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Bridging Distance and Culture With a Cyberspace Method of Qualitative Analysis

**Patricia Liebr, PhD, RN; Ryutaro Takahashi, MD, PhD;
Huaping Liu, PhD, RN; Chie Nishimura, BS; Mio Ito, MSN, RN;
Linda C. Summers, DSN, RN, CNS, FNP**

This article describes a qualitative research method that weds the cyberspace technology of e-mail with a phenomenological research approach. Examples are provided from 2 separate data sets. One data set explored the meaning of health for Japanese elders; the second explored Chinese nurses' experience of taking care of patients with severe acute respiratory syndrome. Lessons learned while using the cyberspace method are discussed, including guidance for organizing a long-distance research team, the central place of trust, and the time when e-mail communication demands to be supplemented with face-to-face interaction. The potential for bridging distance and culture with this cyberspace method is introduced for consideration and critique. **Key words:** *cyberspace, e-mail, long-distance research collaboration, phenomenological research*

THIS is a story of connection through cyberspace, where colleagues who are miles apart rely on e-mail interaction to conduct qualitative data analysis. In the process of bridging distance to learn more about the health challenges faced by particular populations, these colleagues found that e-mail research collaboration also informed their understanding of each other and the cultural contexts of the study participants. The intent of this article is to share the method that enabled long-distance qualitative data analysis. Data from 2 separate studies (health for Japanese elders and caring for patients with

severe acute respiratory syndrome [SARS]) serve as examples, showing how the analysis method came alive for researchers, studying very different subject matter in unique research team configurations. To study the meaning of health for Japanese elders, a 5-person interdisciplinary, multicultural research team was formed, which included 2 nurses (1 Anglo-American and 1 Hispanic American) living in the United States and 3 Japanese, one physician, one nurse, and one psychology major, living in Japan. To study the meaning of caring for patients with SARS in China, 2 geographically separated nurses collaborated. One was a Chinese living in China and the other was an Anglo-American living in the United States.

During the last decade there has been a dramatic increase in use of cyberspace technology. Between 1996 and 2002, worldwide Internet users increased more than 10-fold, from 45 million to 544 million,¹ and e-mail was used by an estimated 79% of Internet users.² On the one hand, the proliferation of cyberspace technology has contributed to a sense of depersonalized information

From the University of Texas - Houston, School of Nursing, Houston, Tex (Dr Liebr); the Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan (Dr Takahashi, Mss Nishimura and Ito); the Peking Union Medical College, School of Nursing, Beijing, The People's Republic of China (Dr Liu); and the Southern New Mexico Family Practice Residency Program, Las Cruces, NM (Dr Summers).

Corresponding author: Patricia Liebr, PhD, RN, University of Texas - Houston, School of Nursing, 1100 Holcombe Blvd, 5.518H, Houston, TX 77030 (e-mail: patricia.r.liebr@uth.tmc.edu).

overload. E-mail, specifically, has been cited as a vehicle for building dehumanized "individualistic fortresses"^{3(p164)} and likened to a "bullet in a well-aimed gun,"^{4(p29)} permitting impulsive response without thoughtful consideration. On the other hand, cyberspace methods have shrunk the size of our world and created communication opportunities, which were unimaginable just a few decades ago. Sherry Turkle is a sociologist-psychologist who focuses on the interface of mind and machine, interactions between humans and technology. In an interview with a *Harvard Business Review* senior editor, Turkle noted that the power of the computer "to change our habits of thought extends across the culture."^{5(p44)} The potential for cyberspace interchange to affect thinking has led to its use in a variety of health-related settings.

Nursing literature has described the use of online discussion groups to encourage critical thinking⁶ and has reported studying the use of computers to enhance communication between healthcare providers and patients⁷ and to teach students about theory relative to nursing practice.⁸ Most recently, nursing literature has described qualitative data collection through Internet discussion boards,⁹ has addressed the generalizability of qualitative data collected through the Internet,¹⁰ and has called for qualitative cyber research, which is "caring, holistic and culturally sensitive."^{11(p317)} Social psychology literature has reported analysis of chat room and discussion group interchange related to social upheaval, such as the death of Princess Diana,¹² and social support for health problems, such as cancer, depression, and multiple sclerosis.¹³ Each of these research examples refers to cyberspace methods for collecting data. However, the incorporation of cyberspace methods to accomplish long-distance qualitative data analysis has not been reported.

LONG-DISTANCE RESEARCH COLLABORATION

Long-distance research collaboration is not a new idea for nursing. Eakes et al¹⁴ reported

on processes essential for the development of a research consortium by geographically distanced colleagues to study chronic sorrow. Ludington-Hoe and Swinth¹⁵ outlined the steps used to establish research collaboration between a university faculty member in one state and community hospital staff nurses in an adjoining state. However, neither of these long-distance collaborative efforts focused on qualitative analysis methods, and, generally, data analysis has been centralized rather than shared. In a recent report of multidisciplinary cross-national qualitative research studies, Treloar and Graham¹⁶ reported issues of importance when collecting and comparing data from multiple international sites. The examples provided by these authors are ones where studies were planned by a primary site, and plans were sent to all investigators for comment, but little feedback was received from the collaborating sites. Analysis was done at one primary site and sent to the other sites for review upon completion.¹⁶

E-mail is a cyberspace method that allows ongoing interaction between researchers in distant sites to accomplish study planning and long-distance qualitative data analysis. The purpose of this article is to describe a method used for long-distance data analysis by wedding the cyberspace technology of e-mail with a phenomenological approach to data analysis. The van Kaam phenomenological approach¹⁷ was used in developing this cyberspace method of qualitative analysis.

THE RESEARCH METHOD

Kaplan distinguishes research methodology from research method, while emphasizing their central relationship.¹⁸ *Methodology* refers to a meta-perspective view intended to enhance understanding of the scientific inquiry process, by noting strength and weakness, potential and limitation. A *research method* is a midrange systematized scientific inquiry process¹⁸ that is general enough to extend beyond a specific study and specific enough to be useful for scientific

Table 1. van Kaam analysis adaptation

<p><i>Phase 1: Identify descriptive expressions.</i> A descriptive expression is a statement that shares an idea about a human experience. Read and reread each participant's description. Identify the descriptive expressions, succinctly articulating them in the words of the participant.</p> <p><i>Phase 2: Reduction through synthesis.</i> This step has 2 parts. These parts occur consecutively after step 1 is completed. First, examine the descriptive expressions and group ones with a like idea together. Then, "reduce the concrete, vague, intricate and overlapping expressions"^{17(p326)} to identify the theme of each group of descriptive expressions. The theme is stated in the words of the researcher. The theme will appear explicitly or implicitly in most expressions and be compatible with all.</p> <p><i>Phase 3: Formulate a hypothetical definition of the phenomenon.</i> The themes, that have been synthesized in the previous step are used to create a definition of the phenomenon.</p> <p><i>Phase 4: Apply the hypothetical definition to each participant's description.</i> The fit between the hypothetical definition and the participant's description is evaluated. The fit does not have to be perfect, but correspondence is expected between the definition and what each individual described. Lack of correspondence is noted and is a source of further dialogue.</p> <p><i>Phase 5: Formulate the structural definition.</i> The structural definition integrates dialogue regarding lack of correspondence with the hypothetical definition.</p>

pursuits. In his 1969 work, van Kaam¹⁷ outlined an approach for phenomenological analysis on the basis of 2 assumptions: (1) a large sample of cases from which a random sample of cases was drawn and (2) "intersubjective agreement" among expert judges to assure that emerging findings accurately reflected empirical data. The adaptation of the van Kaam phenomenological approach (Table 1) described in this article does not assume random sampling from a larger sample. However, intersubjective agreement is naturally woven into its fiber because the proposed method assumes the collaboration of at least 2 geographically distant researchers who compare interpretations and pursue concurrence at each phase of data analysis. Intersubjective agreement is a consensus pursuit that includes openness to hear and clarify what the other is saying and recognition of unique views that contribute to comprehending a complex whole. The phases of data analysis based on van Kaam's approach for phenomenological research (Table 1) will be presented with issues that arise when moving through the phases in cyberspace. Pursuit of intersubjective agreement will be illu-

minated as will cultural exchange occurring during analyses.

BEGINNING THE WORK

Prior to beginning the analysis, it was necessary to establish a framework for e-mail exchange. Other than one researcher (P.L.), none of the research collaborators had previous experience in conducting qualitative analysis. Therefore, the collaborator with experience took the lead to (1) propose the van Kaam analysis adaptation, (2) structure discussion about doing phenomenological analysis as an e-mail process, and (3) communicate with others to establish a time frame for completion of analysis. Successful accomplishment of data analysis requires that one person assume organizing responsibility as a team leader, while engaging all research collaborators in each phase of analysis. The Chinese study is at an earlier stage of analysis compared to the Japanese study (Table 2). Therefore, specific examples from the Japanese study will be shared through the second phase of analysis, whereas examples

Table 2. Comparison of Japanese and Chinese research projects

Research question	What is the meaning of health for Japanese elders who have had a stroke?	What is the experience of caring for patients with severe acute respiratory syndrome (SARS)?
Participants	$N = 24$ Japanese elders	$N = 7$ Chinese nurses who had cared for patients with SARS
Research team members	Five multidisciplinary, from Japan and the United States—all Japanese team members are bilingual	Two single discipline, from China and the United States—the Chinese team member is bilingual
Methods	Secondary analysis of 4-min dialogue conducted for another study—audiotaped, transcribed, and translated	Prospective design with analysis of 45–90 min in-depth dialogue—audiotaped, transcribed, and translated
Question(s), statement(s) guiding dialogue	<ul style="list-style-type: none"> • Describe what it means to you to be healthy. • How do you know you are healthy? 	<ul style="list-style-type: none"> • Tell me about your experience of caring for patients with SARS. • What were the challenges that you faced?
Stage of completion	Phase 3 of data analysis (Table 1)	Phase 1 of data analysis (Table 1)

from the Chinese study will demonstrate what was happening in the first phase of analysis.

PHASE 1: IDENTIFY DESCRIPTIVE EXPRESSIONS

Health for Japanese elders

In this first phase of analysis (Table 1), each team member identified the descriptive expressions occurring in the transcriptions about health for Japanese elders. This was easier to accomplish with the Japanese health transcriptions than with the SARS transcriptions because these were short and, therefore, generated a smaller number of descriptive expressions (Table 2). What made the Japanese health analysis complex was the number of multidiscipline collaborators who had to agree on a set of descriptive expressions. Each collaborator identified descriptive expressions of health. The Japanese collaborators met, compared their descriptive expressions, and came to a consensus on a set of descriptors before e-mailing them to the

team leader in the United States, who then had her own expressions, the Japanese team members' expressions, and the expressions of one other American collaborator to synthesize. The synthesized list of descriptive expressions were e-mailed back to all research collaborators and cyberspace discussion ensued to arrive at a consensus about the fit between the synthesized list of expressions for one research participant's dialogue about the meaning of health. The team analyzing the meaning of health for Japanese elders had made a decision that each member would analyze one designated participant's dialogue each week, and all collaborators would send their analyses to the team leader in the United States on a given day of the week. This process was generally followed except for times of heavy commitments, vacations, or family emergencies. The team leader proceeded to do the synthesis only when all team members' input was available. The team members consistently informed each other about when they would be able to submit their next research participant analysis. So, emails generally contained descriptive expressions

for the next study participant, critique of previously synthesized expressions, and comments about life, which let the other collaborators know when to expect the next analysis e-mail.

The following excerpt is an example of cyberspace discussion regarding one participant's dialogue about the meaning of health (Table 3). After reviewing the descriptive expressions submitted by the research collaborators, the team leader synthesized and

e-mailed these descriptive expressions to all the team members:

- The most precious thing
- Having fun with anything she does, like work, going out, and playing with the kids
- Doing her best with her own policy without unnecessarily troubling others but requesting assistance when needed
- Working hard as a housewife with no regrets about that if she died

Table 3. One participant's dialogue about health

What does it mean to you to be healthy?

Being healthy is the best pleasure. If I were healthy, I could work, anything I do would be with fun, meals, going out, and playing with kids, anything I do would be fun to do. I do not want money, the health is most precious, and especially after I got this illness I think so more than ever strongly. Despite of how hard I had been working, this happened . . . well, I guess with my age, maybe this is how things go. But I was surprised, until now I never thought there would be this many patients. In my room I was talking to other patients that health is the most precious thing. My children, I have ten grandkids, too, come visit me often here. I, as a housewife, had been working very hard on the duty as a housewife and I tell my daughter I can die with no regret on that. My daughter laughs at me saying there is nobody like that. Well, I think people are people and I am me. I had been living with my own policy, but, in return, I never troubled other people. I had always done my best, in the way, of course, trying to get what I need—on anything.

Trying to get what you need?

Yes, that is, for example, being here in the hospital even, I do not hesitate to ask nurses to do things that need to be taken care of, but I do not ask them to do any more than that. I encourage those people who are hesitant to ask nurses for help. Some people do not push the call button of their own for help but wait until a nurse shows up to answer other roommates' call. I tell them that is not the way, I tell them that you have to call with your own button and ask directly for what you want otherwise a nurse comes to help someone else and leaves. There are so many people who do not understand that. So I tell them that is not good, not good at all. I tell what I think directly to people . . . well, I had been living that way all my life. That was how I could survive. With your age you probably have no experience in such situation, but after the war I had two children, during the war I had five, and my husband was taken to the war as a soldier. So for two years I was left alone to raise children. We had to evacuate to outside of Tokyo but me and my husband both of us were from Tokyo and we didn't have any relatives where we could go evacuate. Someone my husband met during the war had introduced us to his relative in the countryside. All I had was my 5 children and the postcard from my husband's war friend that tells his relative in the country about us needing a place to evacuate. I had to go through so much trouble. Even after the war, there was nothing. No food, no nothing. Even if you had money, there was nothing to buy.

Nothing to buy?

No. I went through that. After we came back to where our house used to be, the house was burned down. My relative took us in and had us stay there for 3 years. I sold all my kimonos and with that money I started the pickle shop. On the house we rented there was an open space so I did pickle shop there. The house, we only had a roof to avoid rain, no windows, we couldn't pay for them. We put the door in the toilet with the first profit from that shop . . . that was the only door we had in the house. I went through that.

- Surviving the troubles of war to open a pickle shop
- Surprise with having a stroke despite hard working but guessing that things go this way with age

The e-mail response from the Japanese team members included the following:

With the last one (descriptive expression), she meant "surprise" differently in her talk. She's "surprised" to see this many patients. She never thought there would be this many patients until she gets sick and hospitalized to share a room with bunches of sick people, like her age. And then, she was surprised to find out that there were this many patients. It's hard to know exactly which part "surprised" was related to when you have just the words to read instead of hearing the emphasis of the conversation.

This comment was made by the Japanese team member (C.N.) who had done the dialogues with the patients, and the other Japanese team members were in agreement. In rereading the words of the participant, the American collaborators could see the perspective being shared by the Japanese team. In response to this interaction the team leader changed the last descriptive expression to

- Having this illness despite hard work but guessing things go this way with age.

Another discussion that occurred about this time with the study of the meaning of health for Japanese elders focused on judgments about health...good health...bad health. We decided to consider the dialogues with a view that health IS...not good or bad...but whatever the participant says about life experience during this 4-minute dialogue when asked about health. So, the assumption was that life experience is health experience. Rather than looking for what we researchers label health, we were staying true to what the elderly research participant introduced. "Elderly people interweave health experience into the outline of their life history. They always revise the conclusion of the story."^{19(p61)} This logically led to

additional conversation about the expanded present moment, which includes past and future. The participant who talked about war experiences and opening a pickle shop was bringing the past to the present moment of survival. The assumption that the meaning of health was reflected in the expanded present moment was accepted by the research team.

The discussion about assumptions to be held while analyzing data occurred in the midst of analyzing and demanded time and patience while sorting through values, questions, and misunderstandings. This work was initiated with e-mail questions but much of the work was done when one of the Japanese team members visited the United States and was able to converse face-to-face with the American team members, videotaping the interaction and returning to Japan to share what transpired. There are times when face-to-face interactions go a long way to support continuing e-mail analysis and videotaped transactions are a useful supplement. There have been a total of 3 face-to-face interactions, with different configurations of Japanese and American team members, which have occurred over the 18-month course of this analysis.

Caring for patients with SARS

Since the Chinese-American team is in an early stage of analysis, all interaction has occurred by e-mail. There may come a time when it will be necessary to meet at some critical point of moving the analysis forward. Several transcript excerpts from the nurses caring for patients with SARS, with questions from the American collaborator (P.L.) and responses from the Chinese collaborator (H.L.) follow:

Nurse caring for patient with SARS: A lot of nurses I have contacted said if they contract SARS, they would not let us treat them. They wanted to die. I asked them why and they said, lonely, too lonely.

P.L.: I am not sure that I understand what the transcription is saying...do the nurses think that being a SARS patient is "too lonely"?

H.L.: Yes, they think it's too lonely being a SARS patient. They don't want to be like that if they get the disease.

Nurse caring for patient SARS: In our shift there was a very severe patient. He already had some air under the skin. In fact, he was not so severe at first but his psychological quality was not good, his pressure was so big. He was always thinking about how his family was, how much he had spent, could he be cured?

PL: When the nurse talks about pressure being big, is she talking about blood pressure?

H.L.: She means the stress. In Chinese, we like to say "pressure."

In the first phase of analysis of the SARS data, this questioning process was a time-consuming step to be sure that the American collaborator understood what was being described. The Chinese collaborator returned to the original Chinese audiotapes to ascertain meaning when there was a question. Then, each collaborator identified the descriptive expressions. The expressions were shared and the American collaborator synthesized and returned the expressions for review by the Chinese collaborator. The following examples are ones where there was an interchange between the collaborators about one of the synthesized descriptive expressions.

Descriptive expression synthesized by PL: Being unable to drink, eat, and go to the toilet, which are restraints practiced in the wards before coming to the SARS unit.

H.L.'s response: That is the situation when you are working in the SARS unit not prior to coming to the unit.

Descriptive expression synthesized by PL: Planning suction procedures, including position for suction to avoid exposure to contaminants, before entering the unit, where thinking can be difficult.

H.L.'s response: The statement is okay but it needs to put emphasis on spending less time in the contaminated area to avoid exposure.

The work of phase 1 demands that the research collaborators establish a common ground so that e-mail exchange can flow

easily and thoughtfully. A core group of researchers (P.L., R.T., C.N.) from the Japanese study had been working together on research for 6 years,²⁰⁻²² and had collaborated on the original study, which generated the meaning of health data.²¹ In contrast, this is the first effort by the American and Chinese collaborators to conduct long-distance research, although they have known each other for more than a decade, beginning with a graduate education experience. In this instance, the Chinese researcher consulted with the American researcher before she began to study nurses caring for patients with SARS. In both collaborations, the passage of time and ongoing relationship between team members has built trust, which is a critical dimension of the common ground for e-mail exchange.

Beyond the common ground of trust, this cyberspace analysis method requires commitment to adhere to the time frame for analysis completion, openness to discuss ideas, which generate questions for any one of the collaborators, and patience, knowing that the analysis is proceeding toward completion. The pursuit of intersubjective agreement, apparent in this first phase of analysis, is a thread connecting all the phases.

PHASE 2: REDUCTION THROUGH SYNTHESIS

This second phase of analysis (Table 1) begins after phase 1 is completed, when all collaborators have come to a consensus on the descriptive expressions for all participants. Because the study of nurses caring for patients with SARS has not yet moved beyond phase 1 of data analysis, specific examples for this phase will come from the study of Japanese elders. In the Japanese study, a master list of descriptive expressions grew from week to week over a 9-month period. New expressions were added as the team agreed on their acceptability. There were 103 descriptive expressions about health for the 24 participants in the Japanese study when phase 1

of analysis was completed. By contrast, there were 24 descriptive expressions on the master list for only the first nurse participant in the Chinese study, where in-depth dialogues lasted 45 to 90 minutes.

To begin reduction through synthesis, descriptive expressions were grouped, so that like expressions were placed together, and then a theme was designated in the words of the researchers. The theme synthesized the central idea from a group of descriptive expressions and was compatible with all of the expressions. Each collaborator grouped the expressions and before proceeding to identifying the theme, intersubjective agreement was sought about the groupings. This work of agreeing on grouping and then naming themes, occurred independently with the 2 American and the 3 Japanese collaborators. Then the American and Japanese collaborators had a face-to-face meeting with all team members present to discuss the groupings and themes. This part of the analysis occurred over a week, with several hours of each day devoted to clarifying what was unclear and reaching out to understand each other's views about determining groupings and naming themes. The collaborators had considered the possibility of doing this through live video streaming over the Internet, but opted, instead, for a face-to-face meeting. It was the first time that all collaborators had come together to meet each other and discuss the study data. A regular occurrence during this week of analysis was a request from the Japanese team for a private 15- to 20-minute meeting that excluded the Americans. The leader of the Japanese team (R.T.) explained that it was sometimes difficult to "think in English" and he wanted to be sure that the Japanese team members were "on the same page" before proceeding. The following is an example of descriptive expression grouping (redundancies have been eliminated) and theme naming:

- The most precious thing
- A fundamental energy to live
- Something irreplaceable and the most important thing in the world

- Recognizing importance for someone who is by himself
- A base of survival even if you don't have much
- Something she thought about for the very first time after getting sick, when she realized its importance
- Thanking Buddha for inherited strong body and family that gets along well

The theme for this group of descriptive expressions about the meaning of health was "fundamental valuable gift."

PHASE 3: FORMULATE A HYPOTHETICAL DEFINITION OF THE PHENOMENON

In phase 3, all the themes are synthesized (Table 1) to define the phenomenon of interest—health, in the case of the study of Japanese elders, and caring for patients with SARS, in the case of the study of Chinese nurses. Like all other phases of analysis, this phase will be an iterative process of coming to agreement. The preferred approach to this phase of analysis is group work to create the hypothetical definition. Therefore, it is best done in face-to-face dialogue while all collaborators are physically present or present with live video streaming. The theme-naming component of phase 2 and formulation of the hypothetical definition rests on the attention to intersubjective agreement in the previous phases and trust that collaborators have developed to creatively compose a definition that is true to the participants and reflective of their cultural context. At this stage of analysis, the cultural knowing of the collaborators who share a context with the study participants is most important, taking precedence in the creation of the hypothetical definition.

PHASE 4: APPLY THE HYPOTHETICAL DEFINITION TO EACH PARTICIPANT'S DESCRIPTION

The central task of phase 4 (Table 1) is one that takes each collaborator back to the original transcripts, making note of places

where the hypothetical definition is inconsistent with the words of the participant. This may be done face-to-face or with e-mail. If done with e-mail, all inconsistencies would be e-mailed by a given time to all collaborators, and once again dialogue would ensue to resolve issues of misfit, pursuing agreement about correspondence between the words of the participant and the hypothetical definition.

PHASE 5: FORMULATE THE STRUCTURAL DEFINITION

In this last phase of analysis (Table 1), a structural definition of the phenomenon of interest is proposed. This definition integrates what was learned during phase 4. Neither the study of health for Japanese elders nor the study of caring for patients with SARS has reached this phase of analysis, but patterns of interaction assuring intersubjective agreement that have been established early on will continue to be important as the data analysis proceeds to completion.

CYBERSPACE QUALITATIVE ANALYSIS LESSONS

Table 4 provides a list of 6 lessons learned during collaborative cyberspace qualitative data analysis. Although the first lesson suggests the designation of a qualified leader, the process actually begins sooner, when professionals from distant geographies get to know each other and begin a process of build-

ing trust. Trust is the warp, the foundation threads that create the space for weaving, and these lessons are the cross-threads composing the fiber of the cyberspace method. The lessons are woven through the threads of trust.

Fukuyama²³ defines *trust* as the expectation for regular, honest, and cooperative behavior. He talks about social capital as a trust-based capability for community building and he identifies spontaneous sociability as a subset of social capital.

In any modern society, organizations are being constantly created, destroyed and modified. The most useful kind of social capital is often not the ability to work under the authority of a traditional community or group, but the capacity to form new associations and to cooperate within the terms of reference they establish.^{23(p27)}

Although Fukuyama's words were directed to business groups, they are relevant for the qualitative analysis method described in this article. To some extent, the cross-cultural research teams are communities of scholars who spontaneously come together and then begin structuring their cooperation to address an area of shared research interest. Designation of a qualified leader is a natural "first step" and determination of "terms of reference" for the collaborative work comes next.

In this context, the terms of reference include agreement about a time frame for completion of analysis with long- and short-term goals. Implicit in this agreement is commitment and the willingness to endure through each phase of long-distance data analysis. Willingness to endure is an inherent quality

Table 4. Lessons learned about a cyberspace method of qualitative analysis

1. Designate a leader who has experience in qualitative analysis
2. Establish a time frame, including long-term (analysis completion) and short-term (participant-by-participant analysis deadlines) goals
3. Address emerging beliefs, questions, and misunderstandings as they occur
4. Defer to the cultural knowing of the collaborators who share the context of the study participants
5. Pursue intersubjective agreement throughout the process
6. Plan face-to-face meetings at critical creative analysis junctures

for success in the Confucian tradition,²⁴ which was a foundation for most of the researchers collaborating on this work. There were many times when the patient persistence of the Japanese or Chinese collaborators nudged the Americans to stick with the process and move forward. However, there were also times when the Americans initiated the nudging, reminding us that willingness to endure may be a human quality that extends beyond Confucian cultures. As long as the habit of enduring surfaced in one member of the research team at any point in time, the analysis process was moving forward and other collaborators were inspired to remember their commitment.

Lessons 3, 4, and 5 (Table 4) are ones that add a dominant thread of culture to the fabric of the method. Beliefs, questions, and misunderstandings that arise in the pursuit of intersubjective agreement often incorporate cultural dimensions. For instance, in the Japanese study of the meaning of health, one of the research participants mentioned "bone picking" in his description. The question from one of the Americans was: "Okay Japan team...I need a cultural lesson here...what is bone-picking?" The Japan team responded that this was part of the last goodbye at the funeral ceremony, after cremation, when selected people pick bones with chopsticks for placement in the burial urn. "Bone-picking is done in a pair, two people pick one piece of bone together and put it in the urn." This interchange highlights the cultural nature of questions and beliefs that interweave with the threads of trust to create the fabric of the method, and it suggests "the intricate complexities of cultural distinctions,"^{20(p57)} which enriched the personal experience and strengthened collegial connection.

All collaborators, including the team leader, relate to each other as peers through e-mail interaction to reach intersubjective agreement. Lee²⁵ notes that e-mail use by people from East Asian countries is hindered when the intent to show respect separates some individuals from others, thwarting the poten-

tial for e-mail exchange to generate critical reflection. In this cyberspace research method, critical reflection goes hand-in-hand with self reflection. Turkle⁵ observed that "people who make the most of their 'lives on screen' are those who approach on-line life in a spirit of self-reflection."^{5(p46)} Turvalon and Murray-Garcia²⁶ advocate for cultural humility, which demands a life-learning process of self-reflection to consider ones personal values and biases. *Cultural humility* is the quality of forgoing expert judgment to be receptive to the unique understanding and expression of others from other cultures. In discussing the research method, we introduced cultural knowing, acknowledging that collaborators from the cultural context of research participants have a grasp on meaning most closely aligned with participants. In the examples of Japanese and Chinese studies, it was necessary for the American collaborators to rely on cultural humility and defer to the cultural knowing of the Japanese or Chinese team members.

The final lesson is one that emerged unexpectedly but was critical to progress: face-to-face meetings at creative turning points in the analysis. "The face-to-face meeting will be a better communication tool than devices such as e-mail since it provides bountiful cues besides written words."^{25(p231)} E-mail is best used for the participant-by-participant analyses, where a segment of data can be simultaneously addressed by multiple collaborators. Synthesis across study participants lends itself to face-to-face interaction, where expressions beyond words can be recognized and discussed in the moment. Technologies that enable face-to-face meetings between collaborators in distant sites demand further exploration as this cyberspace qualitative research method develops.

CONCLUSION

In *Being Digital*, Nicholas Negroponte predicted that e-mail will become a dominant mode of interpersonal connection,

"approaching if not overshadowing voice."^{27(p191)} If Negroponte's prediction is accurate, cyberspace may rob or strengthen human voice. This cyberspace research method proposes a foundation for strengthening the voice of research participants and

the voice of long-distance collaborators, seeking to bridge distance and culture in pursuit of human understanding. It is proposed as a starting place for critique and further development, bringing long-distance research collaboration into this new millennium.

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