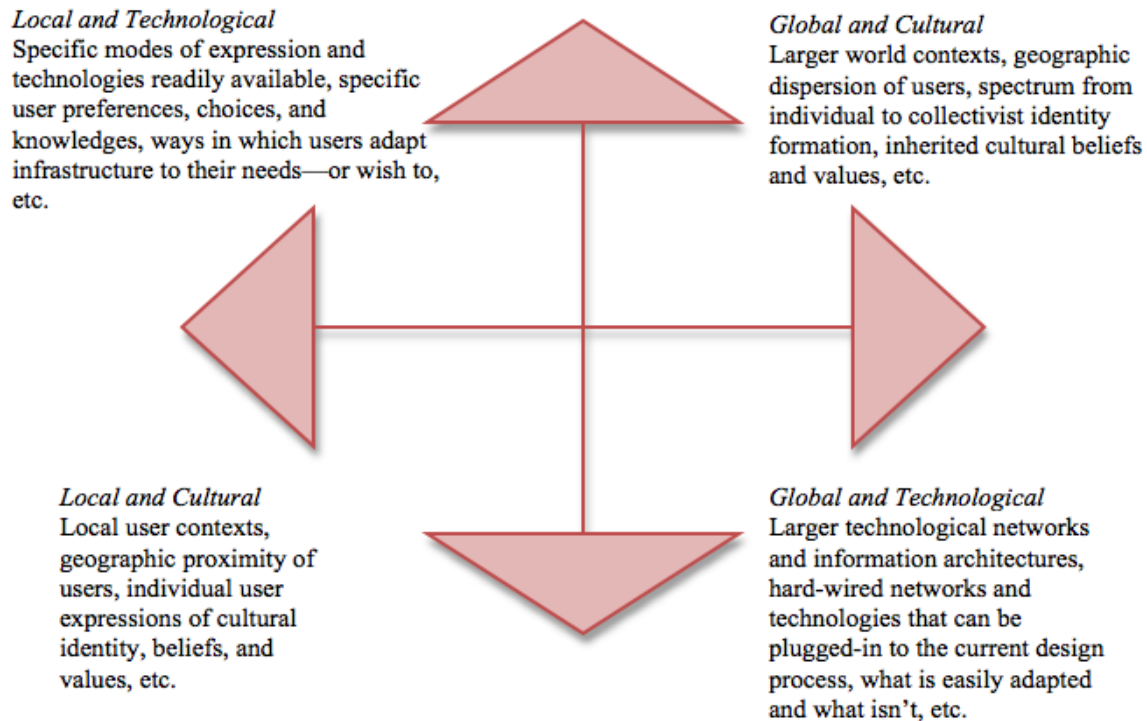
Local and Technological
Specific modes of expression and technologies readily available, specific user preferences, choices, and knowledges, ways in which users adapt infrastructure to their needs—or wish to, etc.

Global and Cultural
Larger world contexts, geographic dispersion of users, spectrum from individual to collectivist identity formation, inherited cultural beliefs and values, etc.

Local and Cultural
Local user contexts, geographic proximity of users, individual user expressions of cultural identity, beliefs, and values, etc.

Global and Technological
Larger technological networks and information architectures, hard-wired networks and technologies that can be plugged-in to the current design process, what is easily adapted and what isn't, etc.

Figure 3. Axes of a communication infrastructure

The other mapping method I have used has already been demonstrated: cataloguing safe-to-assume infrastructural components—user-communicators, networks, sites, media genres and knowledges, technologies, and modes. Cataloguing an infrastructure in this way is a good first step to creating the above, more comprehensive map of an infrastructure.

The goal of creating such a map is to differentiate which technological and cultural contexts are most important to the current project or process. These maps should be created with users in order to help them articulate which cultural and technological values are most important to them. It matters less what form the map takes, than that a given map makes sense to both designers and users. A third way of helping users articulate what they value is to create a values inventory, or simple list of what users most value among components of infrastructure they most commonly use. I have used the following questions to elicit such an inventory from users, often as a conversation opener during a first meeting:

- How do you use each of these technologies on a regular basis?
- Why/how did you initially acquire these technologies? Can you tell me the
- story of how you got them, starting with how you first thought about wanting or needing them? What caused you to think that these kinds of technologies might be good for you to have?

- At what moment did you feel that these technologies had become useful? Can you describe the first time you remember them being useful? What do you feel they enable you to do?
- Are there other technologies you can think of that you use on a semi-regular basis? What do they do for you? What are their purposes? Why did you first think of getting them? At what point did they become useful? What do you feel they enable you to do?
- Where do you lie on the spectrum from media-user to media-maker? What about the spectrum from personal to professional? Do you use media more for personal or professional purposes or some combination, would you say? Who do you usually use media with, or do you use them more by yourself?
- In general, what kind of technology-user and media-maker would you say that you are? Why would you say you use technology and make media in that way?
- How will the project we're going to be working on relate to what kind of technology-user and media-maker you already are, do you think? What do you hope that this project will add to your organization, given what we've talked about concerning what kind of technology-user and media-maker you are?

The goal of these questions is to elicit stories about the technologies users use and value. I find that when users are encouraged to tell stories about how they use technology, they inevitably also start to articulate the value systems behind their technological choices, which can bridge to more cultural and global concerns later on in the conversation or design process. Starting with technology also avoids stereotyping users based on observable characteristics, like age, language, cultural background, etc.

The first time I engaged in such mapping and inventorying activities was the day my students confronted me regarding their struggle with a hybrid course. As students mentioned more and more problems they were having while navigating the course infrastructure, I stopped trying to deal with them on-the-spot and started simply inventorying their concerns on the whiteboard in our cramped classroom that we had access to only twice a week for two hours. I realize now that this was the first time I had ever tried to understand user values as being in conflict with my own in order to adapt my communication practices.

A major concern for students was time: because many of them were enrolled in a variety of accelerated summer courses, they didn't feel like they had enough time to complete the assignments from all their courses. This was also aligned with a more global technological and cultural situation in which international students were being placed in an admittedly unfair academic situation. My first step, then, was to acknowledge this unfairness, to acknowledge that non-native speakers of English would need more time to complete writing assignments and to learn new technologies that were built for native speakers of English. At first I was at a loss to move forward from all the problems I had written down, problems that seemed to span every cultural and technological context that the course relied on. Perhaps out of desperation, once students had lapsed into silence after nearly thirty minutes of problem-posing, I finally turned to them and said, "Well, how do you think we should solve these problems?" What happened next would strongly impact the way I operate as a designer.

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Seek stakeholders or partners, not just *customers*, *test-users*, or *end-users*
I don't recall exactly what the first student to answer my question said, but I remember it was Qi, one of the first Chinese international students to join the conversation. I remember this because Qi was always fair-minded when it came to contentious classroom discussions, so other students often looked to him for leadership. Qi was the first to articulate a positive suggestion for change, a change to due dates. The suggestion was a good one because it helped the students who were taking several other classes and didn't negatively impact students who were only enrolled in one or two courses, but more importantly the suggestion inspired me to return to a framework that I had used often both in and outside the classroom but had never directly applied to a design process. The framework first developed by Kretzmann and McKnight (2005), known as asset-based capacity building, is a simple, yet effective model for turning problems into assets within a community. The crux of this model is the creation of a "Community Asset Map" which lists all the assets a given community possesses, including individuals, networks, physical space, institutions, and facets of the local economy (p. 15). Within this model, asset mapping is the first step in community building and happens before any problems are mentioned. The goal is to turn problem-posing into problem-solving by helping stakeholders become aware of *what their community has going for it* before dealing with what's not working.

Like these researchers, I realized that I was dwelling in problems, not solutions, so beside the list of problems students were having with the course, I began to list assets the class possessed and encouraged students to help me fill out this asset inventory. Several of these assets are useful in illustrating the use of an infrastructural map for engaged design:
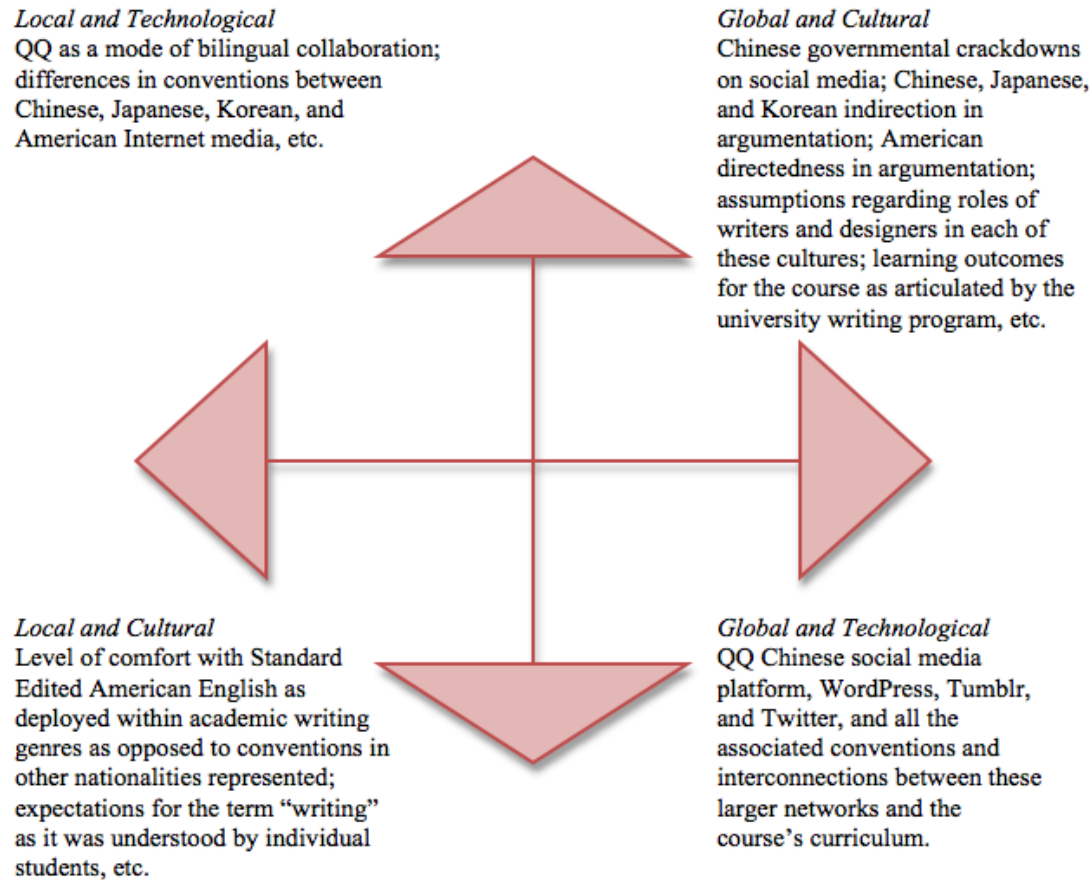
Local and Technological
QQ as a mode of bilingual collaboration; differences in conventions between Chinese, Japanese, Korean, and American Internet media, etc.

Global and Cultural
Chinese governmental crackdowns on social media; Chinese, Japanese, and Korean indirection in argumentation; American directedness in argumentation; assumptions regarding roles of writers and designers in each of these cultures; learning outcomes for the course as articulated by the university writing program, etc.

Local and Cultural
Level of comfort with Standard Edited American English as deployed within academic writing genres as opposed to conventions in other nationalities represented; expectations for the term "writing" as it was understood by individual students, etc.

Global and Technological
QQ Chinese social media platform, WordPress, Tumblr, and Twitter, and all the associated conventions and interconnections between these larger networks and the course's curriculum.

Figure 4. Axes of a communication infrastructure as asset map

My move to map cultural and technological differences within the course as assets for redesigning a flawed communication infrastructure represented a hybridizing of this infrastructure. I began to redesign the course to accommodate a community of users that was, by its very nature, a hybrid community, both technologically and culturally. As Day and Frye (2011) argued, "cultural[—and for my purposes technological—]fluency is not simply produced by language fluency... The flow of the learning, both from and to the instructor and student, also creates a complex dynamic…. [M]ulticultural learners are [thus] in a unique position to enrich the educational experience of all by gaining invaluable information and knowledge about the home country and culture of those learners" (p. 35). Once I opened up learning and communication to the wide variety of technological and cultural perspectives and experiences represented by users, discussions started to become less contentious and more dialogic.

In a broader sense, this model also conceives of users as stakeholders in a decidedly different way than previous uses of that term. As Kampf (2013) has argued, many conceptions of stakeholder theory reinscribe dynamics wherein individuals are de-centered in favor of organizational wholes. She further argued for a new conception of stakeholders as dynamic members of organizational processes that de-center organizational wholes:

> Thus, through highlighting the nature and operational level of the connections between stakeholders and corporations in their political context, the political model for stakeholders foregrounds contextual factors which affect understandings and reactions to norms, and through the connection between norms for different stakeholder groups and their consequences, connects relationships between stakeholders and corporations with ethics. (p. 5)

Viewed in this light, users as stakeholders of design processes should be seen as partners, partners who have the power to de-center that process so that it better reflects their cultural lifeways. This de-centering is bi-directional, however, as Kampf would have it: as norms for the design process shift, so will user values. The process should be reciprocal and dynamic and based in an ethics of valuing the cultural lifeways of users-as-stakeholders while still moving the design process forward in a direction that is optimally beneficial to all users.
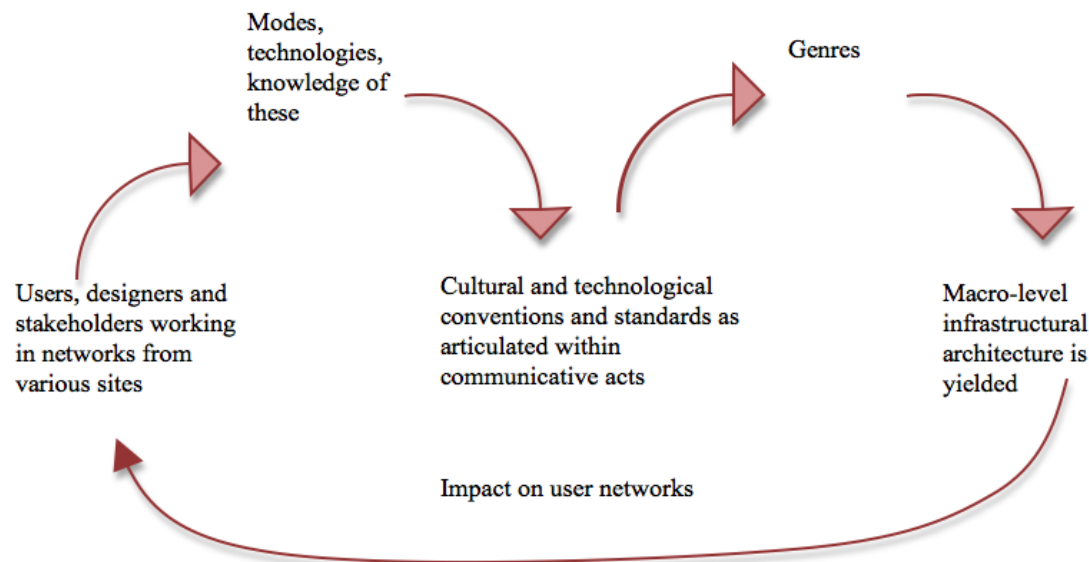
As part of a small group discussion on a homework assignment involving navigating the course's required technologies, for instance, I learned that one group of students was using the bilingual social media platform QQ (http://imqq.com/) to collaborate on assignments. Because the platform afforded discussion in both Chinese and English, students reported that members of their group who were less comfortable with English were able to seek assistance from other students in their native tongue. Though I encouraged students to use the platform in both languages as much as possible in order to increase fluency in American English, I also encouraged students to talk to the rest of the class about QQ, its primary functions, and how it had become useful to them. Through this discussion other students in the course began to think of creative ways to use QQ, as well as other social media platforms in the course, to collaborate on assignments. This kind of hybrid discourse would continue at a more global cultural and technological level as well, such as during discussions regarding the differences between Internet media from students' home countries and those produced for American audiences. To increase cultural and technological fluency amongst all course members, I asked students to do presentations on the main conventions among popular websites from their home countries. Through this discussion students articulated differences among websites from Japan, China, Korea, and America, which included differences in information architecture, user interface design, the use of images, and the use of color. Discussions like these would lead several students to write compelling research essays on the cultural, political, technological, and economic implications of Internet usage in their home countries. Several Chinese students, for instance, critiqued their government's attempts to block social media platforms and the implications this had for citizen access to information.

Embracing hybridity in course redesign invited student-users to make the move from users to stakeholders within the course's communication infrastructure. I say *invited*, because not all users will become stakeholders, no matter how ardently a designer attempts to engage them. So, while engaged design dictates that designers seek stakeholders for all design phases, not just representative users by which to test each phase, like in any participatory framework, individual participation will vary. The point of such deep collaboration is to locate constituencies of users whose cultural and technological value systems mesh with those of designers. This can include

considerable adaptation on the part of designers and should center more on the needs and purposes of individual users, all while paying mind to global cultural and technological contexts.

Design *with* stakeholders, not for them

As Tomer (2012) argued, UX research must become an ongoing part of stakeholder work lives if it is to be successful (p. 30). The communication design of media as complex as large-scale websites, social media applications, and a technologically and culturally complex hybrid writing course requires ongoing research and design work. Unless a dedicated design team is assigned, this work also requires significant investment from user-stakeholders. Again: infrastructures are hybrid systems. They change as user and designer values and preferences change over time. Another way to map such a system is as a simplified iterative model:

Modes, technologies, knowledge of these

Genres

Users, designers and stakeholders working in networks from various sites

Cultural and technological conventions and standards as articulated within communicative acts

Macro-level infrastructural architecture is yielded

Impact on user networks

Figure 5. Simplified model of changes to communication infrastructure over time

Here we see a map of infrastructure as a simplified but dynamic social system, a system in which the work of users, designers, and stakeholders impacts the degree to which modes, technologies, and knowledge of cultural and technological conventions and standards become media genres that in turn become the components of a broader architecture that enables future work. Such a model belies the hybridity of infrastructure, particularly that which supports robust intercultural communication and inquiry. A more representational model might look like this:
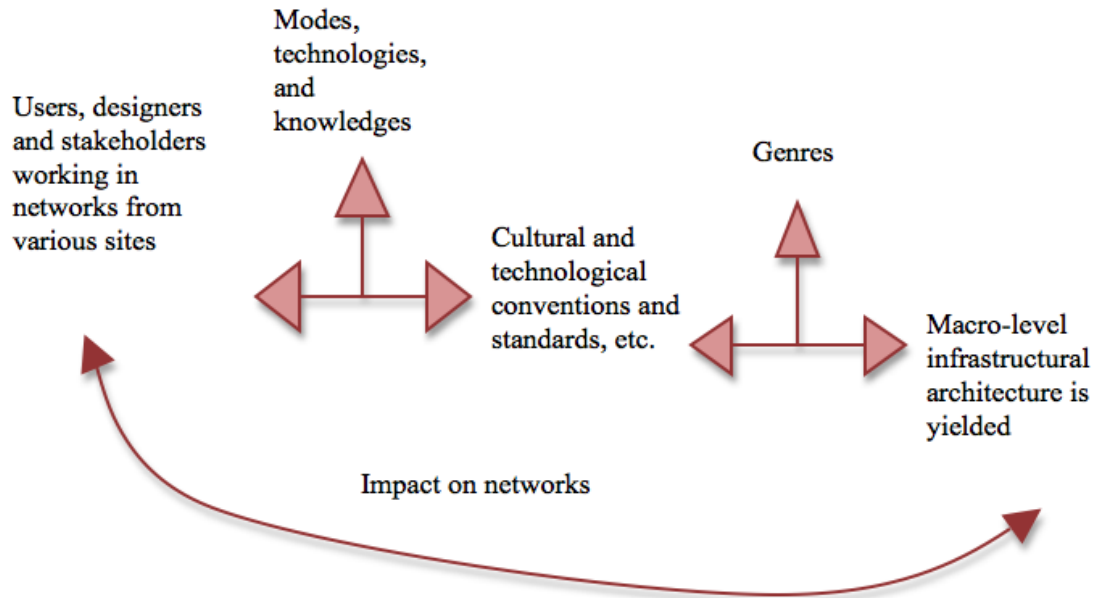
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Modes, technologies, and knowledges

Users, designers and stakeholders working in networks from various sites

Genres

Cultural and technological conventions and standards, etc.

Macro-level infrastructural architecture is yielded

Impact on networks

Figure 6. Rhizomatic model of communication infrastructure

The above model is more cognizant of the observations of Spinuzzi (2008) that "[communicative] work is performed by assemblages of workers and technologies, assemblages that may not be stable from one incident to the next and in which work may not follow predictable or circumscribed paths" (p. 137). Communication infrastructure, as a hybrid system, is developed organically and in many directions at once. Having tried to articulate models like Figure 6 to prospective stakeholders, however, I advocate using models closer to Figure 5 to help users understand communication infrastructure as a dynamic system. Regardless, such dynamic maps should be living documents that are continually revised by designers and stakeholders in order to assess whether a given design process is iterating in a desired direction. Such conversations can engender heightened investment amongst users while working with designers to shape and improve their shared cultural and technological environment.

In this way, engaged design should be considered a flexible methodology best paired with data collection methods that are appropriate to the specific technological and cultural context of a given design process. Like Tomer (2012) argued, engaged design holds that "if you pick a method first, something must be wrong" (p. 67). There are a wide variety of individual methods for collecting user data in a participatory framework, methods which commonly range across surveys, focus groups, interviews, card sorting, usability testing, contextual inquiry, and long-term participant observation (Courage & Baxter, 2005; Potts, 2013; Simonsen & Robertson, 2012; Tomer, 2012). To ensure that student-user fluency increased over the length of my hybrid writing course, I decided to devote at least half an hour of in-person time each week to conversations regarding how students were navigating the course. Each time I would record notes on possible improvements to be made to the course website architecture in addition to grading rubrics, assignment prompts, and due dates, and would iterate the course design accordingly. Each week students would be encouraged to come forward with problems they

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were having with the course but always with the intention of posing viable solutions. Choosing an appropriate method for an engaged design project means making collaborative decisions with stakeholders regarding what data will be most useful as a design process evolves. In general: any sound design process is strongly iterative, meaning that design stages should be considered less as linear phases and more as recursive avenues for deciding what the next stage should be, given what previous analysis has revealed.

Specifically, I have found the following methods to be most useful at different stages of an engaged design process:

- **Preliminary research**: long-term participant observation, contextual inquiry, surveys, open card sorts
- **Prototyping**: contextual inquiry, closed card sorts, focus groups, usability testing with a lo-fi prototype such as a paper sketch or other quick mockup
- **User testing:** contextual inquiry, usability testing with an actual prototype
- **Maintenance:** contextual inquiry, focus groups, surveys

Like Potts and Bartocci (2009), I find situated methods like contextual inquiry to be valuable at all stages of design. Many of my keenest insights during a design process have been gleaned through observing stakeholder behavior in the workplace or classroom. This inquiry has taken the form of video-recorded site visits to stakeholder collaboration sessions and workplaces and remote data collection such as screen captures of stakeholders working on their computers. What distinguishes engaged design from other participatory frameworks, however, is the emphasis on collaboration at all levels of the process. Some stakeholders have lived or worked in contexts not amenable to direct observation. Some stakeholders have been uncomfortable being video-recorded or having their work screen-captured. As with all aspects of engaged design: data collection and analysis should be hybridized with the purposes and needs of stakeholders, not by a priori dictates for what a design process should look like.

Implications and future directions

A recent article by Wasik (2013) in *Wired* proclaimed, "Welcome to the Programmable World," and depicted a world filled with mobile devices that sync every aspect of our lives to smart homes, cars, workplaces, and other completely responsive infrastructures (p. 1). These infrastructures will make constant data available to us on how to improve our lives and will even perform mundane tasks for us like monitoring our sleeping children, freeing us to do more interesting things (p. 2). Unsurprisingly, how the 78.9% of the developing world who have yet to attain basic Internet access would become part of this "programmable world" goes unmentioned. Also unsurprisingly, any discussion of how such a web will accommodate the lifeways of globally dispersed and culturally and technologically diverse user populations is similarly lacking. *Wired*, as a representative publication of the progressive tech industry, is not unusual in this regard.

As we move toward more flexible technological architectures and more responsive infrastructures, it is essential that UX researchers engage *all* global user populations in the knowledge-making practices upon which a programmable web will be founded, not just users

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who are best prepared to currently access it. That task alone is monumental but also requires that we first understand what kind of web users want. The current infrastructure of the Internet is very developer-driven. The paradigm of Web 2.0 that was supposed to invite users into collaboration and co-development of the web has resulted in a new kind of digital divide: in other words, a divide between not only those who do and do not have basic access to the Internet but also between those who possess the necessary knowledge-making practices to fully access all the rich potential promised by Web 2.0 and those who are left scratching their heads over what the big deal is.

I have taught and consulted with hundreds of head-scratchers at this point, including people from various socio-economic classes, cultures, ethnicities, and other walks of life, and they are not the inept users of technology that they are sometimes made out to be by designers and IT staff. Quite the opposite: help them become aware of critical tools that match up with their current life trajectory, and they're off and running. It stands to reason, then, that users like this are left scratching their heads because they have not felt represented and valued by communication infrastructures they have attempted to access throughout their lives. They have been talked down to by IT staff, told they were doing design wrong by designers, and even been chided by other users over their inability to attain the same level of proficiency as their peers and colleagues. Is it any wonder that many clients and students who find themselves in my classroom or office have to first make a kind of confession to me? "I don't really think technology is that important," or some version there-of, is what they inevitably say, in hushed tones, as though admitting to some kind of crime.

"It isn't," is my inevitable answer, "it's just a tool to make your life better." In order for technology to *be that* for all users, regardless of cultural and technological fluency, values, and beliefs, however, we have to work to *help people make their lives better through technology*. I believe intercultural inquiry is at the center of that endeavor, especially since the technology marketplace has little interest in helping build a programmable world that is usable by 100% of the world's population. This task will instead be left to researchers and designers who see real access to the most effective communication technologies as a right all people deserve.

References

Ang, I. (2001). *On not speaking Chinese: Living between Asia and the west*. London: Routledge.

Barkai, J. (2012). *Accelerating science-led innovation for competitive advantage*. Farmingham, MA: Accelrys.

Bezemer, J., & Kress, J. (2008). Writing in multimodal texts: A social semiotic account of designs for learning. *Written Communication*, 25, 166-195.

Bradley, J., & Macaulay, J. (2012). *BYOD and virtualization: Insights from the Cisco IBSG Horizons study*. Cisco IBSG Horizons, Internet Business Solutions Group.

Branigan, T. (2013). China tries to rein in microbloggers. *The Guardian*. Retrieved from http://www.guardian.co.uk/world/2013/may/15/chinamicroblogging-accounts-closed

Campbell, D., & Eitenbichler, P. (2012). *HP converged infrastructure for dummies*. Hoboken, NJ: John Wiley & Sons, Inc.

Day, C., & Frye, C. (2011). Global training, multicultural course design, and delivery: The impact on cultural style adjustments of faculty and global training instructors. *Rhetoric, Professional Communication, and Globalization,* 2, 34-50.

DeLanda, M. (2006). *A new philosophy of society: Assemblage theory and social complexity*. London: Continuum.

DeVoss, D., Cushman, E., & Grabill, J. (2005). Infrastructure and composing: The when of new media writing. *College Composition and Communication*, 57, 14-44.

Euromonitor International. (2011). *Global digital divide persists but is narrowing*. Retrieved from http://blog.euromonitor.com/2011/02/global-digital-divide-persists-but-is-narrowing-1.html

Grabill, J. (2007). *Writing community change: Designing technologies for citizen action*. Cresskill, NJ: Hampton Press.

Grabill, J. (2010). Infrastructure outreach and the engaged writing program. In S. Rose & I. Weiser (Eds.), *Going public: What writing programs learn from engagement* (pp. 15-28). Logan, UT: Utah State University Press.

Hall, S. (1986). On postmodernism and articulation: An interview with Stuart Hall. Grossberg, L. (Ed.). *Journal of Communication Inquiry*, 10, 45-60.

Hanseth, O. (2010). From systems and tools to networks and infrastructures—from design to cultivation: Towards a design theory of information infrastructures. In J. Holmström, M. Wiberg, & A. Lund (Eds.), *Industrial informatics design, use and innovation: Perspectives and services* (pp. 122-156). Hershey, PA: Information Science Reference.

International Telecommunication Union (ITU). (2011). *Measuring the information society*. Retrieved from http://www.itu.int/net/pressoface/ backgrounders/general/pdf/5.pdf

Kampf, C. (2013). Socio-cultural norms for corporate social responsibility: Building a political model of the stakeholder for project conception in global business contexts. *2013 IEEE International Professional Communication Conference*, 1-6.

Kretzmann, J., & McKnight, J. (2005). *Discovering community power: A guide to mobilizing local assets and your organization's capacity*. Evanston, IL: Asset-Based Community Development Institute.

Kostelnick, C. (1995). Cultural adaptation and information design: Two contrasting views. *IEEE Transactions on Professional Communication*, 38, 182-196.

Laclau, E. & Mouffe, C. (2001). *Hegemony and socialist strategy: Towards a radical democratic politics*. London: Verso.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. New York, NY: Oxford University Press.

Mao, L. (2006). *Reading Chinese fortune cookie*. Logan, UT: Utah State University Press.

Matz, K. (2012). User requirements: Understanding your users' characteristics. *Architecting Usability*. Retrieved from http://architectingusability.com/2012/06/15/user-requirements-understanding-your-users-characteristics/

Maylath, B. (1997). Writing globally: Teaching the technical writing student to prepare documents for translation. *Journal of Business and Technical Communication*, 11, 339-352.

Mein, E., Fuentes, B., Soto Mas, F., & Muro, A. (2012). Incorporating digital health literacy into adult ESL education on the US–Mexico border. *Rhetoric, Professional Communication, and Globalization,* 3, 162-174.

Osterman Research, Inc. (2011). *Embracing and empowering the consumerization of IT*: *An Osterman research white paper*. Black Diamond, WA: Osterman Research, Inc.

O'Connor, K. (2011). Personas: The foundation of a great user experience. *UX Magazine*.

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Retrieved from http://uxmag.com/articles/personas-the-foundation-of-a-great-user-experience

Potts, L. (2013). *Social media in disaster response: How experience architects can build for participation*. New York, NY: Routledge.

Potts, L., & Bartocci, G. (2009). <Methods> experience design </methods>. *Proceedings of the 27th ACM international conference on design of communication,* 17-21.

Selber, S. (2004). *Multiliteracies for a digital age*. Carbondale: Southern Illinois University Press.

Simonsen, J., & Robertsen, T. (Eds.). (2012). *Routledge international handbook of participatory design.* New York, NY: Routledge.

The GSM Association (GSMA). (2010). *Snapshot: Developing world accounts for four in every five mobile connections*. Retrieved from https://gsmaintelligence.com/files/analysis/?file=101021.pdf

Spinuzzi, C. (2008). *Network: Theorizing knowledge work in telecommunications*. New York: Cambridge University Press.

St.Amant, K. (1999). When culture and rhetoric contrast: Examining English as the international language of technical communication. *IEEE Transactions on Professional Communication*, 42, 297-299.

Star, S., & Ruhleder, K. (1996). Steps toward an ecology of infrastructure: Design and access for large information spaces. *Information Systems Research,* 7, 111-134.

Sun, H. (2012). *Cross-cultural technology design: Creating culture-sensitive technology for local users*. New York, NY: Oxford University Press.

Thatcher, B. (2006). Intercultural rhetoric, technology transfer, and writing in US–Mexico border maquilas. *Technical Communication Quarterly*, 15, 383-405.

Thatcher, B. (2010). Eight needed developments and eight critical contexts for global inquiry. *Rhetoric, Professional Communication, and Globalization,* 1, 1-34.

Tomer, S. (2012). *It's our research: Getting stakeholder buy-in for user experience research projects*. Waltham, MA: Morgan Kaufman.

Wang, J. (2010). Convergence in the rhetorical pattern of directness and indirectness in Chinese and U.S. business letters. *Journal of Business and Technical Communication*, 24, 91-120.

Walton, R., Yaaqoubi, J., & Kolko, B. (2012). What's it for? Expectations of Internet value and

usefulness in Central Asia. *Information Technologies & International Development*, 8, 69-84.

Wasik, B. (2013). Welcome to the programmable world. *Wired*. Retrieved from http://www.wired.com/gadgetlab/2013/05/internet-of-things/

Wetzl, A. (2010). Digital education in Eastern Europe: Romania's modern affair with technology. *Computers and Composition*, 27, 112-123.