Access and Ability: Digital Spaces Mediate Differences in Ability

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We share our personal story about how we have developed our own communication that bridges and connects different cultures, languages, and modes of communication through online collaborative writing sessions for a doctoral dissertation. In order to theorize our experience, we combine Horner, Lu, Royster, and Trimbur (2011)'s *Translingualism*, and Syverson (1999)'s *An Ecology of Composition*. These two theories provide the lenses through which the writing process is viewed, and we integrate these theories to provide an explanation of our experience that does not rely on the language of accommodation and disability.

Two writers, Manako Yabe and Philip Hayek, worked collaboratively to edit Manako's doctoral dissertation over the course of nine months. Her dissertation focused on deaf patients' and healthcare providers' perspectives on Video Remote Interpreting. Manako was looking for a second pair of eyes on her work, as well as someone who could help bridge some cultural gaps between deaf and hearing communities. Manako is deaf and communicates through American Sign Language (ASL) and written English, and Philip is hearing and does not sign. Manako is from Japan, and Philip is from the United States. The differences between the two include linguistic differences, cultural differences, and differences in ability. In light of these differences, the resulting working relationship represents an extraordinary writing situation.

Translingualism and Ecologies of Composition

We faced many communication challenges when we began our working relationship. The hearing writer is a native English speaker and non-signer. The deaf writer is a native Japanese speaker and uses English and American Sign Language (ASL) as non-native languages. We grew up in different countries with different cultures, America and Japan. Beyond the differences between American and Japanese cultures, we also faced differences between hearing and deaf cultures.

In addition, the hearing writer is from the field of rhetoric and composi-

tion, while the deaf writer comes from the fields of social work and disability/deaf studies. Although both the hearing and the deaf writers have been in academia for a decade, they had different writing styles and language expressions that are a result of their cultural values and institutions. Communication had to be negotiated across all of these differences, what Rebecca Leonard and Rebecca Nowacek (2016) called the experience "a textual manifestation of the intellectually adventurous, rhetorically challenging work of negotiating the overlap of knowledge, identities, and languages" (p. 261).

Google Docs offers a common, shared digital space, which combines the word document and real-time chat online. Meeting simultaneously in person and online in the digital space of the Google Doc, the writer used her own laptop, while the editor worked on a desktop with a 27-inch screen that allowed both to view the Google Docs and chat on the same screen (Figure 1).
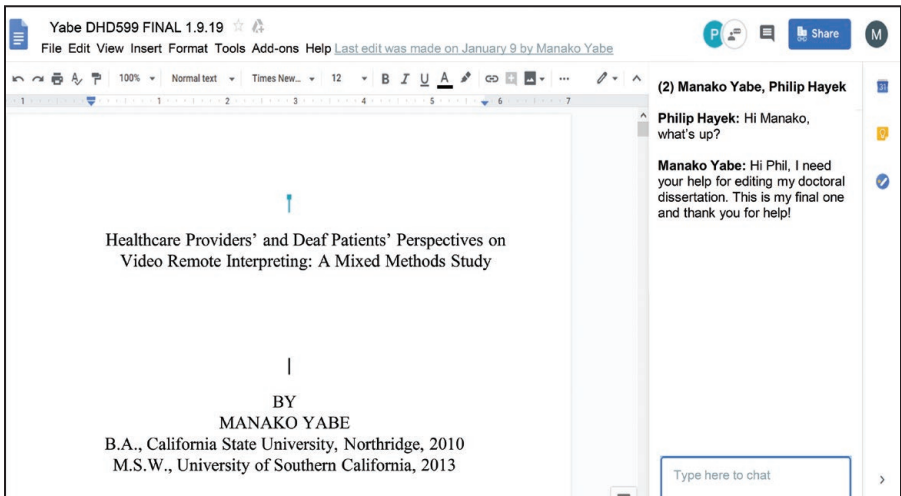

Figure 1. Google Doc - An Example of Doctoral Dissertation Writing

Over nine months, an ecology of composition emerged that bridged and connected different cultures, languages, and modes of communication because of the shared digital space. The shared writing experience is unique because the digital space effectively mediates the language barriers between the two participants, rather than accommodating the writer's communication needs. We both worked in and through text, not audible speech, in a digital space that we could share. Our edits appeared to both of us simultaneously, on different screens but in the same digital space. Our thoughts, as expressed through text in the chat function, appeared to one another immediately with a keystroke, again on different screens but in a shared digital space. The technology increases the rate of feedback between the two writers, and the shared

digital space shrinks the temporal dimension of the ecology of composition. Both writers share the same physical/digital space, and also the same temporal space. This is different from even the standard tutor/tutee ecology of sitting next to each other and sharing a single paper document, passing it back and forth as it is worked on by one, and then the other, writers. In that scenario the document changes hands, and in our unique ecology the document is at once owned and shared by each writer.

In the next section, we explain how technology and digital spaces provide an ecology of composition that promotes a shared agency between participants rather than a hierarchical relationship.

Translingualism

We explored Bruce Horner, Min-Zhan Lu, Jacqueline Jones Royster, and John Trimbur (2011)'s *Translingualism* that came from writing center scholarship. Although we worked on dissertation writing outside of the writing center context, we tried to expand knowledge and understanding of translingual practice for "the hearing writer versus the deaf writer" because applying this established theory to a new population would lead to increased understanding between the hearing and the deaf writers. Translingual practice helped us analyze and identify why the two writers were struggling and why, and helped us communicate why an error has occurred, rather than just fixing it (Horner, Lu, Royster, & John, 2011). These issues arise from cultural differences or communication and language expressions (see Figure 2). For instance, English contains articles, but Chinese, Japanese, Korean, Russian, and ASL do not contain articles (Folse, 2009; Vicars, n.d.).
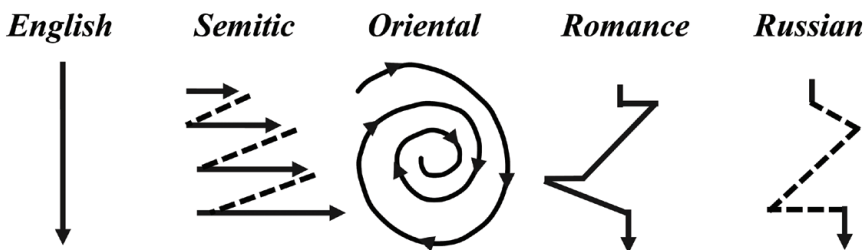

English   Semitic   Oriental   Romance   Russian

Figure 2. The Movement of the Various Paragraphs in Different Languages (Kaphan, 1996, p. 15)

Historically, writing centers were based on monolingual practice (Rafoth, 2015). Over the years, writing centers have shifted to multilingual practice, due to increasing multilingual student populations in higher education (Bruce & Rafoth, 2016). Moreover, Sarah Nakamura (2010) suggested the best practices

for international student writers and U.S.-educated student writers should be considered separately. Rebecca Babcock and Terese Thonus (2012) suggested ideas for best practices for diverse writers, including disabled/deaf writers, second-language writers, and graduate student writers. In recent years, some writing centers have begun to shift to translingual practices.

In translingual practices, language contact happens when two or more languages, or people from different linguistic backgrounds interact with each other (Coronel-Molina & Samuelson, 2017). Some scholars from rhetoric and composition referred to this language contact as code-meshing (Young & Martinez, 2011), while other scholars from linguistics called this as translanguaging (Garcia & Wei, 2014). Scholars from both rhetoric and composition, and linguistics have researched translingual practices for non-native English speakers in communities and classrooms (Canagarajah, 2013). In addition, a few scholars from both rhetoric and composition, and linguistics have researched translingual practices for non-native English signers who are deaf in early and higher education (Holmström & Schönström, 2017; Kusters, 2017; Murray, 2017; Snoddon, 2017; Swanwick, 2017).

Scholars from rhetoric and composition have researched translingual practices for non-native English speakers in writing centers (Hauer, 2016; Horner & Tetreault, 2017; Newman, 2017). Translingual practices apply to the cross-linguistic process in writing centers such as when a tutor and a writer communicate through writing, speaking, reading, and listening. However, very few scholars from both rhetoric and composition, and linguistics have researched translingual practices for non-native English signers in writing centers. Recently, Brice Nordquist (2017) published his book, *Literacy and Mobility,* which provides glimpses of the complex translingual practices of a deaf student who blends Spanish, English, and sign languages in a classroom, but not in writing centers.

Furthermore, Horner, Lu, Royster, and Trimbur (2011) explained that translingual practice "sees difference in language not as a barrier to overcome or as a problem to manage, but as a resource for producing meaning in writing, speaking, reading, and listening" (p. 303). Therefore, including "signing" in this statement is an important addition to this scholarly work. This approach can apply when working with international deaf students or U.S. deaf students who use sign languages. Since translingual practice is still relatively new for writing centers as it was introduced by Horner, Lu, Royster, & Trimbur (2011) just a few years ago (Guerra & Shivers-McNair, 2017), there has been very little discussion about how a translingual practice applies to the cross-linguistic process between hearing writers and deaf writers.

There have been very few studies about deaf writers in writing centers

(Hitt, 2015). For example, Gail Wood (1995) provided a case example of tutoring sessions with a deaf signer and a hearing tutor, exclusively in English, exclusively in writing, exclusively on a computer. Rebecca Babcock (2012; 2011) conducted her dissertation research for tutoring with deaf writers and hearing tutors through interpreters in writing centers. The author compared the differences between face-to-face tutoring sessions with deaf writers, interpreters, and hearing tutors versus face-to-face tutoring sessions with hearing writers and hearing tutors. Tyler Gardner (2016) shared his tutoring experience with a deaf writer through an interpreter.

Importantly, Margaret Weaver (1996) argued that writing center scholarship talked about the privilege of race, gender, or socioeconomic status, but not the privilege of hearing or disability in writing centers. Kerri Rinaldi (2015) criticized that the writing center theory limited its application to disabled writers. Sharon Locket (2008) wrestled with the orthodox practice for working with non-native, deaf, and learning-disabled writers in writing centers. Allison Hitt (2012) suggested a universal design for learning and pedagogical accessibility to make disabled/deaf writers inclusive in writing centers. These scholars have discussed the best practices for working with "the hearing tutor versus the deaf writer" by adapting different theories and approaches, but none have explored the translingual practice with "the hearing writer versus the deaf writer" as having equal roles in a collaborative relationship.

While the literature addressed translingual approaches for deaf children in early education and for deaf lecturers in higher education, many gaps in the knowledge and research on proposed theories for working with "the hearing writer and the deaf writer" remain. These gaps also include a lack of evidence-based research on translingual theory for deaf writers who use sign languages. It is essential to conduct evidence-based research to identify whether translingual practices apply to face-to-face, online, and hybrid writing instructions and collaborations between "the hearing writer and the deaf writer."

An Ecology of Composition

Margaret Syverson (1999)'s *The Wealth of Reality: An Ecology of Composition,* offered a theoretical lens through which to view how technology played a role in making our communication successful. According to Syverson, ecologies contain interrelated and interdependent complex systems, each of which contains four attributes: emergence, embodiment, enaction, and distribution (Figure 3). Distribution and emergence were closely linked with our translingual writing experiences. For example, the distribution of the activities and

experiences was not conscious, but emerged nonetheless. Our roles as the editor and the writer were effectively shared, with no clear distinction between the two. We both embodied the roles of reader, writer, and editor. Our writing process was not separated but distributed. Syverson argued that in ecologies of composition relationships and behaviors emerge and guide the writing process. Our communication relied heavily on the technology that was able to mediate the distribution, emergence, embodiment, and enaction of our writing process. Our relationship and behaviors, therefore, were largely shaped by a shared and stable digital space. New digital spaces such as Google Docs expand the realm of the physical dimension in ecologies of composition, and in our case, worked to mediate potential problems encountered in the other dimensions.

An ecology of composition contains five analytical dimensions: Physical, social, physiological, spatial, and temporal (Figure 3). Thanks to technology expanding the physical dimension to include digital spaces, we used Google Docs to communicate. Both hearing and deaf cultural perspectives inform the social dimension and present communication problems in a strictly physical context, but upon entering the digital space, issues such as needing a third-party ASL interpreter no longer existed. Analyzing the psychological dimension, we recognized how we used different cognitive processes in writing, speaking, and signing. Once again, upon entering the digital space we had a shared experience where we both filtered our cognitive processes through the action of typing on a keyboard. It was important that we shared both digital space and physical space in our unique writing process. Our relationship and behaviors became shared and distributed, resulting in a shared agency during the writing process that is a natural occurrence in an ecology of composition.

	Physical	Social	Psychological	Spatial	Temporal
Distribution					
Embodiment					
Emergence					
Enaction					

Figure 3. Syverson's Ecological Matrix (1999, p. 23)

Syverson (1999)'s "ecological matrix" helped us understand why our translingual online writing experience was effective, but presented problems for prescribing how to build a similar ecology in a different writing context. The-

ories of ecologies of composition rely on the underlying scientific complex systems theory. The main point of interest in complex systems theory for rhetoric and composition studies is the emergence of stable patterns within a system without central control. Any kind of stimuli within or outside of a system, which Syverson called "perturbances," are not determinant. She stated, "the correspondences between the structural changes and the pattern of events that caused them are historical, not structural. They cannot be explained as a kind of reference relation between neural structures and an external world" (Syverson, 1999, p. 128). That is, we can write a history of our writing situation and identify what circumstances might have triggered the success and organization that we enjoyed, but none of these things can be seen as a determinant. However, we argue that the introduction of shared digital space in a different writing context can result in similar shared behaviors, if not an overall similar ecology.

Spontaneous self-organization is the term used in complex systems theory to explain how complex systems order themselves. William Kretzschmar, writing in 2015, outlined the principles of complex systems as they apply to language use, to include dynamic activity, random interaction, information exchange with feedback, reinforcement of behaviors, and finally, emergence of stable patterns without central control. The reinforcement of behaviors in complex systems hints at some kind of coordinated action. In a collaborative online/physical writing situation like the one we shared, this coordinated action as a result of reinforced behaviors could be seen as a shared kairotic literacy.

Historically, there were two different and not entirely compatible understandings of *kairos* in rhetoric studies. In one view, *kairos* refers to propriety. Knowing the *kairos* means understanding an order that guides rhetorical action. This aligns with what we might call common sense or tastefulness, a common mental construct that informs action and is used to assess the appropriateness of actions. This traditional sense is simplified as defining *kairos* as the right or opportune time to do something, or right measure in doing something: right time, right measure. *Kairos* has been studied within rhetoric as an independent force that the rhetor must accommodate and also as an ability whereby the rhetor creates an opening, or a *kairos;* both models are rooted in reasoned action. Additionally, Debra Hawhee's (2004) work on bodily rhetorics made room for an immanent, embodied, and nonrational model of *kairos,* that aligns with complex systems theory's insistence on nonrational, spontaneous self-organization. Hawhee's model of *kairos* depicts a kind of instinctual awareness.

Writing in 1999, Syverson claimed that "computer-mediated communication masks physical and social differences, including race, age, physical disability, status, and gender, allowing participants to interact more democratically"

(p. 151). But we have seen that this technology works differently to arrive at the same result. The differences, or conflicts, or perturbations that arise in writing situations can be mediated, not masked, by the technology. The digital spaces not only allow for communication across linguistic and cultural boundaries, but also offer the writers a shared intent by reinforcing certain behaviors that lead to the ordering of the larger ecology. These behaviors include chatting about the changes and content of a document while working on it, and working on a document while being aware of another writer doing the same thing in the same space at the same time. The differences are not masked; they are shared, and this results in a shared kairotic literacy. A shared kairotic literacy in a rhetorical situation represents the spontaneous self-organization seen in complex systems.

Posthumanism insists that we look at composing situations as sites of distributed agency, not just between reader and writer, but shared with objects, systems, and ecologies. Jason Barrett-Fox and Geoffrey Clegg (2018) told us that "posthumanism, as an orientation, recognizes that cognition and agency have actually been distributed (rather than individual) for millennia" (p. 237). Distributed cognition and agency hints at shared kairotic literacy and spontaneous self-organization in complex systems. All of these theories, from disparate and distant fields in academia, are talking about the same thing. Bruce McComiskey's (2015) three-dimensional dialectical rhetoric moved beyond a two-dimensional rhetoric that sees all material and social realms as contradictory, where two primary ideologies compete, to a rhetoric that mediates between conflicts and *complex differences*.

Just as Syverson (1999) pointed out fifteen years prior, about perturbations in an ecology: "any attempt to represent the conflict via conventional rhetorical models of argumentation does violence to the phenomenon, which cannot be reduced to well-defined oppositions between individuals, oppositions that proceed in a chain of reasoning towards any logical conclusion" (p. 181). McComiskey (2015) represented digital contexts as the catalyst for needing a mediative rhetoric. According to McComiskey, the decentering of information, as it is distributed in digital and online spaces, increases access but decreases coherence and continuity. He also argued that the nonlinear document structures of online writing increase flexibility but decrease control of purpose and intent. But, as we can see from ecologies of composition and complex systems theory and understandings of posthumanism, control of purpose and intent has never belonged to a single actor, and purpose and intent can emerge without any central control. That is what the digital space offers writers working with different abilities and across languages and cultures. The difference in ability and language and culture represents ruptures or perturbations in communication, which are mediated by the technology rather than being prioritized in the order of dominant sociocultural norms.

Final Thoughts

To end, we hope that this discussion can inform the development of communication design that uses online digital spaces. Our discussions have expanded Horner, Lu, Royster, & Trimbur (2011)'s *Translingualism*, and Syverson (1999)'s *An Ecology of Composition* to include shared digital spaces. Because many universities' courses rely on online course management systems and online communication already, the distinctions between online, face-to-face, and hybrid writing courses are misleading. In practice, most writing courses are hybrid courses because teachers and students alike rely on technology and digital spaces to read, write, and edit, either individually or collaboratively. We access reading assignments and paper prompts from course management software online, we write in word processors and submit online to the same course management system. Teachers and students communicate via email and online discussion forums.

Due to rapid popularization of online learning and teaching, new concerns have been raised, such as effective online teaching practice and online accessibility for students with disabilities (Conference on College Composition and Communication [CCCC], 2013). Thus, CCCC Executive Committee adopted "A Position Statement of Principles and Example Effective Practices for Online Writing Instruction (OWI)," which suggests that our onsite pedagogies be migrated to the online instructional environment.

But in practice this is what onsite instructors have been doing for years. When a new technology becomes available, we see if it will accept our traditional pedagogies, and how it might encourage us to adapt those pedagogies to work in digital spaces. Our student populations continue to be increasingly diverse, bringing with them different cultures, languages and abilities. More research is necessary to discover how technology and online spaces can mediate these differences in a writing situation.

What our experience illuminates is an opportunity to use the digital space of Google Docs to mediate differences in language, culture, and ability. Access and ability, or access/ability, can be distributed naturally and equitably in online environments. The relationships and behaviors that emerge between two people in this ecology of composition are the result of a shared agency. The system itself doesn't privilege one or the other actor within a system. Just the opposite, the system encourages behavior that equally distributes agency among the participants, regardless of external, sociocultural determinants of ability.

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